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About the Journal

Overview

Pertanika Journal of Social Sciences & Humanities is the official journal of Universiti Putra Malaysia. It is an open-access online scientific journal. It publishes original scientific outputs. It neither accepts nor commissions third party content.

Recognised internationally as the leading peer-reviewed interdisciplinary journal devoted to the publication of original papers, it serves as a forum for practical approaches to improve quality on issues pertaining to social and behavioural sciences as well as the humanities.

Pertanika Journal of Social Sciences & Humanities currently publishes 6 issues a year (*February*, *April*, *June*, *August, October* and *December*) periodical that considers for publication original articles as per its scope. The journal publishes in **English** as well as in **Bahasa Melayu** and it is open for submission by authors from all over the world.

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Aims and Scope

Pertanika Journal of Social Sciences & Humanities aims to develop as a pioneer journal for the social sciences with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities. Areas relevant to the scope of the journal include Social Sciences—architecture and habitat, consumer and family economics, consumer law, education, media and communication studies, political sciences and public policy, population studies, psychology, sociology, and tourism; Humanities—arts and culture, dance, language and linguistics, literature, music, philosophy, and sports.

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Pertanika Journal of Social Sciences & Humanities was founded in 1993 and focusses on research in social and behavioural sciences as well as the humanities and its related fields.

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To publish journal of international repute.

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The abbreviation for Pertanika Journal of Social Sciences & Humanities is *Pertanika J. Soc. Sci. & Hum.*

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The *Introduction* explains the scope and objective of the study in the light of current knowledge on the subject; the *Materials and Methods* describes how the study was conducted; the *Results* section reports what was found in the study; and the *Discussion* section explains meaning and significance of the results and provides suggestions for future directions of research. The manuscript must be prepared according to the journal's **Instruction to Authors** (http://www.pertanika.upm.edu.my/Resources/regular_issues/Regular_Issues_Instructions_to_Authors.pdf).

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2. The Chief Executive Editor sends the article-identifying information having been removed, to 2 to 3 reviewers. They are specialists in the subject matter of the article. The Chief Executive Editor requests that they complete the review within 3 weeks.

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Foreword

Welcome to the third issue of 2026 of the Pertanika Journal of Social Sciences and Humanities (PJSSH)!

PJSSH is an open-access journal for studies in the field of Social Sciences and Humianities published by Universiti Putra Malaysia Press. It is independently owned and managed by the university for the benefit of the world-wide science community.

This issue contains 25 regular articles. The authors of these articles come from different countries namely Australia, Bulgaria, Egypt, Indonesia, Malaysia, Nigeria, Saudi Arabia, South Korea, Thailand, Türkiye, United Arab Emirates, United States, and Vietnam.

The article entitled "Generational Cohort Shifts in Post-COVID-19 Purchasing Patterns: Anxiety-Driven Consumption" presents a timely sociological examination of how the COVID-19 pandemic and endemic phases reshaped consumer behaviour across different generational cohorts in Malaysia. Focusing on the Silent Generation, Baby Boomers, Generation X, Generation Y, and Generation Corona, the study investigates how health anxiety, economic anxiety, job security concerns, and educational disruption influenced purchasing patterns during and after the pandemic. Based on survey data from 883 respondents across selected Malaysian regions, the study applies one-way ANOVA and multiple regression analyses to identify both similarities and differences in generational consumption responses. The findings show that younger generations demonstrated stronger adaptation toward digital and anxiety-driven consumption, while older generations were more closely associated with health-related concerns and essential purchasing behaviour. By applying Generational Cohort Theory within the context of a major global crisis, this article contributes valuable empirical evidence on how collective uncertainty shapes consumer priorities, social adaptation, and post-pandemic market behaviour. Further details of this study can be found on page 1245.

The issue also features the article titled "Mapping Pre-Service Teachers' Experiences in Integrating Design Thinking and ChatGPT: An Analysis of 21st-Century Learning Tools Development", which explores how pre-service teachers in Indonesia integrate Design Thinking and generative artificial intelligence into instructional design. Employing a qualitative exploratory approach and the Gioia method, the study draws on semi-structured interviews with 20 pre-service teachers

enrolled in the Teacher Professional Education programme. The findings highlight the pedagogical role of ChatGPT as a cognitive support tool for ideation, content generation, and feedback, while Design Thinking provides a structured process through the stages of empathise, define, ideate, prototype, and test. The study further identifies reflective digital literacy as an emerging competency required for effective and responsible AI integration in teacher education. By linking Design Thinking, ChatGPT, and 21st-century learning tool development, this article offers meaningful insights into how future teachers can become reflective, adaptive, and innovative practitioners in technology-enhanced classrooms. Further details of this study can be found on page 1405.

Another noteworthy contribution is the article entitled "A Quasi-Experimental Study on Smartphone Dependency and Toxicity", which addresses the growing concern of nomophobia and excessive smartphone dependency among university students. The study introduces the concept of a smartphone placebo as a non-digital and low-cost intervention designed to reduce dependency without requiring complete digital detoxification. Using a quasi-experimental mixed design involving 200 undergraduate students, the research compares an experimental group that used a smartphone placebo with a control group that continued without intervention. The findings indicate a significant reduction in smartphone dependency and digital toxicity among participants exposed to the placebo intervention. This contribution is particularly relevant to digital well-being, higher education, and communication behaviour studies, as it demonstrates that symbolic substitutes may help regulate digital attachment and reduce unhealthy smartphone use. The study provides practical implications for universities seeking accessible and non-technological strategies to support students' psychological and behavioural well-being in an increasingly connected digital environment. Full details of this study are available on page 1535.

We anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in reaching new milestones in your own research. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

All the papers published in this edition underwent Pertanika's stringent peer-review process involving a minimum of two reviewers comprising internal as well as external referees. This was to ensure that the quality of the papers justified the high ranking of the journal, which is renowned as a heavily-cited journal not only

by authors and researchers in Malaysia but by those in other countries around the world as well.

We would also like to express our gratitude to all the contributors, namely the authors, reviewers, and Editorial Board Members of PJSSH, who have made this issue possible.

PJSSH is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Editor-in-Chief
Puvaneswaran Kunasekaran

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Culture in Foreign Language Teaching: An Analysis of the Conception of Culture Among French Teachers in Malaysia

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ABSTRACT

Language is often taught in tandem with culture in foreign language classrooms. Learning the culture of the target language speech community has been regarded by foreign language teachers as a necessity, without which teaching is regarded as incomplete. Culture is often a taken-for-granted concept seen as unproblematic, where teachers' personal knowledge of culture is used to guide their teaching. As teaching of culture in the classroom is dependent on teachers' own implicit knowledge of what culture is and how culture should be imparted to students, an in-depth understanding of teachers' conception of culture in the context of foreign language teaching is essential. This study investigated French language teachers' conception of culture in relation to teaching a foreign language. Ideas about culture in teachers' talk generated through semi-guided interviews were analysed as constructions in discourse to uncover teachers' approaches to culture. The results show that the teachers use a predominantly structuralist approach to understanding culture, although there is evidence of awareness of context-dependent constructions. Culture is conceived as fixed attributes of national groups, and culture taught to students focuses on differences, neglecting similarities, between French culture and the students' own culture. Culture is not presented as equal, as the findings revealed a subtle stance of privileging and marginalising particular cultures. Teachers' practices based on such a conception of culture may inadvertently lead to unintended consequences of stereotyping instead of cultural enrichment. These findings can inform further discussion and reflections on how a more nuanced concept of culture can best be incorporated into the training of foreign language teachers.

Keywords: Conception of culture, French teachers, foreign language teaching and learning, intercultural competence, language and culture

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INTRODUCTION

Teaching a foreign language has long emphasised intercultural competence as an objective of foreign language learning. There is a close nexus between learning a foreign language and learning culture, as learning a new language necessarily involves understanding the social practices of the target language's speech community. Teaching of culture is unavoidable in a foreign language class, which is often described as straddling at least two cultural and linguistic practices. Many researchers take the view that language has a strong relation to culture (Delpit & Dowdy, 2002; Johnson, 2001; Nunan & Choi, 2010; Vásquez et al., 1994). Learning a new language and the culture of the speech community have been regarded by scholars as inseparable in foreign language teaching. Bennett et al. (2003) went as far as to assert that "the person who learns language without learning culture risks becoming a fluent fool" (p. 237). The belief that language is influenced and constructed by a cultural context and vice versa is also widely accepted among education, language and culture scholars (Christiansen & Kirby, 2003; Ji et al., 2004; Lambert, 1984; Sherzer, 1987). However, while the purview of language teaching has expanded to include culture, many teachers may still be unaware of its importance, or may not give sufficient attention to what and how aspects of culture can be incorporated into their teaching. More importantly, teachers' own conceptions of culture may vary, leading to different ways culture is constructed in their language classes.

There have been criticisms of how culture is dealt with in the language classroom. Ideally, learning foreign languages should foster intercultural competence within a plurilingual context; however, there seems to exist, still, a narrow view of languages as belonging to nations as the countries of the origin of the languages; for example, "the Japanese language is thought to belong to Japan, the Chinese language to China, the Polish language to Poland, the Vietnamese language to Vietnam, and so on, English should logically belong to a nation as well" (Nault, 2006, p. 315). This idea constructs nations as monocultural and monolingual. Following this, the country-of-origin idea is often taken for granted as a fact or marker that reveals someone's culture. The simplification of culture to national culture poses a problem for the achievement of intercultural competence for learners. As agreed by scholars who advocate a fluid conception of culture (e.g., Abdallah-Pretceille, 2001, 2005; Dervin & Jackson, 2018; Holliday, 1999; 2010), intercultural competence should focus on the process of interaction between speakers of different experiences and not on the idea that it is an interaction between speakers of different national cultures (or broad sociological categories such as ethnicity, gender, socio-economic class, and regions, for that matter).

A simplistic conception of culture as fixed entities based on assumed cultural markers can lead to stereotyping, exclusion and poor communication.

This is because taking an individual as a representative of their group rather than their own unique selves limits the interaction by generalising the actions of every individual as representing the values and practices of their countrymen (Berry, 2008; Edensor, 2002; Faist, 2000). This would inevitably lead to misunderstandings where there is a mismatch between the assumed other-person knowledge of both interactants, which is the main cause of stereotyping and communication failure.

Teachers are the main agents through which intercultural competence is imparted to students. However, while there has been a considerable amount of research done on foreign language teaching and culture in textbooks or teaching materials (Chao, 2011; Cortazzi & Jin, 1999; Lin et al., 2020), research on teachers' ideation of culture in foreign language teaching is limited. Due to the paucity of empirical work done in the area, information on the teaching of culture and intercultural competence among teachers is lacking in the literature. Teachers may hold varied views of the concept of culture and different ideas about how culture should be taught, and consequently, execute their practices differently (Michel, 2018; Rohmani & Andriyanti, 2022; Rüschenpöhler et al., 2024; Tran & Dang, 2014). Specifically, research that explores what culture means to teachers is still very limited. Studies that examine foreign language teachers' awareness and rationalisation of their own beliefs and practices are, therefore, needed to provide insight into the subject from teachers' perspectives.

In Malaysia, foreign language learning has been actively encouraged by the government. There is an extra allowance for civil servants who are proficient in foreign languages (Jabatan Perkhidmatan Awam, 2022), and most universities in Malaysia have adopted foreign languages as a compulsory element in their curriculum (Chong & Ng, 2016). Teachers of foreign languages in Malaysia comprise native speakers as well as Malaysian teachers (non-native speakers) who have mastered the foreign language after studying in the native country or after extensive study of the language in Malaysia. In terms of cultural orientation, foreign teachers would be expected to differ from local teachers in terms of their connection to their home country. On their views towards the local culture, their appreciation of local cultural practices would depend on their outlook and the length of time they have spent living in Malaysia. This makes foreign teachers an interesting group to study, as their experience living in the host country teaching a foreign language to local students may well result in unique perspectives on culture and intercultural competence.

The current study sought to investigate foreign language teachers' conception of culture in the context of foreign language teaching in Malaysia. Specifically, it aimed to examine how culture in the context of foreign language teaching is constructed through an examination of references to culture in teachers' discourses. The study employed a discourse analytical framework to analyse French teachers' discourses about

culture obtained through a semi-structured interview with four native speaker French language teachers.

Perspectives on Culture

Culture as an abstract concept is difficult to define, as it involves many dimensions of meaning. From the positivist paradigm, Hofstede (1991) conceived of culture as objective markers tied to collectives of people, defining culture as "the collective programming of the mind which distinguishes the members of one group or category of people from another" (p.5), described as "software of the mind" (1991). The emphasis on group cognition implies a fixed way of thinking and behaving, where members of a group inevitably adopt the shared identities, values, and practices of the sociological grouping to which they belong. Specifically, culture is viewed as objective and unchanging, and can be manipulated to achieve different outcomes, such as the idea that certain types of culture can be implemented to achieve certain outcomes. Such a conception of culture, however, does not address how culture is formed or how individuals within the same groupings interpret and demonstrate different understandings and practices. Anthropologists, who seek to describe culture using qualitative ethnographic methods, view culture as the creation of societies and focus on how culture affects and is experienced by individuals. This is achieved by providing a holistic description of the shared knowledge, customs and behaviours of people in society, without aiming to make broad generalisations of the culture of groups (Kottak, 2012; Nelson & Braff, 2020). Culture is seen as adaptive, which allows members of society to live, thrive, and continue collectively in their environment. Certain artefacts that hold symbolic significance in the group are described as cultural objects; they are, among others, ornaments, food, rituals, music, language, stories, heroes and art (E. Hall & M. Hall, 1990). Intangible items such as customs, values, communication style and time orientation are also highlighted as components of culture.

Table 1 presents objects that are conventionally seen as connected to or representing culture gleaned from existing literature on the subject.

While the anthropological perspective of culture focusses on culture as a set of ideas and practices within the structures of a society, its underlying logic remains in the structuralist paradigm, where patterns and arrangements are described as identifiers of the society, and crossing borders from one cultural group to another is a taken-for-granted assumption.

In recent years, cultural scholars adopting the poststructuralist approach to culture have advocated the conception of culture as a fluid entity that is constantly being produced and reproduced in discourse. Its border is, therefore, indeterminate, as the creation of culture is an open process and small cultural practices can be transferred to different social contexts. This idea of culture conceptually differs from the idea of individuals transitioning across groups

Table 1
Categories of cultural objects

Category	Examples
Group actions	behaviour (Galloway, 1981; Gullestrup, 2009); behaviour, thought or attitude (Bennett, 1998) collective actions (Jasper, 2017) norms (Gullestrup, 2009)
Group characteristics	shared habits, beliefs and values of a national group (Kotter, 1996) identity (Jasper, 2017; Moran et al., 2007) psychological features of a group of people (Bennett, 1998)
Rules	norms and rules (Gullestrup, 2009) obligations (Janoff-Bulman & Legatt, 2002)
Artifacts	folk-dances, festivals, fairs and food (Galloway, 1981) monuments, rivers and cities (Galloway, 1981) material and immaterial products (Gullestrup, 2009) music, literature, drama, dance etc. (Bennett, 1998) language (Delpit & Dowdy, 2002; Nunan & Choi, 2010 ; Vásquez et al., 1994)

with clear boundaries (Bhabha, 1994; Rüschenpöhler et al., 2024; Seiler, 2013). Holliday (1999) argues for attention to be given to small culture, defined as a small cohesive social grouping which may exist within and between larger groupings, rather than on big Culture, which is defined by ethnic, national, and other large sociological groupings. Small cultures may emerge or diminish with the practices of the individuals in the group, as their existence is dependent on reproduction in discourse. Whereas big Cultures are essentialist and solid (appearing to be discrete and enduring), small cultures are fluid and permeable. In the fluid approach to culture, the focus on the processes of culture as they are produced in real-life interactions is deemed more useful in furthering the goal of intercultural competence (Byram, 1997), as opposed to describing culture as structure. In Byram's model (1997) of intercultural competence, learners must acquire and operate new knowledge and cultural practices in real-time communication, with the express aim to achieve a "change of perspectives" that includes awareness of one's own cultural perspectives and experiences and understanding others' views and experiences. In other words, the poststructuralist approach emphasises the importance of increasing one's awareness of the complexities within intercultural interactions, which would require self-reflection and continuous negotiation of assumptions in intercultural interactions. This focus on the fluidity of individual and contextual factors in interaction differs from the structuralist approach, which holds that culture and its consequences can be described unproblematically, independent of individual interactions (Peng & Dervin, 2024). In conclusion, culture may be understood as a solid marker of groups and

individuals belonging in groups, as tangible and intangible symbolic artefacts signifying the shared meanings held by the group, or as competence, a process by which individuals produce and reproduce knowledge and behaviour in situated practice to achieve mutual and collective goals.

Past Studies on Teachers' Beliefs About Culture

Studies that investigate teachers' beliefs about teaching culture in the classroom are numerous; however, there are very few studies that probe into teachers' conception of culture itself and the nature of this conception. We review selected studies related to teachers and their beliefs about culture, with particular attention to the approach to culture that underpins each study.

Michel (2018) asserted that language teachers should place as much importance on intercultural competence as linguistic competence, and therefore, should prepare students to interact with people of other cultures. In his study on culture in EFL teaching among teachers in secondary schools in Côte d'Ivoire, 53 EFL teachers answered a questionnaire aimed at discovering their beliefs about culture and intercultural teaching. The results, based on a quantitative analysis of the data, showed that the teachers believed that the students' own culture and the target language culture are both important to be taught in the classroom, but there is more variation among the teachers in their beliefs about the importance of students' own culture. The teachers also agreed that textbooks should include materials on other cultures. However, the teachers' beliefs did not match their actual classroom practices in terms of culture teaching.

Tran and Dang (2014) conducted a similar study on culture in English language teaching, focusing on teachers' beliefs and their classroom practices. Unlike Michel (2018), the study used both a questionnaire and semi-structured interviews with 38 teachers in a foreign language centre in Vietnam. The study found that teachers had a positive attitude towards teaching of culture and believed in the important role of culture teaching in EFL teaching. However, most of the teachers did not implement culture teaching in their classrooms, despite their belief that it was important. This could be due to a lack of knowledge about how culture should be taught.

Next, Rohmani and Andriyanti's (2022) study, also on English language teachers, surveyed 144 junior high school teachers using a questionnaire and interviewed six teachers in Indonesia. The findings showed that most of the teachers agreed that incorporating culture into language teaching is important for students to learn the language, specifically to minimise any misconceptions that may arise from learning the foreign language.

Another important study is one examining the beliefs of 14 EFL teachers in Indonesia on culture teaching (Kidwell, 2021). Using a variety of qualitative data collection methods, including interviews, lesson observations, professional learning community sessions and journal entries,

the study found that the teachers could be categorised into two groups. One group felt that teaching culture in the EFL classroom was to protect students from unfamiliar cultures (the protectors), while the other group felt the purpose was to prepare students to deal with unfamiliar cultures (the preparers). Adoption of either one of the beliefs about the role of culture teaching was associated with the teachers' exposure to intercultural learning opportunities. These findings underscore the importance of providing intercultural experiences as part of teacher education.

A study about teachers' perceptions of the integration of Aboriginal culture into the high school curriculum in Canada used a mix of qualitative data similar to Kidwell's study. The study (Kanu, 2005) was conducted with ten teachers in three high schools in a city in Canada using classroom observations focusing on participants' teaching processes, teachers' journals focusing on participants' reflection on the integration process (of Aboriginal culture) and interviews focusing on participants' perceptions of the integration process. The results show that all teachers in the study believe that the integration of Aboriginal culture into the school curriculum is important, and they support the integration generally. However, in practice, very little is observed despite their expressed openness to cultural integration. Notable challenges highlighted by the participants were a lack of knowledge about Aboriginal culture, a lack of classroom resources, some racist attitudes from non-Aboriginal students and staff, as well as limited support from school administrators.

The final study reviewed differs from those presented earlier in that it involves culture in chemistry education (Rüschenpöhler et al., 2024). While the study is not in the context of language teaching, findings revealed through a qualitative analysis of teachers' talk make this study an important contribution to the literature on teachers' conception of culture. Seven secondary school teachers in Germany were interviewed, and their talk was subjected to a qualitative content analysis. The teachers conceived of culture using a predominantly structuralist lens; for example, culture was defined as "a structure of a group of people who share certain goals and impulses" (p. 4089). Adopting the assumption that there exists "a culture of chemistry" (p. 4083), students should be taught this culture to bridge the gap in their learning. Teachers also held poststructuralist ideas about culture, where they believed reflecting on and having ongoing dialogue with students about culture were important. Some teachers denied the existence of culture, citing the difficulty in identifying students' cultures due to the vast differences in individual histories and traits. They felt that culture was not an important factor in learning chemistry, and that culturally relevant teaching was not needed in the teaching of chemistry. The researchers concluded that teachers' denial of culture could lead to discriminatory practices where inequities (from background differences) among students that affect their learning of chemistry are not addressed.

Of the six studies discussed, the first three using questionnaires, or questionnaires with interviews, appear to take the structuralist approach to culture, where cultures are identified as different entities or systems to be taught or learned, and that cultures of different groups are inherently different, and need to be bridged or crossed (Michel, 2018; Rohmani & Andriyanti, 2022; Tran & Dang, 2014). Kidwell's (2021) and Kanu's (2005) studies used qualitative data and inductive analysis, where categorisation of teachers' conception of the goal of teaching culture is formulated, driven by the data. In Kidwell's study, there is a reference to cultures as either familiar or unfamiliar from the teachers' perspective, revealing a crossing-border concept in the structuralist paradigm. In Kanu's study, a contrast was found between beliefs and practice among teachers and perceived resistance to integrating Aboriginal culture into the curriculum. This reveals the underlying structural paradigm of the study that positions cultures as separate entities, and particularly, the idea that cultures can be perceived as privileged or marginalised. Rüschenpöhler et al.'s (2024) study, using qualitative content analysis, explicitly identified its theoretical underpinning as observing the structuralist-poststructuralist paradigms. Particularly, the study is significant in that it highlights the potentially negative implications of teachers' conception of culture.

These studies and others not discussed here due to space constraints have made many inroads in attempting to describe teachers' beliefs about culture in teaching. However, the majority of the studies focus on the practical aspects of how teachers feel about teaching culture or integrating culture into the school curriculum. While not explicitly stated, most of the studies are grounded in the structuralist paradigm where culture is formulated as discrete, fixed entities. In view of the recent advancement of the poststructuralist approach to culture, which is important for the development of intercultural competence, research on teachers' beliefs about culture must give particular attention to the nature of teachers' understanding of culture, and the extent to which they demonstrate awareness of the interweaving of both the solid and fluid conceptualisations of culture.

METHODOLOGY

The current study adopts a qualitative methodology using discourse analysis, where participants were interviewed, and their talk was subjected to detailed analysis to uncover their conception of culture in the context of foreign language teaching. Four French language teachers from France teaching French language in Malaysia participated in this study. The first author is a French language teacher and hence, has some contact with the native French language teaching fraternity in Kuala Lumpur, Malaysia, which is a very small community. The four teachers in the study agreed to participate after being invited by the researcher. All the participants were native speakers of French and had been residing in Malaysia between five to forty years.

We are not able to reveal further details on the demographic information of the participants (e.g., age, gender, place of work) as there are few native French teachers teaching in Malaysia. Revealing this information will compromise the confidentiality of their identities.

A semi-structured interview about culture, teaching of culture and intercultural competence was conducted with the participants. The participants were informed about the nature, purpose and procedure of the research before they were asked to sign a consent form. All four teachers gave their consent. The interviews were conducted in English and French by the first author, and audio-recorded with the participants' permission. It is clarified that most of the participants answered in English, and French was used only intermittently. The recordings were transcribed, and segments in the French language were translated into English. The translation was done by the first author, who is a qualified French language teacher in Malaysia.

The interview transcripts were read several times to identify language (words, phrases, clauses) that point to speakers' ideas about culture. This could be explicit descriptions of culture cued by expressions such as "culture is/means…", or implicit constructions through descriptions of self and others, practices, objects and associations in relation to a group identity. Group social identity may be referenced using linguistic structures such as pronouns "we/us/our", "they/them/their", locations "here/there", or social categories such as French, Malaysian, students, local/foreign/foreigner, Asian, and European, and words indicating comparison between cultures, such as "different/similar", and evaluation, such as "common/normal", "modern/traditional", "a problem", "offence", and so forth. References to culture in the teachers' talk were then inductively interpreted, labelled and categorised through an iterative process to identify and refine emergent themes that represent teachers' construction of culture.

In addition, the teachers' language signifying references to objects and practices (both tangible and intangible) that hold symbolic meaning significant to the group were also relied on to search for talk segments relevant to culture. Objects indexing culture may be physical objects which include different "kinds of monuments, buildings, artifacts and figures, from founding heroes and suffering victims to landscape paintings and visual caricatures, to conversion stories and other textual references, to song lyrics and poems" (Jasper, 2017, p.289). They may also be "philosophy of life, the values, norms and rules, and actual behaviour as well as the material and immaterial products" (Gullestrup, 2009, p.4). Themes are labelled and relabelled to describe what ideas and positions the participants are formulating by making references to the concepts related to culture, such as identity, sociological boundaries, cultural artefacts, values, competence and evaluations, that are contextually relevant.

In line with the principles of discourse theory, we adopt the stance that social

objects are constructed entities within frames of space and time, in discourses that are produced and aligned to particular situational contexts. Hence, no claim is made about the teachers adopting a particular view of culture as an individual trait or as an enduring belief. We hold that there is a difference between the conventional understanding of "belief" as an enduring cognitive state and a constructed ideation of culture, the existence of which is transient and dependent on its production and reproduction in discourses in specific situations. Teachers' conception of culture as displayed in their talk in the research interview is deemed a theory in progress, where they actively attempt to work out what they understand about a subject they had not paid much attention to previously, and which could potentially change moment-to-moment. The following section presents the findings illustrated by quotations from teachers' talk.

RESULTS AND DISCUSSION

The teachers related culture to intangible objects, such as practices, habits, rules, and values, with minimal reference to concrete objects. Overarching themes on the conception of culture that emerge from these references are: culture is collective action along national boundaries, culture is obligation and social sanction, culture is unequal, culture is art and history, and language is culture. The teachers appear to rely on a predominantly structuralist approach in describing culture, where group boundaries are clearly defined in the description of groups and their differences in cultural practices. This resulted in instances where cultures attributed to people of different nationalities were evaluated either positively or negatively. Implications for the teaching of culture in foreign language teaching are discussed in light of the findings.

Culture is Collective Action Along National Boundaries

The first theme from the analysis of references to culture by the teachers is culture as collective action along national boundaries. In this finding, group categorisation at the national (country) level frequently occurred, cued by pertinent words associated with group boundaries such as *we/us*, *they/them*, and *here/there*. The teachers conceived of culture as actions that are done collectively by members of the national community (Bouslama & Benaissi, 2018). Linguistic cues in the talk that point to collective action are those that make references to customs or norms. Excerpt 1 shows teacher FLT3 telling the interviewer what they thought about culture (Table 2).

The teacher clearly delineates actions that are acceptable to the French-speaking community in France, differentiating between private and publicly visible actions. There is a hard line drawn between behaviour of the learners in their own country, and in private, if in France ("in your own country", "at home"), and behaviour when in France ("accepted by the majority", "general acceptable behaviour", Excerpt 1, Table 2). Learning about acceptable

Table 2
Excerpts 1 to 3

Excerpt	Quotations from teachers' talk
1	FLT3: […] if you are **from a different country** or whatever, you have your own things. So at home, what you do, you do whatever, exactly like **in your country**, and there is no issue. **But once you are in a public place, you must behave in a way that is accepted by the majority.** […] So you just **follow the generally accepted behaviour,** and that's all. And then you do **your own thing at home**, I mean that one is your problem. While you are among yourselves, then you can do whatever you do in your country.
2	FLT3: Certain things, for example, you enter a shop **in France**, you **always** say good morning or whatever greeting … but **here** it doesn't matter.
3	FLT1: It is just for example, **how to queue in Germany**... so you have dots… aligned of rain dots… like this…dot dot dot; **how to queue in China**…you have a crowd of … a great crowd of rain dots […]

behaviour when living among native French people takes precedence in the teaching of culture to students who are preparing to study in France, and students' own habits and behaviours that may not be in line with French culture should remain hidden.

Similarly, in Excerpt 2 (Table 2), the practice of greeting "good morning" to a shopkeeper/shop owner is described as obligatory in France ("always say…"), but not in Malaysia ("here", Excerpt 2). In Excerpt 3 (Table 2), differences in the habit of queueing are highlighted along the national group level, Germany and China. These examples show that the teachers' idea of culture is delineated along national borders. This could be because the teachers feel it is the most effective way to bring awareness to students about what is acceptable or not acceptable to French people in France, in order to protect them from adverse reactions (Kidwell, 2021). However, the question arises as to whether describing culture with the big "C" (Holliday, 1999) along national groupings without attention to the small processes of practices can best facilitate intercultural competence. National groups are implied as homogeneous in their behaviours and expectations, and no attention is given to situational contexts where a variety of skills and strategies are needed to navigate intercultural interactions.

Culture is Obligation and Social Sanction

Culture is constructed as an obligation imposed on members by the group. Cultural practices are anchored on the values and requirements of the group, and following that, have consequences to the individual in terms of group approval or social sanction (Claridge, 2020). Language indexing obligations include modals of obligation such as "must", "should", "have to", and lexical expressions indicating necessity,

such as "minimum", "compulsory", "rule", and various other expressions that indicate the notions of "requirements", and "consequences" if those "requirements" are not met.

The teachers' conception of culture as an obligation is reflected in their talk, rationalising the aim of teaching culture. The main concern of the teachers is that a lack of knowledge of the culture of the target language community may result in negative consequences for the language learners when they eventually interact with French native speakers. In Excerpt 4 (Table 3), teacher FLT1 emphasised what they regarded as "basic rules" or "minimum knowledge" needed to stay out of trouble (Excerpt 4). The basic minimum appears to comprise only components that are deemed to be "different" between the foreign and local way of life, and which are likely to cause friction ("they won't like", "that will be a big problem", "you offend", Excerpt 4). Similarities in practices, on the other hand, might have been regarded as unproblematic and were therefore not emphasised.

A similar notion of not offending the members of the French speech community is also expressed by FLT2 ("not challenging the society", Excerpt 5, Table 3). The teacher referred to behaviours described as "compulsory", implying there is a minimum set of basic knowledge that learners must acquire. Excerpts 4 and 5 underscore the overarching concern of teachers to protect students from transgressing the norms and expectations of the French speech community and the negative consequences resulting from it. Thus, attention is predominantly focused on dissimilarities between French culture and the local Malaysian culture. In other words, culture is constructed as having clear boundaries between groups, defined by differences.

Also noteworthy is that the negative consequences of transgressing group culture are presented at the level of national group practices, without any attempt to explain

Table 3
Excerpts 4 and 5

Excerpt	Quotations from teachers' talk
4	FLT1: What they need to understand is **the basic**… like **the minimum basic** is the things in the house, how to… for example, how to use… like things in the bathroom, the fact that in France we don't have the... […] The hose? […] here it's common to see water on the floor in the bathroom. In France, you do that in a family, which **will be a big problem**. **They won't like**. So those things like things in the kitchen... in the bathroom... in the bedroom, like common… like **very basic rules** we have. […] simple interaction, like when you enter a shop, you would say hello, bonjour. If you don't do this, **then you offend.**
5	FLT2: There are things that are universal in France, this I am sure, like saying bonjour before talking to someone in all my life, it is **compulsory**, you have to… There are **small things like that that are very important**. Once you do them, **then you are not challenging society**.

processes at the interpersonal level. Cultural norms are taken for granted as the rule and logic of group actions, and out-group members need only to comply to live harmoniously among the target language community in the foreign country.

Culture is Unequal

While the teachers presented culture as belonging to large national groups, and that specific differences between cultures are what distinguish them, they do not construct cultures as neutral systems that have equal status. In fact, evidence in the teachers' talk showed active evaluation of group behaviour as negative or positive, and better or worse, in relation to one another.

During the interview, FLT1 (Excerpt 6, Table 4) gave an example of the teaching materials they used in the classroom, which were images showing a specific behaviour attributed to certain national groups in pictorial form. The images showed aligned dots to represent the queueing practice of people in Germany, and a group of dots randomly arranged (neither in a straight, zig-zag nor any discernible line), to represent the "non-queueing" practice of people in China. While the pictures were intended to trigger discussion about differences between group behaviours from an educational standpoint, the implicit message imparted is a negative evaluation of the group shown to be "not queuing." When questions such as "what are the differences and why...?", and "what would be the reactions of people…?" (Excerpt 6) are posed to students, answers casting a negative perception towards the "non-queuing" group are inevitable. Further, the queuing practice is highlighted as a norm for the entire national group, Germany and China, without acknowledgement of possible variations within the national groupings.

Table 4
Excerpts 6 and 7

Excerpt	Quotations from teachers' talk
6	FLT1: It is just for example, **how to queue in Germany**... so you have dots… aligned of rain dots… like this…dot dot dot; **how to queue in China**…you have a crowd of … a great crowd of rain dots […] I came with many, many pictures like this…many drawings... […] and then they had to guess what he was presenting? **What is the cultural aspect he is presenting...**things like that, and **what are the differences and why**... and so then **what would be the reactions** of someone from China moving to Germany in this situation? What could be the reactions of someone from Germany moving to China?
7	FLT1: […] I think our job as French teachers **teaching cultures is not focusing on the minority**… You know. We just want to give them the tool to… **so they won't have any misunderstanding** when they are in France.

In Excerpt 7 (Table 4), FLT1 explains that the focus of culture teaching in the foreign language classroom should not be on minority groups (e.g., immigrants). This implies that minority groups are less important as their practices may not significantly impact newcomers to French culture, in that it would not help the students in avoiding trouble with the majority group in France ("so they won't have any misunderstanding", Excerpt 7). Hence, the culture attributed to the majority group takes precedence in the teaching of the culture of the target language community.

Culture is Art and History

Conventionally, the term culture is often viewed as associated with elements in the humanities, such as art, literature, food, music and history. This dimension of culture is evoked by the teachers in the study, specifically referring to France as the focal point to be introduced to learners of the French language. In Excerpt 9 (Table 5), FLT4 and FLT1 identified a variety of cultural objects such as art, food, places, and celebrations (Excerpts 8 to 10, Table 5) as essential to be included in the teaching of French culture.

The teachers also advocated having students learn specific information related to the system of governance, such as immigration, and the place of religion as separate from the state (Excerpts 9 and 10, Table 5), as important to be imparted to students. This finding is similar to Bouslama and Benaissi's (2018) finding that teachers regard culture as a body of factual knowledge to be taught. In the current study, the attention given to the teaching of cultural elements associated with the country of the target language (France) by the French teachers overrides the inclusion of cultural references to the local country (Malaysia).

Language is Culture

The teachers in the study regard culture as a necessary component in learning a language. They expressed their belief in the importance of culture in language learning, to the extent of claiming that understanding culture is required to understand language. Excerpts 11 and 12 (Table 6) illustrate the teachers' view of culture as an essential component of foreign language teaching.

The direct assertion that culture is part of language, culture is essential to understand language, and culture is interlinked with language, as well as the use of modality of obligation and ability, such as "have to teach" and "cannot separate them", all clearly point to the teachers' conviction on the importance of culture in foreign language teaching.

Further, the teachers demonstrated a strong acceptance of the diversity of French speakers in the world, comprising people with different accents and cultural practices (Excerpt 13, Table 6). The teachers advocated that understanding different accents is essential in understanding different French native speakers, and that the diversity of the Francophonie should be included as part of the teaching of French culture.

While the teachers presented the French-speaking population as diverse in

Table 5
Excerpts 8 to 10

Excerpt	Quotations from teachers' talk
8	FLT4: […] to improve is to participate in **different events**, for example, if they take French, we have the **French festival** every year, organised in Malaysia. You have several **movies** shown in big cinemas. So that can be a way to know more about the movies, then there are different **places**, different **artistic exhibitions**…different…a lot of activities like **cooking**… a lot of things that can improve the people and the students, **to know more about French culture,** and definitely I always encourage my students to go to this kind of activities.
9	FLT1: […] here we have one semester only…almost only on intercultural…where we would work in…on different aspects about **French history**, about **immigration in France**, […] or the **place of religion in France** […]
10	FLT1: […] **Things about religion** like the fact that France is a country where there is a big **separation between religion and the state**. So, for example, school, there is no religion in school...hmmm… what else? Hmm…some as we teach them about the **celebrations**. So what is important for French people in terms of celebration, what they do, how to offer a gift and how to receive a gift…

Table 6
Excerpts 11 to 14

Excerpt	Quotations from teachers' talk
11	FLT4: **Culture is part of the language**. So when you teach language, you **have to also teach** the cultural side. **It is essential to understand the language**.
12	FLT3: […] **The language is one thing, but it goes together with culture** because I mean, there are certain circumstances while you say something, or even the intonation of how you say or the gestures that go with it …you know…how you express your feeling is also part of it. **So, it is interlinked, like you cannot separate them, cannot say oh! It is language only.**
13	FLT4**:** **Understanding different accents, understanding different French native speakers**. I would say by going to an open discussion like organise in Malaysia, for example, in KL (Kuala Lumpur). Like a weekly discussion, **you meet native speakers while not necessary French**. So that is a good way, by interacting with more people, the more you gain knowledge about that, and get used to well…the accents. Then I would say **in France,** even though you have **different people speaking French from different countries, accents are not that strong**… I mean, except for Quebec or some countries in Africa.
14	FLT4: […] except knowing the capital was Kuala Lumpur, I didn't know much. I was not really shocked, but I was quite surprised that for an ancient British colony, English is not well spoken everywhere. And it still surprises me **that even in the big city, many people don't speak a common language, which is something that quite surprises me** [...]

the way they speak French and as distributed across different geographical locations in the world, the idea that languages must be associated with national boundaries is still observed among the teachers. In Excerpt 14 (Table 6), the diversity of languages spoken among Malaysians is viewed as unusual ("many people don't speak a common language", Excerpt 14).

The analysis discussed above shows that the teaching of intercultural competence across all themes advocated by the teachers focuses on differences rather than similarities between groups and particularly referenced on national groups. In contrast, the multiplicity of individuals belonging to minor cultural groups is seldom mentioned by the teachers. There is a clear lack of mention of individual idiosyncrasies, the permeability of cultural boundaries, or a discussion of stereotyping as a possible consequence of a lack of intercultural awareness.

CONCLUSION

From the analysis of teachers' talk on culture in the French language classroom, several observations on their conceptions of culture can be made. First, the teachers being French native speakers from France believe that their most urgent task at hand is to prepare the students for a life in France, as most of the students they teach have the intention to further their studies in France at some time in the future. This makes the conception of culture along national boundaries a convenient working model to be adopted by the teachers to construct their understanding of culture. People are identified by their country of origin or country of domicile, and cultures are attributed homogenously to the population of the country (Holliday, 2010; Risager, 2007). Following this broad-brush construction of cultural groupings, there is no attempt made to explore and examine variations within the country, especially through the lens of fluidity of culture, where cultures are conceptualised as in constant movement and recreation (Bauman, 2000). The focus on national references to culture indicates the teachers' reliance on the structuralist approach to understanding culture (Rüschenpöhler et al., 2024; Seiler, 2013). Cultures are clearly defined and contained within groups, and members of the group are assumed to be homogenous in their ways of thinking and behaving. To learn about and understand different cultures would mean crossing borders between distinct social worlds (Bhabha, 1994). Cultures are viewed as fixed products where discrete information is learned, rather than a process where the focus is on the procedural moment-by-moment interaction, taking into consideration situational variables. Such a conception of culture, while useful for coming up with recipe-book style tips for survival in a foreign country, may not facilitate a deeper understanding of culture and intercultural competence (Dervin & Jackson, 2018; Holliday, 1999, 2010). There is also the danger of unintentional stereotyping of people of different nationalities when culture is defined based on countries (Seiler, 2013). As is well documented, stereotyping

leads to pre-conceived assumptions and misunderstandings, which can lead to failure in intercultural communication, apart from the many other harms it may bring (Dovidio & Gaertner, 2010; Greenwald et al., 2002).

Second, culture is conceived of as practices and behaviours that are socially controlled, and compliance is needed to live peacefully in society as a newcomer. This is reflected in the teachers' selection of cultural elements to be taught to students, for specific comparison between Malaysian and French culture. In line with the teachers' goal of preparing students to live in France, the logical method was to highlight only those practices among Malaysians (referred to as "Malaysian culture") that could potentially cause offence to people in France. This inevitably leads to the unintentional and implicit labelling of selected behaviours among Malaysians as "offensive" and which should remain hidden from public view, when in France.

Closely related to this is the third finding, where the teaching of culture involves comparison between specific behaviours of people of different countries. This appears to be an attempt by the teachers to explore cultural differences with their students. However, the selection of behaviours as defining the people of an entire nation may render the effort ineffective in fostering intercultural competence. "Cultures" as defined by selected behaviours may be implicitly evaluated as "better" or "worse" in comparison, and not merely "different". Hence, the introduction of cultures from different countries may not result in achieving the intended purpose of cultural enrichment and intercultural awareness (Chao, 2011; Kumaravadivelu, 2008; Lin et al., 2020), but may, instead, end up with stereotyping and misrepresentation. While differences are focused on, similarities are backgrounded or totally neglected. Engaging students to explore similarities between people in the world was not given due attention by the teachers to foster intergroup understanding, which is crucial for intercultural competence.

Fourth, language and objects in the arts and humanities are highlighted as symbols of the culture of the country of the target language (Gullestrup, 2009; Jasper, 2017). France is thematised as the reference point of cultural practices to be taught, and local and other cultures remain mostly invisible. This appears to be a logical choice by the teachers as it aligns with their purpose of preparing students to live in France.

The analysis of the teachers' talk reveals the teachers' ideas about culture as influenced by the goal of preparing students to live and survive in France. This goal becomes the overriding force that directs the teachers to construct culture along national boundaries, foregrounding France as the point of reference, and taking the structuralist perspective of culture. Comparisons with practices of people in other countries are made with the sole purpose of ensuring compliance with French culture. While there are attempts to impart awareness of differences in cultural practices, there is a tendency for culture to be viewed in reductionist terms, where there

is a set of practices that would be deemed sufficient to know the culture of a group. On the other hand, there is also an ambiguous understanding of what comprises culture, where any behaviour of people observed through personal experience is tagged as culture.

Implications of Study

There are implications for teacher training for foreign language teachers. Most teachers of foreign languages do not undergo formal training on the teaching of culture and intercultural competence. As found by some previous studies, some teachers have expressed anxiety about teaching culture and felt they needed instructions or guidelines on how to include intercultural competence in their classes. Integration of intercultural learning in language classes is still lacking as teachers may not be ready to deal with it (Borghetti & Qin, 2022; Bouslama & Benaissi, 2018). In the case of native speaker teachers, it could be assumed that the teachers have first-hand knowledge of the culture of "their own people" and should be able to impart this knowledge to their students unproblematically. However, this may not be so, as suggested in the current study. The findings indicate a need to revisit how culture and intercultural competence should be defined, and how they can be incorporated as part of teacher training for foreign language teachers. Specifically, the theoretical understanding of the concepts of culture and intercultural competence, and the objectives of integrating them into language teaching should be emphasised along with their pedagogical implications, to achieve better intercultural learning outcomes for students (Bouslama & Benaissi, 2018).

In order to provide professional training to teachers, learning what the teachers think about intercultural competence and teaching of culture allows teacher trainers to develop a better module to mentor and to coach future teachers to ensure their professional development. Training support to the teachers should be provided to raise their knowledge and confidence in integrating culture into their foreign language teaching, with a clear aim of broadening the space for intercultural discourse.

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The authors declare no conflicts of interest.

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Analisis Rasuah Dalam Perolehan di Institusi Pengajian Tinggi Awam Malaysia: Pendekatan Kajian Pelbagai Kes Menggunakan Teori Fraud Diamond

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ABSTRAK

Kajian ini meneliti faktor-faktor berlakunya rasuah dalam perolehan di Institusi Pengajian Tinggi Awam (IPTA) di Malaysia dengan menggunakan Teori Fraud Diamond (FDT) sebagai kerangka konseptual. Objektif kajian ini adalah untuk memahami bagaimana elemen dalam FDT (tekanan, peluang, rasionalisasi dan keupayaan) saling berinteraksi dalam mendorong perlakuan rasuah dalam konteks perolehan sektor pendidikan tinggi awam. Kajian ini menggunakan pendekatan kualitatif dengan reka bentuk kajian kes, melibatkan empat dokumen siasatan sebenar yang diperoleh daripada Suruhanjaya Pencegahan Rasuah Malaysia (SPRM). Proses analisis data melibatkan pengekodan terbuka, pembinaan buku kod, dan pemetaan tema berasaskan empat elemen FDT. Dapatan menunjukkan bahawa elemen peluang dan keupayaan merupakan faktor paling dominan, terutamanya disebabkan kelemahan kawalan dalam, ketiadaan pemantauan, kemahiran teknikal dan akses kepada maklumat perolehan. Sementara itu, elemen tekanan dan rasionalisasi muncul secara berbeza mengikut konteks individu. Kajian ini mengemukakan cadangan intervensi berasaskan FDT seperti pengasingan tugas, audit dalaman berkala, latihan nilai integriti dan pemantauan gaya hidup. Sumbangan utama kajian ialah penerapan empirikal FDT dalam konteks IPTA yang masih kurang diterokai. Kajian ini juga mencadangkan integrasinya dengan teori lain bagi memahami dimensi struktur dan budaya organisasi yang turut mempengaruhi tingkah laku rasuah. Namun, keterbatasan melibatkan skop IPTA dan penggunaan data sekunder harus diatasi dalam penyelidikan masa hadapan melalui pendekatan campuran dan peluasan konteks institusi.

Kata Kunci: Analisis tematik, institusi pengajian tinggi awam, perolehan, rasuah, teori Fraud Diamond

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An Analysis of Corruption in Procurement at Malaysian Public Higher Education Institutions: A Multiple Case Studies Approach Using the Fraud Diamond Theory

ABSTRACT

This study examines the factors contributing to corruption in procurement processes at Malaysian Public Institutions of Higher Learning (IPTAs), using the Fraud Diamond Theory (FDT) as the conceptual framework. The objective of this research is to understand how the four elements of FDT—pressure, opportunity, rationalisation, and capability—interact in driving corrupt practices within the context of public higher education procurement. Employing a qualitative case study approach, the study analyses four actual investigation documents obtained from the Malaysian Anti-Corruption Commission (MACC). Data analysis involved open coding, the development of a codebook, and thematic mapping based on the four FDT elements. Findings reveal that opportunity and capability are the most dominant factors, primarily attributed to weak internal controls, lack of oversight, technical expertise, and access to procurement information. In contrast, the elements of pressure and rationalisation vary depending on the individual's context. The study proposes FDT-based intervention strategies, including segregation of duties, periodic internal audits, integrity-based training, and lifestyle monitoring. The key contribution of this research lies in its empirical application of FDT within the IPTA context, which remains underexplored in current literature. The study also suggests integrating FDT with other theories to capture the structural and cultural dimensions of organisations that influence corrupt behaviour. Nonetheless, limitations relating to the study's scope, which is confined to IPTAs and secondary data sources, should be addressed in future research through the use of mixed-methods approaches and broader institutional contexts.

Keywords: *Corruption, Fraud Diamond theory, procurement, public higher education institution, thematic analysis*

PENGENALAN

Perolehan kerajaan merupakan komponen teras dalam pengurusan sumber awam, namun sifatnya yang kompleks dan berskala besar menjadikannya terdedah kepada risiko amalan rasuah (Johari et al., 2023; Rustiarini et al., 2019). Laporan Suruhanjaya Pencegahan Rasuah Malaysia (SPRM) menunjukkan bahawa antara 2013 hingga 2018, sebanyak 43% kerugian kewangan akibat rasuah berpunca daripada manipulasi dalam perolehan (Siddiquee & Zafarullah, 2022). Rasuah ini bukan sahaja menyebabkan ketirisan sumber, tetapi turut menjejaskan integriti perkhidmatan awam, kualiti penyampaian dan pertumbuhan ekonomi (Arista & Fazekas, 2024). Kerentanan ini menjadi semakin parah disebabkan oleh faktor seperti ketidakjelasan harga pasaran, pengaruh ahli politik, dan hubungan kompleks antara pegawai kerajaan, ahli politik dan syarikat (Rustiarini et al., 2019; Prakasa, 2022).

Isu ketirisan dalam perolehan kerajaan semakin membimbangkan apabila SPRM mengenal pasti sektor ini sebagai paling terdedah kepada rasuah, dengan 24% maklumat berkaitan rasuah dari tahun 2019 hingga 2023 melibatkan perolehan, dan 90% aduan berpunca daripada kegagalan pentadbiran serta kelemahan kawalan dalaman (Jabatan Perdana Menteri, 2024). Laporan Sivanandam et al. (2020) pula merekodkan 184 penjawat awam terlibat dalam 564 pelanggaran Laporan Ketua Audit Negara (LKAN), manakala 47.5% daripada 4,996 tangkapan SPRM antara tahun 2019 hingga 2023 melibatkan penjawat awam (SPRM, 2024). Walaupun pelbagai dasar diperkenalkan, namun rasuah dalam perolehan kerajaan masih berleluasa akibat kelemahan kawalan dalaman, ruang budi bicara yang luas, dan tatakelola institusi yang lemah (Huda et al., 2017).

Manaf et al. (2023) mengatakan bahawa sesiapa sahaja boleh terlibat dalam jenayah rasuah, tanpa mengira kedudukan, bidang pekerjaan, bangsa, atau agama. Di Malaysia, kegiatan rasuah turut berlaku dalam kalangan Institusi Pengajian Tinggi Awam (IPTA), khususnya dalam aspek pengurusan perolehan dan pembangunan infrastruktur yang melibatkan peruntukan kewangan yang besar. Berdasarkan statistik, dalam tempoh lima tahun (2018-2022), seramai 50 guru sekolah dan 15 pensyarah telah ditangkap oleh SPRM. Walaupun hanya 0.3% daripada 4,753 tangkapan antara tahun 2018 hingga 2022 melibatkan guru dan pensyarah, angka ini tetap menunjukkan kewujudan rasuah dalam sektor pendidikan yang seharusnya berintegriti tinggi kerana mereka menjadi teladan kepada bakal pemimpin negara (Manaf et al., 2023).

Walaupun banyak kajian menumpukan kepada rasuah dalam sektor awam secara umum, penggunaan *Fraud Diamond Theory* (FDT) dalam konteks IPTA masih terhad kerana tumpuan lebih diberikan kepada kementerian dan agensi kerajaan lain (Basir et al., 2022; Khan & Bakar, 2022). Dalam konteks ini, IPTA menjadi penting untuk dikaji kerana ciri autonomi pentadbiran dan kewangannya mewujudkan cabaran tadbir urus yang tersendiri. Kebanyakan kajian sedia ada pula bersifat kuantitatif dan berasaskan persepsi, tanpa menganalisis kes sebenar yang disiasat oleh pihak berkuasa, sekali gus mengehadkan pemahaman terhadap mekanisme rasuah (Basir et al., 2022; Khan & Bakar, 2022). Untuk membangunkan strategi pencegahan yang berkesan, penting untuk mengenal pasti punca utama perlakuan rasuah, iaitu tekanan, keupayaan, rasionalisasi dan peluang seperti yang dijelaskan dalam FDT (Chan & Owusu, 2017; Khan & Bakar, 2022).

Kajian ini dijalankan untuk mengisi kelompangan tersebut dengan menggunakan FDT sebagai kerangka teori utama. Kajian ini menggunakan pendekatan kualitatif dengan menganalisis kandungan dokumen siasatan rasuah yang diperoleh daripada SPRM. Secara khusus, objektif kajian ini adalah untuk menganalisis bagaimana elemen-elemen dalam FDT menyumbang kepada berlakunya rasuah dalam kes-kes yang dikaji dan mencadangkan strategi dan langkah pencegahan bagi menangani

elemen-elemen risiko yang dikenalpasti dalam proses perolehan di IPTA.

Keaslian kajian ini bukan sahaja terletak pada konteks IPTA yang masih kurang diterokai, tetapi juga pada penggunaan dokumen siasatan sebenar SPRM yang melibatkan kes yang telah disabitkan. Berbeza dengan kebanyakan kajian terdahulu yang bersifat kuantitatif dan berasaskan persepsi, kajian ini menelusuri secara empirikal bagaimana elemen tekanan, peluang, rasionalisasi dan keupayaan berinteraksi dalam situasi rasuah perolehan sebenar merentasi beberapa kes. Kajian ini menyumbang dalam tiga aspek utama: pertama, memperluas aplikasi FDT dalam konteks rasuah perolehan di IPTA; kedua, menyumbang kepada literatur empirikal melalui analisis kes sebenar; dan ketiga, menyediakan panduan berguna kepada pembuat dasar dan pengurusan IPTA untuk merangka strategi pencegahan rasuah yang lebih efektif. Penemuan kajian ini juga boleh menyokong penggubalan dasar yang kukuh dan menjadi asas kepada kajian masa hadapan dalam memperkukuh tadbir urus kewangan yang telus dan berdaya tahan.

Kajian ini disusun seperti berikut: Bahagian pertama adalah pengenalan berkaitan tajuk kajian. Bahagian kedua membincangkan tinjauan kajian yang lalu dan kerangka teori yang digunakan. Bahagian ketiga menghuraikan metodologi kajian, termasuk rekabentuk penyelidikan, kaedah pengumpulan data dan kaedah analisis data. Bahagian keempat membentangkan dapatan kajian, perbincangan dan cadangan penambahbaikan. Bahagian kelima merumuskan kesimpulan, diikuti bahagian keenam implikasi kajian. Akhir sekali, limitasi dan cadangan kajian pada masa hadapan.

TINJAUAN KAJIAN YANG LALU

Perolehan Kerajaan

Perolehan kerajaan merujuk kepada proses mengenal pasti keperluan barangan, perkhidmatan atau kerja, menentukan pihak terbaik untuk membekalkan keperluan tersebut, serta memastikan penyampaian dilakukan dengan efisien, pada masa yang tepat, dengan kos yang berpatutan, dan dilaksanakan secara adil dan telus (OECD, 2023). Menurut Hassan et al. (2021) pula, perolehan kerajaan ditakrifkan sebagai pemerolehan bekalan, perkhidmatan dan kerja oleh kerajaan. Kementerian Kewangan bertindak sebagai badan utama yang menyelaras dan mengawal selia pelaksanaan perolehan melalui pelbagai instrumen seperti *The Procurement Guideline Book of Malaysia*, Akta Tatacara Kewangan 1957, Arahan Perbendaharaan, dan Pekeliling Perbendaharaan melalui tiga peringkat pentadbiran, iaitu Kerajaan Persekutuan, Kerajaan Negeri, dan Badan Berkanun termasuk syarikat milik kerajaan (Othman et al., 2010).

Matlamat utama sistem ini adalah untuk mencapai prinsip "nilai untuk wang" (*value for money*), iaitu memastikan penggunaan dana awam yang cekap, efektif dan berimpak tinggi (Kementerian Kewangan Malaysia, 2010). Malaysia mengadaptasi tujuh prinsip utama perolehan seperti digariskan oleh World Bank (2017), termasuk nilai untuk

wang, ekonomi, integriti, kesesuaian untuk tujuan, kecekapan, ketelusan, dan keadilan. Selain itu, prinsip teras seperti akauntabiliti awam, persaingan terbuka, dan layanan adil turut diterapkan sejajar dengan Dasar Pembangunan Negara (Kementerian Kewangan Malaysia, 2010).

Walaupun perolehan kerajaan dikawal oleh pelbagai instrumen peraturan, pelaksanaannya masih berdepan cabaran serius, termasuk kelemahan kawalan dalaman dan ketidakpatuhan proses perolehan yang dilaporkan secara konsisten oleh SPRM dan LKAN. Azmi dan Ismail (2023) turut mengenal pasti 16 kelemahan dalam sistem perolehan, menandakan keperluan mendesak untuk penambahbaikan struktur bagi meningkatkan keberkesanan perkhidmatan awam.

Rasuah Perolehan

Menurut *Organisation for Economic Cooperation and Development* (OECD), definisi rasuah bergantung pada kerangka undang-undang sesebuah negara. Namun begitu, rasuah secara umumnya merujuk kepada penyalahgunaan kuasa oleh pegawai awam untuk keuntungan peribadi, sama ada secara aktif atau pasif. Rasuah boleh berlaku dalam pelbagai bentuk, termasuk penyuapan, pemerasan, kronisme, salah guna kuasa, dan penipuan (OECD, 2020). Dalam hal ini, rasuah juga berkait rapat dengan penipuan kerana kedua-duanya berpunca daripada unsur ketidakjujuran (ACFE, 2022). Dalam konteks perolehan kerajaan, rasuah perolehan merujuk kepada manipulasi proses tender, kontrak, atau pembelian untuk memperoleh manfaat peribadi, yang jelas bertentangan dengan prinsip keadilan, persaingan, dan ketelusan (OECD, 2016).

Kajian terdahulu menunjukkan bahawa rasuah perolehan dipengaruhi oleh beberapa faktor utama. Di Malaysia, Basir et al. (2022) mendapati bahawa kelemahan kawalan dalaman, pengaruh pihak luar terhadap keputusan perolehan, dan tekanan individu seperti masalah kewangan atau keperluan peribadi sering menjadi punca berlakunya rasuah. Begitu juga di Indonesia, Dwimawanti dan Ramadani (2023) mendapati bahawa tekanan dan peluang merupakan antara pemacu utama rasuah dalam perolehan kerajaan. Selain itu, elemen rasionalisasi turut memainkan peranan penting apabila individu cuba memberikan justifikasi moral terhadap perbuatan mereka. Khan dan Bakar (2022) menjelaskan bahawa walaupun garis panduan perolehan telah disediakan dengan terperinci, sesetengah individu masih merasionalisasikan perbuatan rasuah atas alasan desakan kewangan, tekanan organisasi, atau kepercayaan bahawa tindakan tersebut tidak memberi kesan langsung kepada organisasi. Pada masa yang sama, prosedur yang kompleks, garis panduan yang tidak jelas, dan ruang budi bicara yang luas turut meningkatkan risiko penyelewengan dan salah guna kuasa (Dwimawanti & Ramadani, 2023). Dalam konteks pendidikan tinggi, keadaan ini menjadikan IPTA sebagai institusi yang turut terdedah kepada risiko rasuah perolehan kerana mengurus proses perolehan yang berskala besar dan kompleks.

Teori Fraud Diamond

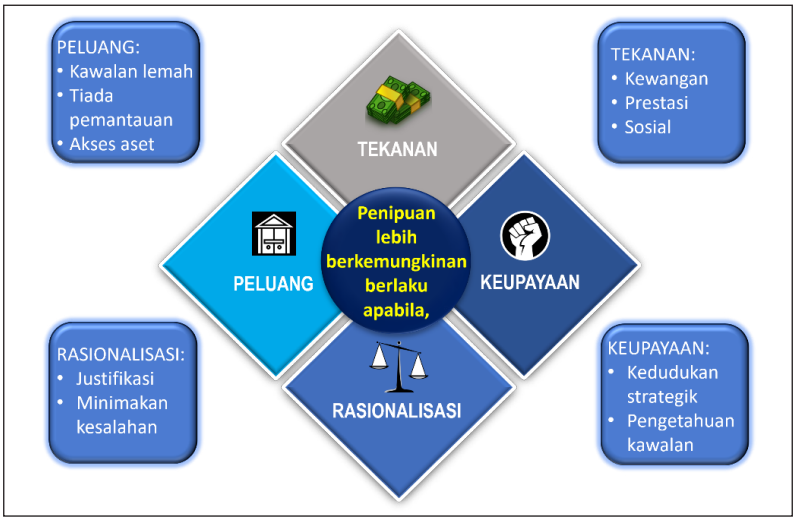
Menurut *United Nations Office on Drugs and Crime*, tiada teori yang mampu menerangkan fenomena rasuah secara menyeluruh (UNODC, 2017). Pendekatan yang sering digunakan oleh penyelidik ialah *Fraud Triangle Theory* (FTT) yang diperkenalkan oleh Cressey (1953) menyatakan bahawa penipuan lebih cenderung berlaku apabila tiga elemen utama wujud, iaitu tekanan, peluang dan rasionalisasi. Namun, FTT telah dikritik kerana mengabaikan aspek keupayaan pelaku. Wolfe dan Hermanson (2004) kemudian menambah elemen keupayaan, membentuk FDT yang memberi pemahaman lebih menyeluruh dengan menekankan bahawa peranan akses, kedudukan strategik dan kemahiran individu merupakan faktor penting dalam berlakunya penipuan. Rajah 1 menunjukkan ilustrasi FDT yang menghubungkan keempat-empat elemen yang diadaptasi daripada Wolfe dan Hermanson (2004).

Tekanan

Menurut Medlar dan Umar (2023), tekanan dalam teori ini merangkumi pelbagai faktor seperti hubungan kerja tegang, kegagalan peribadi, dan keinginan menyesuaikan diri secara sosial. Lyra et al. (2022) mengklasifikasikan tekanan kepada dua bentuk iaitu kewangan dan bukan kewangan. Tekanan kewangan berpunca daripada masalah peribadi seperti hutang, perceraian atau kebankrapan (Rasoli et al., 2023), manakala tekanan bukan kewangan melibatkan dorongan egosentrik seperti obsesi kuasa, status sosial dan cita-cita jawatan (Rustiarini et al., 2019).

Peluang

Menurut Wolfe dan Hermanson (2004), penipuan tidak akan berlaku tanpa peluang, walaupun individu menghadapi tekanan tinggi. Peluang wujud apabila terdapat kelemahan dasar, kawalan dalaman lemah, pelanggaran oleh pihak atasan,



Rajah 1. Ilustrasi FDT (Wolfe & Hermanson, 2004)

dan budaya organisasi yang membenarkan penyelewengan (Handoyo & Bayunitri, 2021; Rustiarini et al., 2019). Kakati dan Goswami (2019) turut menegaskan bahawa peluang merupakan faktor utama yang mendorong penipuan, diikuti tekanan dan rasionalisasi.

Rasionalisasi

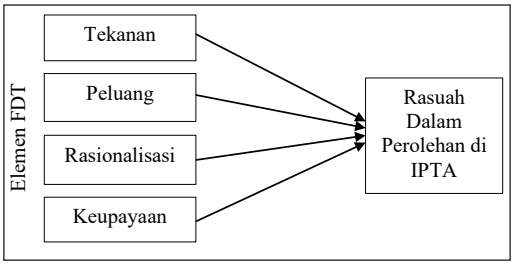
Rasionalisasi bukanlah alasan yang muncul selepas perbuatan dilakukan, sebaliknya ia merupakan asas yang mendorong individu untuk melakukan penipuan. Rasionalisasi merujuk kepada situasi di mana individu yang berpotensi melakukan penipuan memberikan justifikasi dalaman untuk menghalalkan tindakan mereka berdasarkan kod etika peribadi (Handoyo & Bayunitri, 2021) dan memainkan peranan penting dalam membentuk motif jenayah (Medlar & Umar, 2023).

Keupayaan

Walaupun tekanan, peluang dan rasionalisasi merupakan faktor pendorong berlakunya penipuan menurut FTT (Cressey, 1953), pelaku juga memerlukan keupayaan untuk mengeksploitasi peluang tersebut (Kassem & Higson, 2012; Wolfe & Hermanson, 2004). Individu berjawatan tinggi lebih berisiko kerana memiliki keupayaan seperti kedudukan strategik, kecerdasan, keyakinan diri, serta kemampuan mempengaruhi orang lain (Lyra et al., 2022). Dalam konteks IPTA, pelaku biasanya memiliki keupayaan ini.

Rajah 2 menunjukkan kerangka konseptual dengan empat elemen utama FDT yang memainkan peranan dalam mempengaruhi rasuah dalam perolehan di IPTA. Kajian ini memilih FDT sebagai kerangka konseptual kerana ia menekankan hubungan serentak antara individu dan organisasi (Wolfe & Hermanson, 2004). Fokus hanya pada individu atau kumpulan boleh mengabaikan aspek sosiologi organisasi dan menjejaskan keberkesanan pencegahan rasuah (Davis & Pesch, 2013). FDT telah digunakan dalam pelbagai bidang seperti penipuan pengguna dalam talian (Harrison et al., 2020), penipuan pekerjaan dalam organisasi sukan (Kihl et al., 2021), dan penipuan pelaporan kewangan (Demetriades & Owusu-Agyei, 2022). Walaupun FDT telah digunakan dalam pelbagai bidang, penggunaannya dalam sektor awam khususnya IPTA masih terhad. Kajian terdahulu menunjukkan bahawa elemen FDT adalah relevan dalam menjelaskan rasuah, tetapi penekanan terhadap elemen dominan berbeza mengikut konteks kajian.

Beberapa kajian terdahulu menyokong kebolehlaksanaan FDT dalam menjelaskan punca rasuah. Rustiarini et al. (2019), Dwimawanti dan Ramadani (2023) serta Medlar dan Umar (2023) mendapati keempat-empat elemen FDT signifikan



Rajah 2. Kerangka konseptual elemen FDT dalam konteks rasuah perolehan di IPTA

dalam kes rasuah sektor awam dan penipuan kewangan di Indonesia. Di Malaysia, Khan dan Bakar (2022) menekankan keupayaan sebagai faktor utama dalam kalangan pegawai perolehan, manakala Norziaton dan Sabri (2022) menekankan pengaruh tekanan sosio-budaya. Basir et al. (2022) pula menunjukkan nilai etika organisasi dapat mengurangkan pengaruh rasionalisasi dan keupayaan. Christian (2020) menekankan peranan tekanan kewangan dalam penipuan korporat, dan Sujeewa et al. (2020) mendapati tekanan dan peluang sebagai faktor dominan dalam sektor awam di Sri Lanka.

Walaupun kajian terdahulu secara umumnya mengesahkan bahawa FDT sesuai digunakan untuk menjelaskan rasuah dan penipuan, dapatan empirikal yang dilaporkan masih tidak seragam (Dwimawanti & Ramadani, 2023; Medlar & Umar, 2023; Rustiarini et al., 2019). Sebahagian penyelidikan mendapati bahawa elemen peluang dan tekanan merupakan pemacu utama perlakuan penyelewengan (Dwimawanti & Ramadani, 2023; Johari et al., 2023; Sujeewa et al., 2020), manakala kajian lain pula menonjolkan keupayaan sebagai faktor yang paling kritikal, khususnya dalam kalangan pegawai yang mempunyai kedudukan strategik dan akses kepada sistem perolehan (Khan & Bakar, 2022; Wolfe & Hermanson, 2004). Selain itu, beberapa kajian turut menunjukkan bahawa budaya etika organisasi berperanan dalam mengekang rasionalisasi dan salah laku (Basir et al., 2022; Ratmono & Frendy, 2022), sementara faktor sosio-budaya pula boleh mempengaruhi kecenderungan individu terhadap rasuah mengikut konteks setempat (Norziaton & Sabri, 2022). Keadaan ini menunjukkan bahawa kekuatan relatif setiap elemen FDT tidak bersifat seragam, sebaliknya dipengaruhi oleh konteks institusi, sektor yang dikaji, dan pendekatan metodologi yang digunakan oleh penyelidik terdahulu (Khan & Bakar, 2022; Rustiarini et al., 2019; Sujeewa et al., 2020).

Jurang Kajian

Berdasarkan sorotan literatur, terdapat tiga jurang utama yang masih belum diberi perhatian secukupnya. Pertama, kajian berasaskan FDT masih lebih banyak tertumpu pada sektor awam secara umum, sektor korporat, atau penipuan kewangan, berbanding rasuah perolehan dalam IPTA yang mempunyai struktur tadbir urus dan autonomi pentadbiran tersendiri. Kedua, kebanyakan kajian terdahulu menggunakan pendekatan kuantitatif atau berasaskan persepsi, yang lebih cenderung mengenal pasti kecenderungan umum tetapi kurang berupaya menjelaskan mekanisme sebenar perlakuan rasuah, termasuk urutan tindakan, strategi manipulasi, serta interaksi antara pelaku, pembekal, dan kelemahan organisasi dalam situasi kes yang nyata. Ketiga, masih kurang kajian yang menggunakan dokumen siasatan sebenar untuk meneliti bagaimana elemen tekanan, peluang, rasionalisasi, dan keupayaan saling berinteraksi dalam kes rasuah perolehan yang telah berlaku. Oleh itu, kajian ini dirangka untuk mengisi jurang tersebut melalui pendekatan kajian pelbagai

kes berasaskan dokumen siasatan SPRM, sekali gus memberikan pemahaman yang lebih empirikal dan kontekstual tentang mekanisme rasuah perolehan di IPTA.

METODOLOGI

Kajian ini menggunakan pendekatan kualitatif dengan reka bentuk kajian kes untuk mengenalpasti faktor-faktor rasuah dalam perolehan IPTA melalui FDT. Kaedah ini sesuai untuk mengkaji fenomena kompleks dalam konteks sebenar (Yin, 2018). Kajian ini menggunakan dokumen siasatan rasmi SPRM bagi tahun 2015–2019 sebagai sumber utama, kerana ia bersifat autentik, representatif dan mengandungi maklumat terperinci seperti kronologi, keterangan saksi, dan bukti sokongan. Kajian ini menggunakan pensampelan bertujuan dengan memilih empat kes yang relevan dan kaya maklumat, selaras dengan saranan Patton (2015) dan Creswell dan Poth (2018) bahawa analisis mendalam lebih sesuai dilakukan ke atas bilangan kes yang terhad. Kriteria inklusif dan eksklusif bagi pemilihan dokumen siasatan SPRM adalah seperti berikut:

1. Kes SPRM berkaitan rasuah dalam perolehan di IPTA Malaysia dari tahun 2015 hingga 2019.
2. Hanya melibatkan kes yang telah disabitkan kesalahan.
3. Dokumen siasatan yang telah diklasifikasi sebagai Kemas Untuk Simpan (KUS) atau dokumen siasatan yang lengkap dan tidak aktif atau telah dinyahklasifikasi.

Pemilihan empat kes dianggap memadai kerana analisis rentas kes menunjukkan pengulangan kod dan pola tema yang konsisten, sekali gus memberikan kecukupan analitikal untuk menjelaskan mekanisme rasuah perolehan dalam konteks IPTA, selaras dengan prinsip ketepuan dalam penyelidikan kualitatif (Hennink et al., 2017). Unit analisis bagi kajian ini ialah setiap kes rasuah perolehan yang melibatkan IPTA dan direkodkan dalam dokumen siasatan SPRM, manakala unit data terdiri daripada petikan teks yang relevan seperti kenyataan pelaku dan saksi, kronologi kejadian, huraian proses perolehan, dan bukti sokongan; penetapan ini selaras dengan pendekatan kajian kes yang menumpukan kes sebagai unit analisis utama dalam konteks sebenar (Yin, 2018).

Bagi tujuan kajian ini, pendekatan analisis dokumen digunakan sebagai teknik utama dalam pengumpulan data dengan mengambil kira ketulenan, kredibiliti dan maksud kandungan dokumen dalam mengenal pasti tema-tema utama berdasarkan elemen-elemen FDT (Bowen, 2009). Proses ini melibatkan pengekodan terbuka secara induktif dan pengekodan bertema secara deduktif bagi memastikan keselarasan dengan objektif kajian.

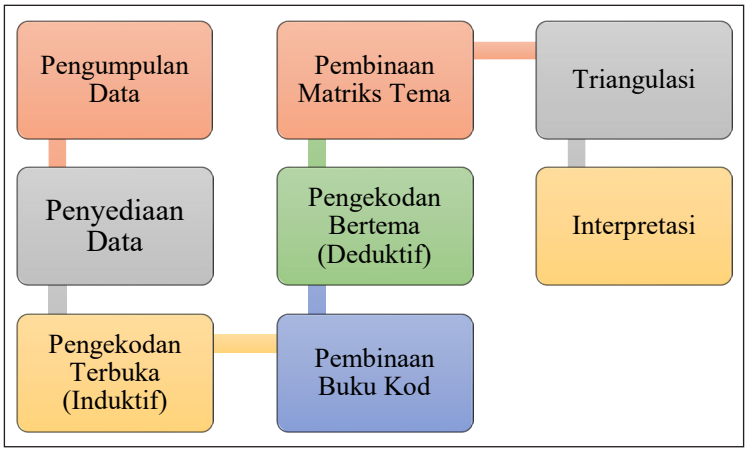
Pendekatan induktif melibatkan pengekodan terbuka dengan meneliti dokumen SPRM secara menyeluruh untuk mengenal pasti petikan bermakna yang mencerminkan tingkah laku, niat, dan motif pelaku, seterusnya dilabel dengan kod yang sesuai. Sebagai contoh, kenyataan pelaku rasuah iaitu “Saya meminta wang komisen

untuk menyelesaikan hutang" dikodkan sebagai "masalah kewangan peribadi". Kod-kod ini dibangunkan daripada data dan direkodkan dalam jadual pengekodan. Bagi memastikan ketelusan data, senarai kod telah dibangunkan dalam buku kod yang mengandungi nama kod, penerangan ringkas, dan tema berdasarkan elemen FDT.

Selepas pengekodan terbuka, pengekodan deduktif digunakan untuk mengelompokkan kod kepada tema FDT, seperti "masalah kewangan peribadi" di bawah tema "tekanan". Matriks tema kemudiannya dibina bagi mengenal pasti tema berulang, menentukan elemen FDT yang dominan, dan menganalisis pola serta perbezaan antara kes berdasarkan ketumpatan kod. Rajah 3 menunjukkan carta alir proses analisis data yang diolah oleh penulis berdasarkan Bowen (2009), Creswell dan Poth (2018), serta Yin (2018)

Bagi memastikan kebolehpercayaan dapatan, triangulasi dilakukan dengan membandingkan empat dokumen siasatan SPRM yang berbeza serta dapatan kajian lepas. Audit jejak direkodkan dan semakan dokumen dilakukan di bilik khas SPRM dengan pemantauan pegawai SPRM bagi memastikan maklumat yang dicatatkan adalah sahih. Penyelidik turut mengamalkan refleksiviti dan penglibatan penyelia dalam semakan proses serta padanan kod dan tema bagi menjamin ketepatan dan konsistensi analisis. Walaupun hanya menggunakan data sekunder, kajian disokong oleh teori seperti *Theory of Planned Behaviour* (Ajzen, 1991) dan *moral disengagement* (Bandura, 1999) bagi mengukuhkan dapatan.

Walaupun dokumen siasatan SPRM menyediakan data yang autentik dan terperinci, penggunaannya juga mempunyai keterbatasan kerana penyelidik hanya bergantung pada maklumat yang telah direkodkan dalam fail dan tidak dapat memperoleh penjelasan lanjut secara langsung daripada pihak yang terlibat; keadaan ini konsisten dengan keterbatasan umum analisis dokumen yang bergantung pada kandungan rekod sedia ada (Bowen, 2009).



Rajah 3. Carta alir proses analisis data

Selain itu, dokumen siasatan mungkin tidak menangkap sepenuhnya aspek budaya organisasi atau motivasi yang tidak direkodkan secara formal, justeru tafsiran perlu dibuat secara berhati-hati dalam konteks kandungan yang tersedia (Bowen, 2009; Yin, 2018). Namun demikian, keterbatasan ini diminimumkan melalui triangulasi, audit jejak, dan semakan kod serta tema secara berterusan, yang merupakan antara strategi penting untuk meningkatkan kebolehpercayaan dapatan dalam penyelidikan kualitatif (Creswell & Poth, 2018; Yin, 2018).

Kajian ini melibatkan penggunaan dokumen siasatan rasmi yang sensitif serta berkaitan dengan isu integriti penjawat awam. Sehubungan itu, akses kepada dokumen diperoleh melalui permohonan rasmi kepada Pengarah Bahagian Dasar, Perancangan dan Penyelidikan SPRM. Permohonan tersebut kemudiannya diangkat kepada Ketua Pesuruhjaya SPRM bagi mendapatkan kelulusan berkaitan penggunaan input kajian dan akses kepada fail kertas siasatan. Setelah diluluskan, surat kelulusan dikemukakan kepada Pengarah Bahagian Pengurusan Rekod dan Maklumat SPRM yang bertanggungjawab mengawal akses terhadap kertas siasatan SPRM. Seterusnya, penyelidik dihubungi oleh pegawai SPRM untuk menetapkan tarikh yang sesuai bagi tujuan semakan dokumen. Akses kepada kertas siasatan hanya dibenarkan pada tarikh yang ditetapkan dan di lokasi yang telah ditentukan, iaitu di bilik Ketua Cawangan Unit Statistik, Cawangan Perisytiharan Harta dan Statistik, Bahagian Pengurusan Rekod dan Maklumat, SPRM. Penyelidik juga tidak dibenarkan membawa keluar atau mengambil gambar sebarang dokumen. Semua catatan yang dibuat sepanjang proses semakan dokumen dilakukan di bawah pemerhatian pegawai SPRM. Bagi menjaga kerahsiaan, penyelidik tidak merekodkan sebarang maklumat pengenalpastian peribadi atau identiti subjek, sebaliknya menggunakan sistem pengekodan unik bagi melindungi pihak yang terlibat.

Kajian ini hanya menggunakan data sekunder dan tidak melibatkan temu bual, soal selidik atau interaksi langsung dengan responden. Oleh itu, pertimbangan etika kajian difokuskan kepada kebenaran akses institusi, kerahsiaan data dan perlindungan identiti pihak yang terlibat.

DAPATAN DAN PERBINCANGAN

Dapatan dan Perbincangan Berdasarkan Analisis Kajian Kes

Analisis kajian kes telah dibuat ke atas empat (4) kes rasuah dalam perolehan yang melibatkan pegawai di IPTA yang telah disabitkan kesalahan dalam tempoh antara tahun 2015 hingga 2019.

Kes A

Pada tahun 2015, seorang Penolong Jurutera Awam di sebuah IPTA di Sarawak didapati bersalah kerana meminta dan menerima wang komisen sebanyak RM300.00 daripada pemilik Syarikat A sebagai balasan memperakukan kerja siap bagi kerja "*Proposed Repairing Works at Faculty of Engineering-Glass, Aluminium*

Louvers, Bricks Works & Ceiling" bernilai RM9,960.00. Pelaku menggunakan kedudukannya sebagai pegawai teknikal yang bertanggungjawab memantau dan memperakukan kerja kontraktor untuk memperoleh ganjaran peribadi. Mahkamah menjatuhkan hukuman penjara selama tujuh (7) hari serta denda sebanyak RM10,000.00, atau satu (1) bulan penjara sekiranya gagal membayar denda tersebut. Jadual 1 menunjukkan kod dan tema yang diperoleh daripada analisis dokumen bagi Kes A.

Berdasarkan data, kelemahan kawalan dalaman organisasi mewujudkan peluang kepada perlakuan rasuah. Pelaku telah diberikan kepercayaan sepenuhnya oleh penyelia untuk menyelia kerja pembekalan tanpa semakan silang. Ketiadaan pemantauan membolehkan pelaku yakin bahawa tindakannya tidak akan dikesan. Pelaku juga mengalami tekanan kewangan yang mendesak pada ketika itu. Keterangannya,

> Saya tahu perbuatan itu salah. Tetapi saya meminta wang komisen bagi menyelesaikan hutang.

Kenyataan ini menunjukkan bahawa tekanan kewangan mendorong individu mencari jalan penyelesaian segera walaupun bertentangan dengan undang-undang

Jadual 1
Kod dan tema berdasarkan petikan data/situasi bagi Kes A

Petikan Data/Situasi	Kod	Tema
Penyelia: "Saya tidak menyemak kerja-kerja tersebut secara fizikal."	Ketiadaan Pemantauan	Peluang
Tiada mekanisme semakan silang. Penyelia hanya bersandar pada laporan pelaku.	Kelemahan Kawalan Dalaman	Peluang
Penyelia: "Saya percaya sepenuhnya kepada beliau (Pelaku)."	Kepercayaan Penuh Tanpa Verifikasi	Peluang
Pelaku: "Saya tahu perbuatan itu salah. Tetapi saya meminta wang komisen bagi menyelesaikan hutang."	Masalah Kewangan Peribadi	Tekanan
Pelaku: "Saya hanya meminta komisen daripada kontraktor."	Rasuah kepada 'Komisen' atau 'sumbangan'	Rasionalisasi
Pelaku: "Saya tahu perbuatan itu salah. Tetapi saya meminta wang komisen bagi menyelesaikan hutang."	Justifikasi Keperluan Peribadi	Rasionalisasi
Pelaku: "Saya tidak ada menjanjikan apa-apa kepada kontraktor. Saya hanya mahu komisen untuk diri sendiri sahaja."	Penafian Janji Balas	Rasionalisasi
Pelaku: "Saya bertanggungjawab untuk memantau pelaksanaan projek dan kerja penyelenggaraan."	Pengetahuan Teknikal	Keupayaan
Pelaku: "Saya minta beliau (Pemilik syarikat) serahkan RM300.00 di tangga fakulti."	Keupayaan Menyembunyikan Jejak	Keupayaan
Pelaku: "Antara tugas saya ialah memantau operasi dan penyelenggaraan dalam bidang kejuruteraan awam, membantu menyediakan dokumen perolehan untuk projek dan kontrak, dan membantu memantau pelaksanaan projek dan kerja penyelenggaraan."	Kedudukan strategik	Keupayaan

dan etika kerja. Pelaku merasionalisasi pelanggaran etika sebagai perkara biasa dalam rutin kerja bagi mengurangkan rasa bersalah dan menganggap perbuatan itu boleh diterima. Keterangannya,

> Saya hanya meminta komisen daripada kontraktor. Saya tidak ada menjanjikan apa-apa kepada kontraktor. Saya hanya mahu komisen untuk diri sendiri sahaja.

Kedudukan jawatan pelaku sebagai Penolong Jurutera Awam memberikan beliau akses kepada maklumat teknikal serta autoriti untuk memperakukan kerja siap tanpa pemeriksaan lanjut. Pengetahuan teknikal yang dimiliki serta kepercayaan yang diberikan oleh pihak atasan meletakkan beliau dalam kedudukan strategik untuk mengeksploitasi kelemahan sistem.

Kes B

Pada tahun 2016, seorang Pegawai Belia dan Sukan yang bertugas sebagai Ketua Unit Sukan di sebuah IPTA di Pulau Pinang didapati bersalah kerana bersubahat dengan pemilik Syarikat B dengan mengemukakan tuntutan palsu berhubung kerja "Buka dan Pasang Peralatan Gimnasium Perdana ke Bangunan Zamrud" berjumlah RM2,500.00. Kerja tersebut tidak dilaksanakan oleh syarikat pembekal sebaliknya, pelaku sendiri melaksanakan kerja itu dengan bantuan dua orang staf bawahan, yang masing-masing menerima upah sebanyak RM100.00. Pelaku mengambil RM2,000.00 sebagai ganjaran, manakala RM500.00 diberikan kepada pemilik syarikat sebagai imbuhan meminjamkan nama syarikat. Pelaku telah mengaku bersalah dan dihukum satu (1) hari penjara dan denda sebanyak RM12,500.00. Jadual 2 menunjukkan kod dan tema yang diperoleh daripada analisis dokumen bagi Kes B.

Kes B menunjukkan bahawa kelemahan kawalan dalaman membuka peluang kepada pelaku memanipulasi proses perolehan, tanpa semakan silang atau audit oleh penyelia yang hanya bergantung pada laporan pelaku. Hubungan peribadi sejak 1980 antara pelaku dan pemilik syarikat atas dasar keakraban keluarga dan rasa terhutang budi memudahkan manipulasi dokumen tanpa menimbulkan syak wasangka. Dalam keterangannya, pelaku mengakui bahawa beliau menghadapi tekanan kewangan dan menggunakan wang tersebut untuk perbelanjaan peribadi. Keterangannya,

> Saya tahu perbuatan itu salah.
>
> Saya telah menggunakan wang tersebut untuk perbelanjaan sendiri.

Pelaku turut berdepan tekanan prestasi kerja, khususnya keperluan segera untuk menyelesaikan kerja pemindahan peralatan sukan bagi kelancaran program universiti. Kombinasi tekanan kewangan dan tekanan prestasi kerja menyumbang kepada rasional tindakan pelaku yang memilih untuk mengambil wang secara tidak sah sebagai penyelesaian jangka pendek terhadap tekanan hidupnya.

Walaupun tiada justifikasi langsung, tindakan pelaku mencerminkan rasionalisasi tersirat melalui pemikiran *moral disengagement* (Bandura, 1999).

Jadual 2
Kod dan tema berdasarkan petikan data/situasi bagi Kes B

Petikan Data/Situasi	Kod	Tema
Penyelia: "Saya hanya dimaklumkan oleh beliau (Pelaku) bahawa barang-barang telah dipindahkan oleh kontraktor."	Ketiadaan Pemantauan	Peluang
Penyelia: "Saya tidak tahu syarikat mana yang pindahkan alatan tersebut. Saya hanya tahu alatan tersebut dipindahkan oleh staf beliau (Pelaku) apabila SPRM datang siasat."	Kelemahan Kawalan Dalaman	Peluang
Penyelia: "Saya telah meluluskan tuntutan tersebut berdasarkan dokumen yang dilampirkan di dalam dokumen tuntutan."	Kepercayaan Penuh Tanpa Verifikasi	Peluang
Kerani kewangan: "Saya tahu bahawa alatan tersebut dipindahkan oleh staf unit ini juga tetapi saya diarahkan oleh beliau (Pelaku) untuk menyediakan dokumen tuntutan."	Tiada Sistem Whistleblowing	Peluang
Pemilik syarikat: "Saya kenal beliau (Pelaku) sejak tahun 1980 kerana beliau (Pelaku) adalah jurulatih bola sepak saya. Keluarga beliau (Pelaku) yang menjaga saya semasa saya sakit pada tahun 2000."	Konflik Kepentingan	Peluang
Penyelia: "Saya akui bahawa hanya ada 1 sebutharga yang dilampirkan di dalam dokumen tuntutan. Walau bagaimanapun, saya tetap meluluskan tuntutan tersebut untuk menyegerakan pemindahan peralatan gimnasium."	Ketidakpatuhan Prosedur Perolehan	Peluang
Pelaku: "Saya telah menggunakan wang tersebut untuk perbelanjaan sendiri."	Masalah Kewangan Peribadi	Tekanan
Pelaku: "Peruntukan TAS yang telah diluluskan pada tahun semasa perlu digunakan segera bagi mengelakkan peruntukan pada tahun hadapan dipotong."	Tekanan Pengurusan Peruntukan	Tekanan
Pelaku: "Ada aduan daripada pelajar yang mengatakan ruang gim agak sempit dan tidak cukup peralatan."	Tekanan Pengurusan	Tekanan
Pelaku: "Saya bertanggungjawab merancang dan mengendalikan urusan pembangunan dan penyelenggaraan kemudahan sukan di universiti."	Tekanan Prestasi Kerja	Tekanan
Pelaku: "Saya terima RM2,000.00 daripada beliau (Pemilik syarikat) dan saya beri RM100 tiap seorang kepada staf yang bantu pindahkan alat gim. Baki RM500.00 saya beri kepada beliau (Pemilik syarikat)."	Mengurangkan Beban Moral	Rasionalisasi
Pelaku: "Saya serahkan dokumen tuntutan kepada kerani untuk proses pembayaran."	Pengetahuan Teknikal	Keupayaan
Penyelia: "Saya tidak tahu syarikat mana yang pindahkan alatan tersebut. Saya hanya tahu alatan tersebut dipindahkan oleh staf beliau (Pelaku) apabila SPRM datang siasat."	Keupayaan Menyembunyikan Jejak	Keupayaan
Pelaku: "Saya telah meminta dua orang staf saya untuk memindahkan alat gim." Kerani kewangan: "Saya proses tuntutan bayaran tersebut apabila beliau (Pelaku) menyerahkan dokumen tuntutan kepada saya. Saya hanya mengikut arahan beliau (Pelaku)."	Keupayaan Mengawal Staf	Keupayaan
Pemilik Syarikat: "Saya banyak terhutang budi kepada beliau kerana keluarga beliau (Pelaku) yang menjaga saya semasa saya sakit pada tahun 2000." Pemilik Syarikat: "Beliau (Pelaku) minta saya menyediakan sebutharga dan invois bertujuan untuk membuat tuntutan kerja-kerja pemindahan alat gim tetapi saya tidak tahu siapa yang melakukan kerja-kerja tersebut. Saya buat atas dasar percaya kepada beliau (Pelaku)."	Keupayaan Memanipulasi Pembekal	Keupayaan

Jadual 2 (*sambungan*)

Petikan Data/Situasi	Kod	Tema
Pelaku: "Saya bertanggungjawab merancang dan mengendalikan urusan pembangunan dan penyelenggaraan kemudahan sukan di universiti."	Kedudukan Strategik	Keupayaan
Pelaku: "Setiap tahun, saya perlu menyediakan permohonan bajet peruntukan yang perlu berkaitan kemudahan sukan." Kerani kewangan: "Saya proses tuntutan bayaran tersebut apabila beliau (Pelaku) menyerahkan dokumen tuntutan kepada saya. Saya hanya mengikut arahan beliau (Pelaku)."	Akses Kepada Maklumat Perolehan	Keupayaan

Pelaku mengambil sebahagian besar tuntutan sebagai "ganjaran" dan memberi imbuhan kepada staf dan pembekal bagi menjustifikasi perbuatan tersebut secara moral. Seperti dinyatakan oleh Murphy dan Dacin (2011), pelaku rasuah sering menganggap tindakan mereka tidak merugikan sesiapa atau sebagai ganjaran yang wajar. Pelaku, sebagai Ketua Unit Sukan, memiliki kawalan ke atas proses perolehan dan akses kepada maklumat kewangan, membolehkannya menyusun dokumentasi tampak sah. Hubungan rapat dengan pemilik syarikat dan pengaruh terhadap staf bawahan turut mengukuhkan keupayaannya melakukan penipuan.

Kes C

Pada tahun 2018, seorang Penolong Pendaftar Kanan yang bertugas di Bahagian Pentadbiran dan Kewangan, di sebuah IPTA di Terengganu didapati bersalah kerana meminta dan menerima wang rasuah sebanyak RM7,420.00 daripada pemilik Syarikat C sebagai balasan memilih syarikat berkenaan untuk kerja-kerja pembekalan 14 set kerusi dan meja terazo. Pada April 2018, pelaku mengarahkan pemilik syarikat untuk menyediakan sebutharga set kerusi dan meja terazo dengan harga RM1,280.00 seunit, sedangkan harga asal seunit adalah RM750.00 menjadikan nilai keseluruhan sebutharga RM17,920.00 dan menyediakan dua lagi sebutharga palsu pada kadar yang lebih tinggi bagi menimbulkan ilusi persaingan bagi menjamin Syarikat C terpilih bagi pembekalan tersebut. Pelaku kemudian menerima lebihan wang sebanyak RM7,420.00 melalui dua kaedah iaitu RM4,000.00 dimasukkan ke dalam akaun bank miliknya dan RM3,420.00 diserahkan secara tunai. Mahkamah menjatuhkan hukuman lima (5) tahun penjara dan denda RM89,600.00 atau penjara 12 bulan sekiranya gagal membayar denda tersebut. Jadual 3 menunjukkan kod dan tema yang diperoleh daripada analisis dokumen bagi Kes C.

Kes C memperlihatkan bagaimana elemen peluang dimanfaatkan apabila pelaku diberi kepercayaan penuh tanpa pengawasan, tiada pengasingan tugas, dan tiada mekanisme semakan harga pasaran, sekali gus membolehkannya memanipulasi proses sebutharga bagi mewujudkan gambaran persaingan palsu dan melantik syarikat pilihannya.

Pelaku menghadapi tekanan kewangan akibat penceraian dan kos sara hidup, lalu menggunakan lebihan wang perolehan untuk perbelanjaan peribadi.

Jadual 3
Kod dan tema berdasarkan petikan data/situasi bagi Kes C

Petikan Data/Situasi	Kod	Tema
Pelaku: “Dekan bersetuju dengan cadangan saya untuk melantik Syarikat C.”	Ketiadaan Pemantauan	Peluang
Pelaku: “Saya telah mengarah beliau (Pemilik syarikat) supaya menaikkan harga dalam sebutharga kepada RM1,280 bagi setiap set untuk 14 set, menjadikan jumlah keseluruhan RM17,920.” Pelaku: “Saya telah beri sebutharga tersebut kepada kerani untuk proses seterusnya.”	Kelemahan Kawalan Dalaman	Peluang
Pelaku: “Dekan percaya pada saya dan tidak pernah menyoal tentang cadangan saya dalam semua urusan.”	Kepercayaan Penuh Tanpa Verifikasi	Peluang
Pemilik syarikat: “Saya pada mulanya takut untuk menaikkan harga sebab saya tahu itu salah tetapi dia (Pelaku) beritahu bahawa wang lebihan tersebut akan digunakan untuk membeli peralatan universiti.”	Tiada Sistem Whistleblowing	Peluang
Pelaku: “Saya telah mengarah beliau (Pemilik syarikat) supaya menaikkan harga dalam sebutharga kepada RM1,280 bagi setiap set untuk 14 set, menjadikan jumlah keseluruhan RM17,920.”	Ketidakpatuhan Prosedur Perolehan	Peluang
Pelaku: “Saya memerlukan wang lebihan daripada *mark-up* tersebut untuk kegunaan saya sendiri kerana saya mengalami masalah penceraian yang menyebabkan saya mengalami masalah kewangan.”	Masalah Kewangan Peribadi	Tekanan
Pelaku: “Saya tahu perbuatan ini salah tetapi keadaan saya yang mendesak pada masa itu.”	Tekanan Emosi dan Perasaan Bersalah	Tekanan
Pelaku: “Saya bertanggungjawab terhadap pembelian aset dan pengurusan perolehan.”	Tekanan Prestasi Kerja	Tekanan
Pelaku: “Peruntukan yang telah dimohon dan diluluskan, perlu digunakan pada tahun semasa.”	Tekanan Pengurusan Peruntukan	Tekanan
Pelaku: “Wang tersebut digunakan bagi menampung perbelanjaan harian saya.”	Justifikasi Keperluan Peribadi	Rasionalisasi
Pelaku: “Saya tahu perbuatan ini salah tetapi keadaan saya yang mendesak pada masa itu.”	Justifikasi Moral - Tiada Pilihan	Rasionalisasi
Pelaku: "Saya hanya mengambil lebihan wang daripada harga yang dinaikkan."	Minimisasi Kesalahan	Rasionalisasi
Pemilik Syarikat: “Beliau (Pelaku) minta saya untuk mendapatkan sebutharga tambahan daripada syarikat lain dengan harga lebih tinggi.”	Pengetahuan Teknikal	Keupayaan
Pemilik Syarikat: “Saya pada mulanya takut untuk menaikkan harga sebab saya tahu itu salah tetapi dia (Pelaku) beritahu bahawa wang lebihan tersebut akan digunakan untuk membeli peralatan universiti.”	Keupayaan Memanipulasi Orang Lain	Keupayaan
Pelaku: “Saya pergi sendiri berjumpa dengan beliau (Pemilik syarikat) di bengkelnya.”	Keupayaan Menyembunyikan Jejak	Keupayaan
Pelaku: “Saya bertanggungjawab dalam menguruskan hal ehwal pentadbiran termasuk pembelian aset.”	Kedudukan strategik	Keupayaan
Pelaku: “Pada setiap tahun, saya sediakan kertas kerja permohonan peruntukan untuk unit saya. Setiap anggaran harga aset ditentukan oleh saya sendiri.”	Akses Kepada Maklumat Perolehan	Keupayaan

Tekanan ini mendorong kepada rasuah, yang dirasionalisasikan oleh pelaku sebagai tindakan terpaksa demi keperluan mendesak. Keterangannya,

> Saya tahu perbuatan ini salah tetapi keadaan saya yang mendesak pada masa itu.

Sebagai Penolong Pendaftar Kanan, pelaku mengeksploitasi kedudukan, pengetahuan teknikal, akses kepada maklumat perolehan dan kepercayaan organisasi untuk merancang penipuan secara bersendirian, menunjukkan keupayaan sebagai pemacu utama rasuah.

Kes D

Kes ini berlaku di sebuah IPTA di Kuala Lumpur dan melibatkan dua pelaku, iaitu Pelaku 1 (Pegawai Tadbir selaku Ketua Pemasaran, Promosi dan Penjenamaan) dan Pelaku 2 (Pembantu Tadbir Kanan). Antara tahun 2012 hingga 2015, kedua-duanya bersubahat dengan seorang pemilik syarikat yang memiliki beberapa syarikat percetakan (Syarikat D, E dan F) dalam siri penyelewengan proses perolehan. Pelaku 2, yang terlibat dalam pentadbiran dan sebagai ahli Jawatankuasa Pembuka dan Penilaian Sebutharga, memanipulasi proses sebutharga agar syarikat rakannya memenangi tender, dan menerima komisen tunai sebagai balasan. Pelaku 1 turut menerima wang rasuah sebanyak RM36,000.00 melalui akaun peribadi dan terlibat dalam rundingan agihan komisen, manakala Pelaku 2 menerima RM71,892.00. Jumlah keseluruhan nilai kontrak yang terlibat mencecah RM1,147,200.00. Kedua-dua pelaku disabitkan kesalahan dan dijatuhkan hukuman penjara 1 hari dan denda RM30,000.00 untuk Pelaku 1 (atau 6 bulan penjara) dan RM50,000.00 untuk Pelaku 2 (atau 7 bulan penjara). Jadual 4 menunjukkan kod dan tema yang diperoleh daripada analisis dokumen bagi Kes D.

Dalam Kes D, tema paling dominan ialah peluang yang timbul akibat kelemahan kawalan dalaman. Pelaku melaksanakan pelbagai fungsi penting secara serentak, membolehkan manipulasi proses perolehan tanpa dikesan. Pelaku menggunakan pelbagai justifikasi untuk merasionalisasi penerimaan wang rasuah, antaranya menyifatkan pemberian itu sebagai "sumbangan ikhlas", "pinjaman", atau "komisen" daripada pemilik syarikat bagi mengurangkan beban moral dan tanggapan kesalahan. Pelaku 2 menyatakan,

> Saya tidak pernah meminta apa-apa komisen atau imbuhan dari dia. Dia beri saya sumbangan kerana saya bantu dia mendapatkan kerja-kerja di CCD.

Manakala Pelaku 1 menyatakan,

> Saya tidak pernah meminjam atau meminta wang daripada dia kecuali apa yang ditawarkan oleh dia sendiri kepada saya.

Kedua-dua pelaku menyalahkan pembekal dan rakan sekerja sebagai dalang utama dan mendakwa hanya "mengikut arahan" atau "terpaksa menerima". Rasionalisasi seperti ini menggambarkan konflik nilai yang cuba diselesaikan melalui

Jadual 4
Kod dan tema berdasarkan petikan data/situasi bagi Kes D

Petikan Data/Situasi	Kod	Tema
Pelaku 1: "Saya bertanggungjawab menguruskan pemasaran dan promosi untuk universiti." Pelaku 1: "Saya akan memilih mana-mana syarikat beliau (Pemilik syarikat) dan mencadangkannya dalam Jawatankuasa Pemilihan." Pelaku 2: "Saya salah seorang ahli Jawatankuasa Pembuka Sebutharga dan ahli Penilaian Sebutharga." Pelaku 2: "Saya mengesahkan kerja telah dilaksanakan oleh syarikat beliau (Pemilik syarikat) dan menandatangani *Delivery Order*."	Tiada Pengasingan Tugas	Peluang
Pelaku 2: "Saya akan menyediakan senarai syarikat yang akan dipelawa menyertai tender." Pelaku 2: "Saya minta beliau (Pemilik syarikat) menyediakan sebutharga daripada syarikat lain dengan harga yang lebih tinggi."	Ketiadaan Pemantauan	Peluang
Pelaku 2: "Saya minta beliau (Pemilik syarikat) menaikkan harga sebanyak RM12,000.00 sebagai komisen untuk kerja Program KPTN 'Jom Masuk U' yang harga asalnya adalah RM85,920.00."	Kelemahan Kawalan Dalaman	Peluang
Pelaku 1: "Saya pernah membuat teguran kepada beliau (Pelaku 2) untuk tidak melantik syarikat yang sama bagi mengelakkan isu kepentingan dengan syarikat tersebut."	Tiada Sistem Whistleblowing	Peluang
Pelaku 1: "Beliau (Pelaku 2) ada mengajak saya keluar minum bersama pemilik syarikat. Kadang-kala kami akan pergi karaoke. Saya tidak pernah mengeluarkan duit semasa keluar bersama mereka." Pelaku 1: "Beliau (Pelaku 2) ada masukkan saya ke dalam group whatsapp yang hanya ada saya, beliau (Pelaku 2) dan pemilik syarikat." Pelaku 2: "Saya telah mengenali beliau (Pemilik syarikat) sejak tahun 2004 semasa saya berkhidmat di bahagian korporat." Pelaku 2: "Saya sering bantu beliau (Pemilik syarikat) untuk mendapatkan kerja-kerja di bahagian korporat sejak 2004."	Konflik Kepentingan	Peluang
Pemilik Syarikat: "Beliau (Pelaku 2) minta saya menyediakan sebutharga dari pelbagai syarikat lain untuk setiap projek."	Ketidakpatuhan Prosedur Perolehan	Peluang
Pelaku 1: "Saya telah bercerai dengan bekas isteri dan menanggung nafkah 2 orang anak." Pelaku 1: "Saya mempunyai hutang kad kredit berjumlah RM30,000.00." Pelaku 2: "Saya meminjam dari beliau (Pemilik syarikat) kerana saya terdesak." Pelaku 2: "Saya terdesak untuk bayar ansuran bulanan kereta saya."	Masalah Kewangan Peribadi	Tekanan
Pelaku 1: "Beliau (Pelaku 2) memujuk saya untuk bekerjasama dengan beliau untuk menolong Syarikat tersebut bagi mendapatkan kerja-kerja di CCD."	Tekanan Rakan Sekerja	Tekanan
Pelaku 1: "Beliau (Pemilik syarikat) hadir di pejabat saya untuk memberikan wang." Pelaku 1: "Beliau (Pemilik syarikat) beri saya RM8,000.00 sebagai komisen saya bantu Syarikat beliau mendapatkan kerja di CCD." Pelaku 2: "Saya teragak-agak untuk menerima wang komisen kerana khuatir niat tersembunyi beliau (Pemilik syarikat)." Pelaku 2: "Beliau (Pemilik syarikat) pernah beritahu saya, sekiranya saya mempunyai masalah wang, beliau (Pemilik syarikat) bersedia membantu pada bila-bila masa."	Tekanan Pembekal	Tekanan

Jadual 4 (*sambungan*)

Petikan Data/Situasi	Kod	Tema
Pelaku 1: "Saya telah bercerai dengan bekas isteri dan menanggung nafkah 2 orang anak." Pelaku 1: "Saya mempunyai hutang kad kredit berjumlah RM30,000.00." Pelaku 1: "Wang tersebut saya gunakan untuk membeli barang." Pelaku 2: "Saya telah gunakan duit sumbangan daripada beliau (pemilik syarikat) untuk kegunaan peribadi saya."	Justifikasi Keperluan Peribadi	Rasionalisasi
Pelaku 2: "Saya meminjam dari beliau (Pemilik syarikat) kerana saya terdesak." Pelaku 2: "Saya terdesak untuk bayar ansuran bulanan kereta saya."	Justifikasi Moral – Tiada Pilihan	Rasionalisasi
Pelaku 1: "Saya tidak mengetahui percaturan di antara beliau (Pelaku 2) dan pemilik syarikat untuk mendapatkan kerja di CCD." Pelaku 2: "Saya tidak pernah meminta apa-apa komisen atau imbuhan dari beliau (Pemilik syarikat). Beliau beri saya sumbangan kerana saya bantu dia (Pemilik syarikat) mendapatkan kerja-kerja di CCD."	Menyalahkan Orang Lain	Rasionalisasi
Pelaku 1: "Beliau (Pemilik syarikat) beri saya RM8,000.00 sebagai komisen saya bantu syarikat beliau (Pemilik syarikat) mendapatkan kerja di CCD." Pelaku 2: "Disebabkan perwatakan beliau (Pemilik syarikat) yang beragama, saya akur menerima wang yang dikatakan sumbangan ikhlas dan sebahagian dari keraian syarikat beliau (Pemilik syarikat)."	Rasuah Kepada 'Komisyen' Atau 'Sumbangan'	Rasionalisasi
Pelaku 1: "Saya tidak pernah meminjam atau meminta wang daripada beliau (Pelaku 2) kecuali apa yang ditawarkan oleh beliau (Pemilik syarikat) sendiri kepada saya." Pelaku 2: "Saya teragak-agak untuk menerima wang komisyen kerana khuatir niat tersembungi beliau (Pemilik syarikat). Lagipun saya tidak mempunyai kuasa untuk memilih syarikat beliau (Pemilik syarikat)."	Menafikan Tanggungjawab	Rasionalisasi
Pelaku 1: "Saya bertanggungjawab menguruskan pemasaran dan promosi untuk universiti". Pelaku 1: "Saya akan memilih mana-mana syarikat beliau (Pemilik syarikat) dan mencadangkannya dalam Jawatankuasa Pemilihan."	Kedudukan Strategik	Keupayaan
Pelaku 2: "Saya akan membuat surat panggilan sebutharga." Pelaku 2: "Saya salah seorang ahli Jawatankuasa Pembuka Sebutharga dan ahli Penilaian Sebutharga."	Akses Kepada Maklumat Perolehan	Keupayaan
Pemilik Syarikat: "Beliau (Pelaku 2) minta saya menyediakan sebutharga dari pelbagai Syarikat lain untuk setiap projek." Pelaku 1: "Saya memilih syarikat beliau dan mencadangkannya dalam Jawatankuasa Pemilihan." Pelaku 2: "Saya akan membuat surat panggilan sebutharga." Pelaku 2: "Saya mengesahkan kerja telah dilaksanakan oleh syarikat beliau (Pemilik syarikat) dan menandatangani *Delivery Order*."	Pengetahuan Teknikal	Keupayaan
Pelaku 1: "Saya pernah membuat teguran kepada beliau (Pelaku 2) untuk tidak melantik Syarikat yang sama bagi kerja-kerja di CCD bagi mengelakkan isu kepentingan dengan syarikat tersebut tetapi beliau memujuk saya untuk bekerjasama dengan beliau (Pelaku 2) untuk menolong syarikat tersebut bagi mendapatkan kerja-kerja di CCD."	Keupayaan Memanipulasi Orang Lain	Keupayaan

penyesuaian kognitif (Cressey, 1953), di mana pelaku mencari cara untuk melegakan rasa bersalah atas tindakan yang melanggar undang-undang. Kedua-dua pelaku menghadapi tekanan kewangan peribadi seperti hutang kad kredit, tanggungan nafkah anak selepas penceraian, dan komitmen ansuran kereta. Keterangan Pelaku 1,

> Saya telah bercerai dengan bekas isteri dan menanggung nafkah 2 orang anak.
>
> Saya mempunyai hutang kad kredit berjumlah RM30,000.00.

Manakala, Pelaku 2 di dalam keterangannya mengatakan:

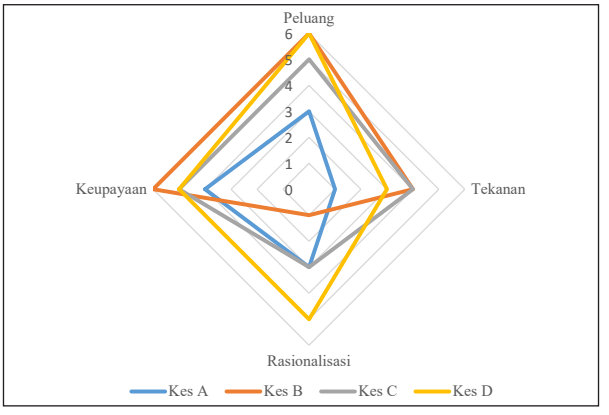
> Saya terdesak untuk bayar ansuran bulanan kereta saya.

Tekanan pelbagai dimensi, termasuk masalah kewangan peribadi, desakan rakan sekerja untuk bersubahat dan godaan pembekal, mendorong pelaku mencari jalan penyelesaian mudah melalui rasuah. Walaupun Pelaku 1 pada awalnya ingin mengekalkan integriti, tekanan sosial dalam organisasi dan tawaran kewangan daripada pembekal akhirnya melemahkan pendiriannya. Situasi ini menunjukkan bagaimana persekitaran sosial dan ekonomi berisiko tinggi boleh mencetuskan niat menipu, seperti yang dinyatakan oleh Khan dan Bakar (2022). Kedua-dua pelaku memiliki keupayaan tinggi untuk melakukan penyelewengan, hasil daripada kedudukan strategik, pengetahuan teknikal, dan akses kepada maklumat perolehan. Ketiadaan pemantauan serta hubungan rapat dengan pembekal memudahkan mereka mengawal proses tanpa dikesan. Seperti dinyatakan Wolfe dan Hermanson (2004), individu berkeupayaan tinggi cenderung mengeksploitasi kelemahan sistem secara sistematik.

Matriks Kekerapan Tema

Bagi memahami faktor-faktor yang mendorong rasuah dalam perolehan di IPTA, matriks tema dibina untuk mengenal pasti kekerapan tema dan membolehkan dapatan distrukturkan secara sistematik serta dianalisis secara perbandingan antara kes. Rajah 4 menunjukkan carta perbandingan elemen FDT yang mendorong perlakuan rasuah bagi setiap kes yang dikaji berdasarkan pemetaan matriks tema.

Berdasarkan Rajah 4, elemen peluang muncul sebagai elemen yang paling menonjol dalam Kes B, C dan D. Elemen keupayaan juga menunjukkan tahap yang tinggi dalam Kes B dan D. Sebaliknya, elemen tekanan dan rasionalisasi menunjukkan pola yang lebih sederhana dan berubah-ubah antara kes, di mana Kes A lebih menonjol dari segi tekanan, manakala Kes D menunjukkan rasionalisasi yang lebih tinggi. Carta radar ini menunjukkan bahawa gabungan peluang dan keupayaan merupakan pemangkin paling kritikal kepada perlakuan rasuah dalam perolehan IPTA, manakala tekanan dan rasionalisasi berperanan sebagai pelengkap. Oleh itu, intervensi pencegahan perlu difokuskan kepada pengukuhan kawalan dalaman dan pengurangan ruang manipulasi dalam sistem perolehan.



Rajah 4. Carta kekerapan tema FDT mengikut kes

Berdasarkan Jadual 5, secara keseluruhannya, tema peluang menunjukkan elemen dominan dengan kekerapan, n = 20. Subtema yang paling konsisten merentasi semua kes adalah ketiadaan pemantauan dan kelemahan kawalan dalaman mencerminkan kelompongan dari aspek kawalan organisasi. Dapatan ini menyokong pandangan Burguet dan Che (2004) bahawa struktur perolehan yang longgar mendorong amalan rasuah dalam sektor awam. Seperti ditegaskan oleh Cressey (1953), tanpa peluang, walaupun terdapat tekanan atau rasionalisasi, penipuan tidak dapat berlaku. Dapatan ini disokong oleh Rustiarini et al. (2019) dan Dwimawanti dan Ramadani (2023) yang menegaskan bahawa ketiadaan mekanisme semak dan imbang meningkatkan risiko rasuah. Handoyo dan Bayunitri (2021) turut membuktikan bahawa kelemahan kawalan dalaman membuka ruang kepada berlakunya penipuan di peringkat organisasi. Namun, Sujeewa et al. (2020) dan Khan dan Bakar (2022) menunjukkan impak elemen ini mungkin berbeza mengikut struktur birokrasi dan budaya organisasi. Menurut Kakati dan Goswami (2019) dan Johari et al. (2023), peluang merupakan penyumbang utama kepada perlakuan penipuan, diikuti dengan tekanan dan rasionalisasi. Kassem dan Higson (2012) menyatakan bahawa semakin besar peluang yang tersedia dalam sesebuah organisasi, semakin tinggi kemungkinan berlakunya penipuan dalam perolehan. Menurut Othman et al. (2014) dan c et al. (2018), kelemahan kawalan dalaman, ketiadaan jejak audit, serta proses perolehan yang tidak cekap mewujudkan peluang yang mendorong pegawai sektor awam terlibat dalam penipuan perolehan di Malaysia. Kesemua faktor ini boleh merangsang kewujudan peluang, sekali gus mendorong pegawai sektor awam di Malaysia untuk terlibat dalam perbuatan rasuah dalam perolehan kerajaan.

Data juga menunjukkan tema keupayaan juga dominan dengan kekerapan, n=20. Pelaku dalam keempat-empat kes mempunyai akses kepada maklumat perolehan, kedudukan strategik, serta pengetahuan teknikal, dan keupayaan

Jadual 5
Rumusan matriks kekerapan tema bagi Kes A, B, C dan D

Tema (FDT)	Kod	Kes A	Kes B	Kes C	Kes D	Jumlah Kekerapan (n)
Peluang	Ketiadaan Pemantauan	1	1	1	1	4
Peluang	Tiada Pengasingan Tugas				1	1
Peluang	Kelemahan Kawalan Dalaman	1	1	1	1	4
Peluang	Tiada Sistem Whistleblowing		1	1	1	3
Peluang	Konflik Kepentingan		1		1	2
Peluang	Kepercayaan Penuh Tanpa Verifikasi	1	1	1		3
Peluang	Ketidakpatuhan Prosedur Perolehan		1	1	1	3
Tekanan	Masalah Kewangan Peribadi	1	1	1	1	4
Tekanan	Tekanan Emosi dan Perasaan Bersalah			1		1
Tekanan	Tekanan Rakan Sekerja				1	1
Tekanan	Tekanan Pembekal				1	1
Tekanan	Tekanan Pengurusan		1			1
Tekanan	Tekanan Prestasi Kerja		1	1		2
Tekanan	Tekanan Pengurusan Peruntukan		1	1		2
Rasionalisasi	Rasuah kepada 'Komisyen' atau 'sumbangan'	1			1	2
Rasionalisasi	Justifikasi Keperluan Peribadi	1		1	1	3
Rasionalisasi	Justifikasi Moral - Tiada Pilihan			1	1	2
Rasionalisasi	Minimisasi Kesalahan			1		1
Rasionalisasi	Menyalahkan Orang Lain				1	1
Rasionalisasi	Menafikan Tanggungjawab				1	1
Rasionalisasi	Mengurangkan Beban Moral		1			1
Rasionalisasi	Penafian Janji Balas	1				1
Keupayaan	Pengetahuan Teknikal	1	1	1	1	4
Keupayaan	Keupayaan Menyembunyikan Jejak	1	1	1	1	4
Keupayaan	Keupayaan Mengawal Staf		1			1
Keupayaan	Keupayaan Memanipulasi Pembekal		1			1
Keupayaan	Keupayaan Memanipulasi Orang Lain			1	1	2
Keupayaan	Kedudukan strategik	1	1	1	1	4
Keupayaan	Akses kepada Maklumat Perolehan	1	1	1	1	4

menyembunyikan jejak yang membolehkan mereka melaksanakan penyelewengan tanpa dikesan. Dapatan kajian ini disokong oleh Wolfe dan Hermanson (2004) dan Husin (2020) yang menekankan bahawa kedudukan atau fungsi seseorang dalam organisasi memberikan akses kepada peluang untuk melakukan penipuan. Elemen keupayaan membezakan individu yang hanya berniat melakukan penipuan dengan mereka yang benar-benar mampu melaksanakannya, melalui pengetahuan sistem, kedudukan strategik, pengaruh kuasa, dan kemahiran menyembunyikan

jejak (Wolfe & Hermanson, 2004). Dapatan kajian ini juga sejajar dengan kajian Rustiarini et al. (2019) yang menekankan bahawa ketua yang mengarahkan kakitangan bawahannya melakukan penyelewengan cenderung memujuk dan meyakinkan mereka bahawa perbuatan tersebut boleh diterima. Lokanan (2015) menyatakan kemahiran teknikal ialah keupayaan individu melaksanakan sesuatu perbuatan. Dalam kes ini, pelaku memiliki kemahiran teknikal yang membolehkan manipulasi sistem, selari dengan dapatan Sujana et al. (2019) dan Khan dan Bakar (2022). Walau bagaimanapun, terdapat juga dapatan kajian terdahulu yang bercanggah dengan kajian ini. Kajian oleh Mat et al. (2019) mendapati terdapat hubungan negatif antara kedudukan senioriti dalam organisasi dan penipuan. Selain itu, kajian oleh Sujeewa et al. (2020) yang dijalankan terhadap penipuan dalam kalangan kakitangan sektor awam di Sri Lanka juga mendapati bahawa faktor keupayaan tidak menyumbang kepada salah laku pegawai sektor awam di negara tersebut.

Walaupun tema tekanan hanya mencatat kekerapan n=12, ia tetap menjadi elemen penting yang mempengaruhi niat rasuah, dengan keempat-empat kes menunjukkan tekanan kewangan peribadi dan organisasi sebagai pendorong utama. Dapatan ini menyokong kajian Khan dan Bakar (2022) bahawa tekanan kewangan dan organisasi sering mencetuskan penyelewengan apabila disertai peluang dan keupayaan. Tekanan merangkumi aspek dalaman dan luaran seperti kewangan, desakan rakan sekerja dan prestasi kerja (Setiawan, 2019; Subiyanto et al., 2022). Tekanan kewangan, khususnya akibat gaji yang rendah, boleh menyebabkan penjawat awam mencari ganjaran tambahan melalui rasuah (Iliyasu & Muhammed, 2023; Prakasa, 2022; Sinebe, 2021). Dalam kes-kes yang dikaji, tekanan kewangan seperti hutang, penceraian dan kos sara hidup dikenal pasti sebagai pendorong perlakuan rasuah, sejajar dengan dapatan kajian oleh Rustiarini et al. (2019), Kankpang et al. (2020), Ratmono dan Frendy (2022), Johari et al. (2023), dan Omata et al. (2024). Tekanan struktur organisasi, seperti arahan pihak atasan, mewujudkan tekanan kepatuhan yang mendorong pegawai bawahan terlibat dalam penipuan (Lyra et al., 2020). Faktor-faktor ini secara kolektif mencetuskan motivasi untuk terlibat dalam rasuah (Albrecht et al., 2012; Treisman, 2000). Kesemua dapatan ini membuktikan bahawa elemen tekanan dalam pelbagai bentuk iaitu kewangan, organisasi, dan sosial memainkan peranan penting dalam menjelaskan perlakuan rasuah dalam konteks perolehan di IPTA (Dewi & Anisykurlillah, 2021; Setiawan, 2019; Sukmadilaga et al., 2022). Namun begitu, hasil kajian ini bercanggah dengan dapatan kajian oleh Said et al. (2017), Handayani (2018), Faradiza (2019) dan Johari et al. (2023) yang menyatakan bahawa tekanan luaran tidak mempengaruhi keputusan seseorang untuk melakukan penipuan kewangan. Perbezaan ini mungkin berpunca daripada konteks kajian yang berbeza, di mana kajian ini menumpukan kepada perolehan sektor awam yang

melibatkan tekanan sosial dan organisasi yang kompleks, menjadikan tekanan luaran seperti desakan rakan sekerja atau pembekal lebih signifikan dalam persekitaran rasuah yang telah dinormalisasikan.

Rasionalisasi dengan kekerapan, n=12 menunjukkan pelaku merasionalisasi perlakuan rasuah mereka dengan justifikasi keperluan peribadi, menukar istilah rasuah sebagai komisen atau sumbangan ikhlas, dan justifikasi moral "tiada pilihan lain" selari dengan FDT yang menekankan bahawa pelaku memerlukan alasan logik atau moral bagi mengurangkan rasa bersalah terhadap perbuatan salah mereka (Bandura, 1999; Wolfe & Hermanson, 2004). Kajian oleh Johari et al. (2023) mendapati terdapat hubungan positif antara rasionalisasi dan penipuan dalam perolehan, menunjukkan bahawa individu dengan tahap rasionalisasi tinggi cenderung terlibat dalam perlakuan rasuah. Menurut Said et al. (2017), individu yang merasionalisasi perbuatan salah memperdaya diri sendiri secara moral. Kassem dan Higson (2012) turut menjelaskan bahawa rasionalisasi digunakan untuk mengekalkan zon selesa moral dan mengelak daripada dilihat sebagai pengkhianat amanah. Dapatan ini disokong oleh Khan dan Bakar (2022) dan Nurdiansyah et al. (2023) yang menunjukkan bahawa rasionalisasi berkait rapat dengan kejadian rasuah, bergantung kepada nilai peribadi, pengaruh persekitaran, dan budaya organisasi yang permisif tanpa penguatkuasaan tatatertib yang tegas.

Secara keseluruhannya, dapatan kajian ini menunjukkan bagaimana keempat-empat elemen FDT saling melengkapi dalam menerangkan mekanisme rasuah dalam perolehan di IPTA. Peluang dan keupayaan muncul sebagai elemen yang paling kerap, mencerminkan bahawa kelemahan sistem organisasi dan kedudukan strategik pelaku memainkan peranan besar dalam perlakuan rasuah. Sementara itu, tekanan dan rasionalisasi pula bertindak sebagai pemangkin dalaman yang menjelaskan motivasi dan justifikasi pelaku.

Cadangan Penambahbaikan

Kajian ini mencadangkan penambahbaikan yang bersifat praktikal dengan berpandukan FDT.

Penambahbaikan Aspek Kawalan Dalaman dan Pengawasan

IPTA disarankan memperkukuh prosedur perolehan melalui pemisahan tugas, audit dalaman secara berkala atau rawak, dan penggunaan sistem e-Perolehan secara keseluruhan. Cadangan ini selaras dengan garis panduan U.S. Government Accountability Office (GAO) (2014), World Bank (2020) dan OECD (2022) yang menekankan kepentingan ketelusan, akauntabiliti, dan pemantauan risiko dalam sistem perolehan. IPTA juga dicadangkan membangunkan sistem pemantauan perolehan digital yang disepadukan dengan platform e-Perolehan. Sistem ini boleh merangkumi dashboard pemantauan berasaskan data serta penggunaan indikator *red flags* untuk mengenal pasti pola berisiko seperti pengulangan vendor yang sama, pemecahan kontrak, harga yang tidak munasabah, dan penglibatan pegawai yang

sama secara berlebihan dalam beberapa peringkat proses perolehan (OECD, 2025a). Di samping itu, IPTA juga boleh mempertimbangkan penggunaan analitik data atau alat pengesanan risiko dibantu kecerdasan buatan (AI) sebagai mekanisme amaran awal, dengan syarat semua penemuan diteliti semula oleh pegawai yang berwibawa bagi mengurangkan risiko berat sebelah, salah tafsir, dan pergantungan berlebihan kepada sistem automatik (OECD, 2025a; 2025b; UNODC, 2025). Pengisytiharan konflik kepentingan dan harga pasaran serta justifikasi keperluan sebelum kelulusan dibuat juga penting kerana ia dapat menutup ruang manipulasi, mengurangkan tumpuan kuasa pada individu tertentu, dan meningkatkan kebolehkesanan keputusan perolehan (OECD, 2025c). OECD (2025c) turut menegaskan bahawa penggunaan e-Perolehan, pengurusan risiko, dan ketelusan proses merupakan antara komponen penting dalam memperkukuh integriti sistem perolehan kerajaan.

Pemantauan Pegawai Berisiko dan Reformasi Struktur Perolehan

Pelaku dalam semua kes menunjukkan keupayaan tinggi melalui kemahiran teknikal, kedudukan strategik, dan akses sistem perolehan. Bagi menangani isu ini, IPTA disarankan melaksanakan kawalan akses berasaskan peranan, jejak audit digital, audit gaya hidup, pengurusan maklumat berasaskan keperluan, latihan profesional berterusan, dan sistem penggiliran jawatan disarankan, sebagaimana diamalkan di Afrika Selatan, Kenya, Ukraine dan Sweden (Johnston, 2005; France, 2021; OECD, 2025c; Vorster & Nwosu, 2024). Mekanisme ini penting untuk mencegah penyelewengan dan memastikan hanya individu beretika serta kompeten mengurus perolehan di IPTA. Saranan ini membolehkan IPTA mengawal keupayaan individu untuk memanipulasi sistem secara tidak wajar, di samping memastikan fungsi perolehan disokong oleh kapasiti institusi yang mencukupi. OECD (2025c) menekankan bahawa pembinaan kapasiti, penggunaan alat digital, penilaian berkala, dan penyepaduan fungsi perolehan dengan sistem tadbir urus yang lebih luas adalah penting untuk keberkesanan jangka panjang sistem perolehan.

Pengukuhan Budaya Integriti dan Pendidikan Etika

Dapatan menunjukkan pelaku sering merasionalisasi tindakan mereka. Bagi menanganinya, IPTA disarankan mengintegrasi pendidikan etika dan integriti dalam latihan profesional secara berkala (Zarghami, 2024), melaksanakan kempen kesedaran antirasuah secara interaktif, memperkenalkan kod etika khusus perolehan, mewajibkan perakuan integriti sebelum keputusan dibuat, membina budaya pelaporan beretika dengan jaminan perlindungan pemberi maklumat dan memastikan penguatkuasaan tatatertib yang konsisten (OECD, 2025c). Pendekatan holistik seperti di Singapura melalui *Corrupt Practices Investigation Bureau (CPIB)* dan program *Integrity Pact* dan *Corruption Reporting and Reward System (CRRS)* turut membuktikan keberkesanan

dalam membentuk budaya integriti (Quah, 2011). Manaf et al. (2023) menekankan peranan pendidikan antirasuah di Institusi Pengajian Tinggi, manakala Kaptein (2008) menyarankan pengukuhan kod etika organisasi dengan penekanan terhadap larangan menerima sogokan.

Pengukuhan Sokongan Psikososial dan Kesejahteraan Pegawai

Dalam konteks kajian ini, tekanan muncul dalam bentuk masalah kewangan peribadi, tekanan prestasi kerja, tekanan penggunaan peruntukan, dan tekanan sosial organisasi. Namun, strategi pengurangannya seperti penstrukturan beban kerja masih kurang diberi perhatian dalam kajian lepas (Zarghami, 2024). Oleh itu, IPTA tidak seharusnya menumpukan pencegahan rasuah hanya kepada prosedur, tetapi juga kepada persekitaran kerja yang boleh mengurangkan tekanan yang mendorong salah laku. Antara mekanisme yang dicadangkan ialah sokongan psikososial, literasi kewangan, pengagihan beban kerja yang lebih seimbang, semakan terhadap amalan penggunaan peruntukan hujung tahun, saluran pelaporan yang selamat, serta kepimpinan etika daripada pengurusan tertinggi (Ashkanasy & Dorris, 2017; OECD, 2025c). Secara keseluruhannya, kajian ini menunjukkan bahawa FDT dapat berfungsi sebagai lensa analitikal untuk menerangkan punca dan mekanisme rasuah serta menyediakan asas normatif untuk institusi membentuk intervensi pencegahan yang lebih sistematik.

Kerangka Tadbir Urus Pencegahan Rasuah Perolehan IPTA Berasaskan FDT

Bagi memperkukuh implikasi praktikal kajian, satu kerangka tadbir urus pencegahan rasuah perolehan IPTA berasaskan FDT dicadangkan sepertimana Jadual 6.

Jadual 6
Kerangka tadbir urus pencegahan rasuah perolehan IPTA berasaskan FDT (Ashkanasy & Dorris, 2017; France, 2021; Johnston, 2005; OECD, 2025a; 2025c; Vorster dan Nwosu, 2024; Zarghami, 2024)

Dimensi FDT	Fokus pencegahan	Mekanisme Tadbir Urus
Peluang	Menutup ruang manipulasi, konflik kepentingan, dan kelemahan semak imbang	Pemisahan tugas; Audit dalaman e-Perolehan Pengisytiharan konflik kepentingan; Pemantauan digital berasaskan *red flags*; Semakan harga pasaran; Justifikasi kelulusan
Keupayaan	Mengawal keupayaan individu untuk menyalah guna kedudukan, akses dan pengetahuan teknikal	Kawalan akses berasaskan peranan; Jejak audit digital; Penggiliran jawatan; Audit berasaskan risiko; Audit gaya hidup Latihan teknikal dan pensijilan pegawai perolehan

Jadual 6 (*sambungan*)

Dimensi FDT	Fokus pencegahan	Mekanisme Tadbir Urus
Tekanan	Mengurangkan tekanan peribadi dan organisasi yang boleh mendorong perlakuan rasuah	Sokongan psikososial; Literasi kewangan; Pengagihan beban kerja yang seimbang; Semakan penggunaan bajet hujung tahun; Saluran pelaporan selamat; Kepimpinan etika
Rasionalisasi	Membetulkan justifikasi moral dan normalisasi salah laku	Latihan integriti berasaskan senario; Kod etika khusus perolehan; Perakuan integriti; Tindakan tatatertib yang konsisten; Kempen kesedaran antirasuah Perlindungan pemberi maklumat Penguatkuasaan tatatertib; Budaya integriti

KESIMPULAN

Kajian ini menganalisis bagaimana elemen-elemen dalam FDT menyumbang kepada rasuah dalam perolehan di IPTA Malaysia melalui empat kes siasatan SPRM. Dapatan menunjukkan bahawa elemen paling dominan ialah peluang dan keupayaan, berpunca daripada kelemahan kawalan dalaman, ketiadaan pemantuan, kedudukan strategik, serta akses kepada maklumat yang membolehkan pelaku memanipulasi sistem perolehan. Walaupun, tekanan dan rasionalisasi didapati kurang dominan, namun tetap memainkan peranan sebagai pemangkin tambahan, khususnya dalam konteks tekanan kewangan dan normalisasi budaya rasuah. Kajian ini mengesahkan bahawa FDT merupakan kerangka teori yang sesuai dan komprehensif dalam menjelaskan mekanisme rasuah dalam perolehan di IPTA, dengan keempat-empat elemen saling melengkapi. Justeru, strategi pencegahan perlu memberi tumpuan kepada penutupan peluang dan pengawalan keupayaan, disertai dengan pengukuhan etika, sokongan psikososial, dan pembaharuan struktur organisasi bagi membina sistem perolehan yang telus dan berintegriti.

Implikasi Kajian

Kajian ini memberikan beberapa implikasi penting kepada pihak berkepentingan termasuk pembuat dasar, pentadbiran universiti, dan penyelidik akademik dalam usaha memperkukuh integriti sistem perolehan di IPTA.

Implikasi Teoretikal

Kajian ini memperluaskan aplikasi FDT dalam konteks perolehan sektor pendidikan tinggi awam di Malaysia, yang sebelum ini lebih banyak digunakan dalam kajian penipuan kewangan dalam sektor korporat. Dengan menganalisis kes rasuah sebenar melalui keempat-empat elemen FDT, kajian ini menyokong dapatan Wolfe dan Hermanson (2004) bahawa penipuan

berlaku bukan hanya kerana wujudnya peluang, rasionalisasi dan tekanan, tetapi juga melibatkan faktor keupayaan individu. Ini memberi sumbangan kepada literatur dengan memberikan pemahaman yang lebih holistik dan kontekstual dalam menjelaskan fenomena rasuah dalam perolehan.

Implikasi Praktikal

Dapatan kajian ini menunjukkan bahawa peluang dan keupayaan merupakan elemen paling dominan yang mendorong berlakunya rasuah dalam proses perolehan di IPTA. Oleh itu, pihak pengurusan IPTA dan Kementerian Pendidikan Tinggi perlu memperkukuh sistem pengasingan tugas, pemantauan dalaman, dan mekanisme audit bebas dalam proses perolehan. Selain itu, penempatan pegawai dalam jawatan strategik perlu diteliti berdasarkan integriti dan rekod prestasi, bukan hanya kelayakan teknikal, bagi mengurangkan keupayaan untuk menyalahguna kuasa. Dapatan juga mencadangkan agar autonomi universiti dalam perolehan disertai dengan mekanisme akauntabiliti yang ketat, bagi memastikan kuasa yang diberi tidak disalahgunakan.

Implikasi Kepada Penyelidikan Akan Datang

Kajian ini juga membuka ruang untuk penyelidikan lanjutan yang lebih mendalam dengan menilai hubungan antara elemen-elemen FDT dan tahap keberkesanan sistem kawalan sedia ada, atau membandingkan corak perlakuan rasuah di IPTA dengan agensi kerajaan lain menggunakan pendekatan kajian kes atau kaedah kuantitatif. Selain itu, integrasi FDT dengan teori lain seperti *Principal-Agent Theory* atau *Organizational Culture Theory* boleh memperkayakan lagi pemahaman terhadap faktor sistemik dan struktur organisasi yang menyumbang kepada penyelewengan.

Limitasi dan Cadangan Kajian Pada Masa Hadapan

Limitasi Kajian

Kajian ini diakui mempunyai kekangan, khususnya dari segi tempoh dan jumlah kes yang terhad kepada empat siasatan SPRM, sekali gus tidak membolehkan generalisasi menyeluruh. Namun begitu, pemilihan kes yang berbeza dari segi lokasi dan peranan pelaku tetap memberikan gambaran yang bermakna terhadap isu rasuah perolehan di IPTA. Kekangan kedua melibatkan kebergantungan kepada dokumen siasatan SPRM sebagai sumber sekunder, yang mungkin tidak merangkumi maklumat kontekstual seperti struktur organisasi atau tekanan tidak formal, sekali gus mengehadkan pemahaman menyeluruh terhadap faktor rasuah. Kajian ini juga tidak melibatkan data primer seperti temu bual, yang boleh memberikan perspektif subjektif pelaku. Ketiga, penggunaan FDT sebagai satu-satunya kerangka teori turut membatasi kajian kerana tidak mengambil kira faktor institusi, budaya organisasi, atau pengaruh kumpulan secara menyeluruh.

Cadangan Kajian Pada Masa Hadapan

Bagi mengatasi keterbatasan kajian, penyelidikan masa hadapan disarankan melibatkan lebih banyak kes dari pelbagai

IPTA bagi analisis yang lebih menyeluruh tentang rasuah dalam perolehan. Pendekatan kaedah campuran seperti analisis dokumen dan temu bual mendalam boleh dipertimbangkan untuk kefahaman yang lebih holistik. Selain itu, penggabungan FDT dengan teori lain seperti *Principal-Agent Theory, Organizational Culture Theory* atau *Theory of Planned Behavior* dapat memperkayakan analisis. Kajian juga boleh diperluaskan kepada sektor lain seperti sektor kesihatan atau Pihak Berkuasa Tempatan untuk perbandingan dan penambahbaikan dasar pencegahan yang lebih kontekstual.

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Beyond Subordination: Stigmatisation, Intersection, and Coping Strategies of Women with Niqab in Langsa, Aceh

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ABSTRACT

Studies on the practice of wearing the niqab or *niqab* as a living culture of Muslim women have focussed primarily on transnational political contexts and the association with radical religious movements. Many studies have been conducted on Muslim minority communities, while scholars have neglected the subjective experience of women with the niqab in Muslim-majority microenvironments. Based on a case study of a small Indonesian city that practices Islamic law, this article examines stigmatisation, environmental intersectionality, and the coping strategies of niqab-wearing women to overcome unequal power relations. The current study used an ethnographic approach, implementing observation, interviews, and Focus Group Discussions (FGD) as data collection techniques. Using scientific interdisciplinary theory, the main findings of this study reveal that women with a niqab are not passive subjects. Still, they are active agents in overcoming every element that might create stigma. A creative coping strategy is chosen by women with niqabs as an attempt to overcome the stigma pointed at them so that they can subsist and be productive, without any connections with radical actions. In addition, this creativity demonstrates women with a niqab's ability to overcome subordination to others.

Keywords: Coping strategies, intersection, Muslim women, niqab, stigmatisation

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INTRODUCTION

The negative stigma against women who wear the niqab spreads globally, as described by Kariapper (2009) based on the experience of women with niqab in the UK. Many European countries are widely seen as highly hostile towards women who

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choose to wear the niqab. This prejudiced mindset leads to the marginalisation and mistreatment of women who choose to wear the niqab because of its association with religious extremism (Yeste et al., 2020). The negative stigmatisation of women who wear niqabs not only directly impacts them as individuals but also has broader consequences, including the formation of societal segregation towards these women in public settings (Lindemann, 2021). In Indonesia, several manifestations of stigma have emerged, such as labelling women who wear the niqab as radical Islamists, terrorists, and individuals incompatible with Indonesian culture (Kistoro et al., 2020).

The stigmatisation of niqab-wearing women intensified globally after the 9/11 attacks. Several Western countries, including the U.S., France, and Germany, enacted laws banning the niqab in public spaces, viewing it as incompatible with secular values and associating it with radicalism. Additionally, Jadoon (2021) and Bucar (2017) argue that the niqab reflects female orthodoxy, while Bhowon dan Bundhoo (2016) sees it as a symbol of patriarchal oppression. Furthermore, Amiraux (2013), Bracke and Fadil (2012), Korteweg (2008), and Scott (2007) highlight how niqab-wearing women face marginalisation from religious institutions. Negative labelling, such as being referred to as a terrorist, ISIS, extremist, radical, old-fashioned, and oppressed, is the stigma that is frequently directed at niqab-wearing women. They are often negatively labelled as extremists or terrorists, linked to potential threats to state security (Nisa, personal communication, 2022). Some researchers in Indonesia are linking the niqab with the dynamics of its prohibition in Higher Education because considers conflicting university policies (Nisa, personal communication, 2022), immoderate, and triggering religious radicalism (Andiko, 2018). The niqab is considered a source of conflict and the cause of social cohesion failure (Amiraux, 2013). Other studies conducted by Zempi and Chakraborti (2015), Kistoro et al. (2020), Allen (2015), Azim and Parkins (2019), Nelson (2015), as well as Najib and Hopkins (2019) linked the niqab-wearing debate with Islamophobia.

Various reasons contribute to the stigmatisation of women who choose to wear the niqab. The aspects of the issue may arise from the convergence of factors such as environment, race, social class, gender, economics, religion, education, and the development of the social world (Crenshaw, 1989; 1991). Another study clarified that women are stigmatised due to their incapacity to resist external forces (Foucault, 1991). The power mentioned refers to communication that shapes society's understanding of niqab-wearing women. This influence is evident in cases where the niqab is banned or when women are stigmatised as extremists, fanatics, or terrorists.

Consequently, stigmatisation leads to niqab-wearing women being ostracised, suspected of radicalism, and discriminated against in public. Studies by Lindemann (2021) show that this stigma causes

significant psychosocial impacts, including worry, anxiety, and social isolation. Similarly, a study conducted by Piela (2019) revealed the psychological impact of stigmatisation among niqab-wearing women in the UK, who reported feeling insecure, humiliated, oppressed, isolated, and afraid to live in and travel to certain areas. Likewise, Chapman (2016) also stated the psychological condition of niqab-wearing women in Denmark and England who felt threatened and tarnished because of the stigma they experienced.

The detrimental effects of subjecting someone to negative stigma can be highly perilous, particularly when the stigmatisation is repeated and persistent (Bartlett, 1998). Stigma can significantly affect an individual's mental, physical, social, intellectual, psychological, and spiritual well-being (Harrison et al., 2018). To address and overcome these circumstances, each individual will engage in a process known as coping (Semmer et al., 2005). Coping refers to deliberate actions taken to manage, reduce, or endure stress caused by stressors (Weiten & Lloyd, 2006). According to Lazarus & Folkman (1984), two primary coping techniques commonly employed to manage stress are problem-focused coping and emotion-focused coping. Thus, it is crucial to address the coping strategies used by niqab-wearing women when facing the stigma.

This article challenges the liberal Western feminist view that portrays niqab-wearing Muslim women as oppressed, outdated, weak, passive, extreme, dangerous, and radical. In Langsa City, where Sharia shapes public life, women wear the niqab not out of orthodoxy, radicalism, or oppression, but as an expression of personal faith, cultural pressure, and legal norms. They creatively adapt to modern times, presenting themselves as fashionable, modern, polite, and Islamic in public spaces (Fitria et al., 2023). This creativity helps them navigate stigma without resorting to extreme measures. Previous studies have primarily examined the niqab in the context of transnational politics and radical religious movements, overlooking other perspectives. By focusing on patterns of stigmatisation, intersectionality, and the creative coping strategies niqab-wearing women employ, this study fills that gap, offering a more nuanced understanding of niqab practices beyond political and radicalisation narratives.

LITERATURE REVIEW

Stigmatisation

The concept of stigmatisation refers to the process by which individuals or groups are socially discredited or labelled based on characteristics that set them apart from societal norms that make them perceived as inferior, undesirable, threatening of feeble (Goffman, 1963). According to Goffman's theory of social stigma, individuals who possess a "discredited" trait, such as wearing the niqab, are often subjected to exclusion, discrimination, and prejudice. This theory helps explain why niqab-wearing women in Langsa City may face public hostility and be perceived as deviant or threatening based on visible markers of religious and cultural identity.

These women may experience felt stigma, which relates to their awareness of being socially marginalised, and enacted stigma, which manifests in actual discriminatory behaviours from others (Link & Phelan, 2010).

Intersectionality

The intersectional concept was first introduced by Crenshaw (1991) to analyse the oppression of black women. Crenshaw portrays the black woman as being in the middle of an intersection. At the same time, the girl can be hit from various directions, thus eliciting her helplessness. Crenshaw's (1989) analogy shows that stigmatisation and discrimination can occur when a woman's background or identity meets other elements in her environment. These elements, such as race, ethnicity, social class, religion, occupation, ability and so on. Intersectionality theory helps analyse how these overlapping identities contribute to the unique stigmatisation and social exclusion that niqab-wearing women experience, and how this shapes their coping strategies.

Coping Strategy

The third theoretical lens is creativity in coping. Coping or stress management is the process of addressing internal and external demands perceived as burdens beyond an individual's capacity to manage (Lazarus & Folkman, 1984). Witen and Lloyd (2006) define coping as the endeavour to surmount, diminish, or endure threats resulting from stress. Coping is a process employed to mitigate stress resulting from stressors, and the methods an individual utilises to address these challenges are referred to as coping strategies. Lazarus and Folkman (1984) identified two ways to manage stress: problem-focused coping, which seeks to address the root causes of stress, and emotion-focused coping, which strives to alleviate the negative emotions associated with stressors.

METHODS

The present study implemented an ethnographic methodology which narrated based on real and factual field data that has been systematically analysed and presented according to actual results (Creswell, 2014). This method is applied to investigate the lived experiences of women who wear the niqab in Langsa City. Ethnography was preferred due to its immersive nature, which provides a comprehensive comprehension of the social stigmas and cultural expectations that these women encounter, as well as valuable insights into their daily lives and coping strategies.

Ten niqab-wearing women from Langsa City participated in this study, selected through purposive sampling to ensure diversity in age and socioeconomic status (see Table 1). The criteria for participants were as follows. First, the participants are niqab-wearing women who were accessible for data collection and willing to participate in the research process. Second, they had experienced negative stigma while wearing the niqab. Third, actively involved in various socio-religious activities.

Table 1
Participants information

Name	Age	Year Wearing Niqab	Occupation
Mutia Balqis	20	2014	Teacher
Kurnia Fitri	57	2008	Civil Worker
Dini lestari	45	2020	Entrepreneur
Murlina	42	2020	Health Worker
Kunia Ningsih	42	2003	Entrepreneur
Mughni Rahmayani	26	2018	Teacher
Rea	35	2011	Housewife
Syamsidar	48	2006	Entrepreneur
Syarifatulain	40	2015	Therapist
Wardani	40	2002	Housewife

Data collection involved repeated participant observation and in-depth, semi-structured interviews as well as Focus Group Discussion (FGD) conducted over a period of six months from February to September 2022. The interview guidelines were developed based on stigmatisation theory, intersectionality, and coping strategies. Researchers spend extended periods in the community, observing social interactions, dress practices, and participation in religious and cultural events. These observations were supplemented by detailed interviews that focussed on participants' personal experiences of wearing the niqab and the social reactions they encounter.

The collected data were validated through three techniques: triangulation, audit trail, and thick description (Moleong, 2013), whereas data from interview and FGD were transcribed and analysed using grounded theory, an approach aimed at generating theory based on data obtained from interviews, observations, and other sources (Corbin & Strauss, 1990). Afterward, data were analysed using the interactive model developed by Miles and Huberman (2014) that consists of several steps, including data reduction, data display, and drawing conclusion/verification. After the data was validated, the findings were presented in an in-depth description. The results are structured around the core themes of stigmatisation patterns, environmental intersectionality, and coping strategies used by the women in deciding to wear and maintain the niqab.

RESULTS AND DISCUSSION

Three primary themes emerged from the analysis of participants' experiences: (1) patterns of stigmatisation, (2) intersectionality of environment and identity, and (3) coping mechanisms. Each theme is elaborated upon in detail below.

Theme I: Stigmatisation of Niqab-wearing Women in Langsa City

Literature written by Lombard (1991), and also Hurgronje (1906), mentions that

Acehnese women, since ancient times, have covered their heads, even with a shawl. Accordingly, the ethnographic study conducted by Siapno (2002) between 1992-1996 provided comparative information that hijab was already worn by Acehnese women. Considering these discoveries, wearing the niqab and hijab for Acehnese Muslim women is not because they are pressured by Islamic law, but a form of inborn awareness to practice Islamic law and follow Acehnese culture.

However, living among the majority of Aceh's Muslim community does not guarantee that niqab-wearing women are free from stigma. This fact is based on the biographical data of the experiences of ten niqab-wearing women in Langsa who were stigmatised because of their niqabs. The stigma experienced by niqab-wearing women in Langsa City is in the form of negative labelling, such as being called a ninja and terorriest as reported during the interview:

> Once I was walking on the sidewalk of Langsa City, I was suddenly surprised because people were passing by on motorbikes while shouting at me with the term ninja. Hearing that, I was surprised, because I would not have thought to be treated like that. But I just thought positively, because they might still feel strange with my clothes (Rea, personal communication, 2022).

> I was considered strange and was ostracised in the surrounding environment. I was considered a religious person, called a ninja and even someone called me a terrorist (Wardani, personal communication, 2022).

Furthermore, Ningsih (personal communication, 2022) is called a ghost because there are children who cry in fear when they see her. Some are accused of being radical and Wahhabis, so they are expelled from the organisation (Syarifatulain, personal communication, 2022). Some are accused of being ISIS devotees (Syamsidar, persoanl comminication, 2022), and some are accused of being pious and terrorists (Wardani, personal communication, 2022).

The mentioned statements and experience highlight the experience of social isolation, a key aspect of the stigmatisation pattern, as participants feel ostracised based on their appearance. According to Goffman, stigmatisation occurs because those who give the stigma feel superior and more dominant, while those who are stigmatised are considered inferior, worse, dangerous or weak (Goffman, 1986). Goffman's view parallels the experience of niqab-wearing women in Langsa city who are stigmatised because they are considered threatening. This finding also reveals that the stigmatisation experienced by niqab-wearing women in Langsa occurs in very diverse patterns. The pattern is classified into two types, namely formal and informal stigmatisation.

Formal Stigmatisation

Formal stigmatisation usually occurs by those in positions of authority, including

governmental and private institutions. Following Foucault's (1995) logic, this practice is called a power relation. The niqab-wearing woman in Langsa city is an object that is subordinated and stigmatised by the dominating power of several policies imposed by the government or the power holder. This argument is strengthened by investigative facts about the experience of niqab-wearing women who were discriminated against because of government intrusion in regulating women's clothing. Like the experience felt by a school principal named Intan (personal communication, 2022) in 2019, she was banned from participating in a school supervisor meeting at a government agency if she was still wearing the niqab. Fitri (personal communication, 2022), who works in a government agency, also shared her experience where she was forced to refuse an offer for a promotion because the requirements were very illogical, that is, she had to remove her niqab.

> When I received a message from the leader entrusted to me through a friend, asking me to take off my niqab so I could get a position, my emotions were a bit high. In a rather firm tone, I said, take that position. Don't let me give up my faith because of that position. Tell the boss, just give the position to someone else (Fitri, (personal communication, 2022).

The experience of the two informants who have been mentioned above shows the strong influence of the power instrument in stigmatising. Practices like this are exceptionally visible in 2019, the beginning of the second term of Joko Widodo's administration. Under the pretext of countering terrorism, understanding religious radicalism and national security, the Indonesian government, through the Minister of Religion, Fakhrurrazi, actively supports the discourse on banning the niqab in public places, such as schools, government agencies and campuses (Nisa, personal communication, 2022). This condition makes niqab-wearing women progressively stigmatised, because they are considered a dangerous, radical group, and become an alarming terror for the country.

Another formal institution that also triggers the stigmatisation of niqab-wearing women is the Ulema Assembly. The views of ulema who diverge in interpreting the use of the niqab have caused polarisation in society; some support it and others reject it according to the interpretation of their respective role models or ulema. Campuses, as formal institutions, also play a role in spearheading the ban on the niqab. In *Universitas Islam Negeri Sunan Kalijaga Yogyakarta*, niqab-wearing female students are considered as people who need to be guided. In Bukit Tinggi, a lecturer was fired for wearing a niqab (Safitri, 2021). These facts indicate the strong power of formal institutions in stigmatising women who wear the niqab.

The complexity of stigmatising niqab-wearing women is inseparable from national and international political agendas, especially in this case, America

(the Western) and its allies (Terman, 2015). The reason is that niqab-wearing women in many places are plausible for transforming into a new identity political power movement that is feared to dominate the world (Kunst et al., 2012). For instance, the persistence of the Muslim women's movement in Egypt, which made the hijab a symbol of power in its political movement (Ahmed, 2011). This phenomenon can also be observed distinctly with the surfacing of niqab-wearing women's organisations in Indonesia, such as the Niqab Squad and the Indonesian niqab-wearing women group named *Wanita Indonesia Bercadar* or WIB. Although this organisation only intended to remove the stigma against niqab-wearing women, and organisationally they are not involved in political movements, they are directly involved in various actions, such as the action to defend Islam 212. Thus, naturally, the phenomenon of the niqab, which was originally an Islamic identity, turned into a political spectacle.

For America, for example, this concern has intensified in the last fifteen years, as the number of young European and North American Muslim women wearing the niqab has increased. They are not people who migrated from Middle Eastern countries but were born and raised in the West. So, prohibiting, hostile and stigmatising niqab-wearing women is a scheme to prevent the increase in the number of niqab wearers (Hoodfar, 2003). Similarly, in Indonesia, niqab-wearing women are considered a threat to national integration. This condition further adds to the verdict that the stigmatisation of niqab-wearing women in Langsa City is an impact of national and international political agendas. Therefore, King (2009) suggested that Muslims should be more cautious in dealing with orientalist political propaganda that is not necessarily acknowledged to be true.

Informal Stigmatisation

Informal stigmatisation, namely, stigmatisation carried out by the common people. This stigmatisation arises because of the wrong interpretation of the niqab wearer. The response of participants, Dini (personal communication, 2022), who is also a neighbour to a niqab-wearing woman in this study. She associates niqab-wearing women with the wives of terrorists and has radical views, after seeing her niqab-wearing neighbour changing her behaviour and restricted circle.

> I have known Ningsih for a long time because we are neighbours. But what I am surprised about is that, since she started wearing a niqab, she has become quiet, rarely socialising with neighbours. If she goes out of the house, it is usually to take her children to school. So, I thought after seeing the drastic change in her behaviour. Maybe that is the teaching of radical Islam, limiting the wife's socialising if she wears a niqab (Dini, personal communication, 2022).

This comparative information from residents shows the false manner of society in interpreting niqab-wearing women.

This misinterpretation is caused by low and limited insight and knowledge in interpreting the niqab. This parallels the study by Apriliana and Nafiah (2021), who explained that the low level of education and the extent of knowledge contributed to stigmatisation. This notion is correlated with Aceh's education atmosphere, which until 2010 was in a low position, which was ranked 25th out of 34 provinces (Majid, 2014).

The misinterpretation of niqab-wearing women stems from society's reliance on a single media source, particularly liberal mass media, which often portrays them as terrorists or extremists. With limited Islamic media providing alternative perspectives, these negative portrayals create discomfort and unfavourable perceptions. This was evident in Kurnia Ningsih's experience when she began wearing the niqab in 2003, shortly after the Bali bombing, which heightened distrust due to media associations of the niqab with radical groups. Her experience highlights the formal and informal stigmatisation faced by niqab-wearing women, leading to public discrimination and hatred. Furthermore, Mowlana (1993) vehemently criticises media coverage that undermines humanitarian principles, as such activities go against the Islamic communication paradigm that supports the principles of monotheism, ethics, community, and piety. Additionally, Mowlana (2007) emphasizes that the social role of communication and cultural framework should not be undervalued in daily communication activities. Absence of these four principles in secular mass media results in the failure to establish a humanistic cultural civilisation in society.

Consistent with Mowlana's perspective, numerous significant studies confirm the media's excessive reporting, which results in prejudice against women who wear the niqab. As an illustration, Zempi (2019) demonstrates the significant impact of the media in Europe on the prohibition of face veils in public premises. Reports from the British press indicate that the veil presents a potential danger to the security and national identity of England (Sadar, 2014). According to Perry (2014), the media actively contributes to the dissemination of animosity and Islamophobia towards women who wear the niqab. The results of this study indicate that women in Langsa who wear a niqab do not respond by resisting, even though they are discriminated against due to information overload. Thus, the niqab is worn as part of the mission to promote the concept of mercy for all worlds and the benign values of Islamic law, as well as to uphold the dignity of believing women.

Theme II: Environmental Intersection

Based on Crenshaw's intersectional concept, this study reveals the intersectional experience of ten niqab-wearing women with their environment in Langsa City. The intersection is described as follows.

Referring to Figure 1 shows the position of niqab-wearing women at the crossroads of various overlapping elements. The current study reveals that there are overlapping intersections between various

elements, such as understanding of religion, culture, politics, public opinion and social status, causing women who wear the niqab in Langsa City to be stigmatised and discriminated against.

Misogynistic interpretation of religious texts has caused women with niqabs to be stigmatised. Likewise, the use of the niqab, which is considered incompatible with the local culture, also contributes to stigmatising women who wear the niqab. Like the response of a resident named Atik, who stated:

> In my opinion, wearing a niqab is a traditional dress for women in Arabia. In Aceh, wearing a jilbab is enough. That's why I often bother Mrs. Ningsi. I said why you are following Arab culture. Her whole body is covered. Isn't it hot? Even I, who am like this, still feel hot and stuffy. When told like that, Ningsih just smiled (Atik, personal communication, 2022).

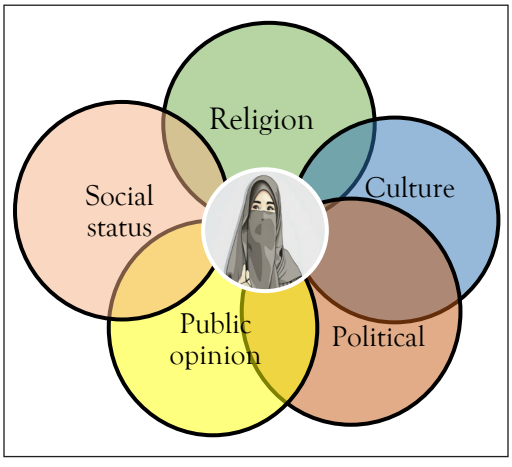

Figure 1. The intersection of niqab-wearing women with the environment in Langsa City

This is a fact that contributes to the misogynistic understanding of religion and culture in stigmatising women who wear the niqab. Likewise, political issues and public opinion have contributed to stigmatising niqab-wearing women. As mentioned by Syamsidar (personal communication, 2022), the issue of radicalism is media-driven propaganda aimed at damaging the image of niqab-wearing women and instilling fear. Not all niqab-wearing women are terrorists or radicals. The informant's account shows that niqab-wearing women are aware of how media politicises their attire, with repeated exposure reinforcing societal perceptions. Correspondingly, Herriot (2009), Williamson and Khiabany (2010), and Ratri (2011), radicalism and religious fundamentalism movements that are continuously informed by the media can make niqab-wearing women stigmatised. Theoretically, this notion is correlated with the cultivation theory (information enrichment theory) introduced by George Gerbner, and the Bullet Theory introduced by Wilbur Schramm, both of which postulate that information that is broadcast repeatedly through the media can affect beliefs, perceptions and someone's attitude (Severin & Jr, 2014).

Theme III: Women in Niqab Coping Strategies

Environmental intersectionality stigmatises niqab-wearing women, placing them in marginalised, second-class positions. However, in Langsa, they actively cope with this stigma rather than remain passive.

Furthermore, Lazarus and Folkman (1984) explain two possible coping strategies that a person chooses to overcome stigma, namely problem-focussed coping (oriented to problem-solving) and emotion-focussed coping (oriented to emotional regulation).

Direct observations at the research location revealed that the two coping strategies mentioned by Lazarus and Folkman were carried out by niqab-wearing women in Langsa in creative ways. These coping strategies are internalised by niqab-wearing women in the form of positive coping responses, such as adapting and seeking social support, becoming religious social volunteers, participating in social activities, regulating emotions, and avoiding problems.

Adaptation and Pursuing Social Support

In Langsa City, niqab-wearing women, as a stigmatised minority, use coping strategies like adaptation and seeking social support to consolidate their identity. Two factors might explain these decisions: first, recognising their minority status, they aim to align with the majority group, and second, they seek to blend into the community reasonably. These two factors are noticed in the daily life of niqab-wearing women in Langsa City. Like the experience expressed by Rea (2022), who works as a nurse, shared her experience of overcoming stigma by participating in community activities, such as attending mosque recitations, funerals, and gatherings, joining a "wirid," becoming part of a helping union, and organising social events for women. Another form of adaptation can be seen in the efforts of niqab-wearing women to say greetings first, with politeness and a friendly attitude when meeting other people. Like Wardani's (personal communication, 2022) experience, she always greeted other people first, so that people's suspicions would disappear, and the public would sympathise and love her. Similarly, the same experience was also expressed by Maya (personal communication, 2022), who works as a Guidance and Counselling teacher at a High School in Langsa city.

> When I started teaching, many of the teachers were surprised to see me, because they didn't know me and I was also wearing a niqab. But I understood the situation, so I quickly adjusted to the school environment. From then on, I reprimanded the teachers at school, both young and old teachers. Because I was new to the school. I shook their hands every time I met them. That was my way, so that I could be accepted at the school, and in that way I also broke the mindset of people who said that women who wear niqabs are closed, don't want to socialise (Maya, personal opinion, 2022).

The interview results above indicate the creativity of niqab-wearing women in Langsa city in negotiating their identity in the public sphere. It can be seen that the idea of eliminating the stigma mindset involves initiating communication with other people, greeting gently, and behaving in a friendly and polite manner. Mahmood (2005) called this fragmentation docile

agency, active and creative. This means that niqab-wearing women do not have to confront the oppression aggressively, but they take creative actions with ethical awareness that are based on sincerity, politeness and patience. In various places, similar creative coping strategies are also practised by women who wear the niqab to overcome the stigma against themselves. For comparison, it can be referred to the "Hug Me" movement carried out by the niqab-wearing women's community at the Hotel Indonesia roundabout and in the city of Manado (Putri, 2018). Metaphorically, these creative actions aim to convince and attract public sympathy that niqab-wearing women do not need to be feared, suspected and hated.

So, Niqab-wearing women in Langsa function as active personifications of the niqab, with personal awareness that allows them to construct and reproduce the meaning attached to wearing the niqab. The niqab, which was initially considered scary because it was all black, became a fashion trend for modern women, which is fashionable, Islamic and lovable. Corresponding to Murlina's (personal communication, 2022) experience, a niqab-wearing woman who works as a niqab manufacturer intentionally modified the black niqab with a luxurious fabric made of Chinese silk suitable for hot weather. Additionally, niqab-wearing women in Langsa were found looking fashionable on several occasions, wearing Korean fashion boots and driving a car when going shopping at the supermarket. Like Syamsidar's (personal communication, 2022) experience, she always wears a fashionable niqab with a choice of soft colours, not just black, especially when going to the mini market and parties. The intention is to be more confident and able to present herself as a niqab-wearing Muslim woman who appears elegant, polite, Islamic and modern in public spaces.

Creativity shown by niqab-wearing women in Langsa city, has been carried out by niqab-wearing women in Western countries who express themselves through spreading fashionable niqab-wearing photos on the online media Flickr, a photo-sharing website, because they think this method can inspire others (Piela, 2013). Bilge (2010) also describes the experience of niqab-wearing women's agency in choosing strategies to promote themselves as good Muslim women, and to fight against Western hegemony, which sees it as oppression by the patriarchy. Zempi (2016) also describes the experience of niqab-wearing women in England who feel naked when they are not niqab-wearing.

Accordingly, the analyses that have been mentioned are comparative and sufficient to strengthen the argument that Muslim women in Langsa city decided to wear the niqab not because they are radical, old-fashioned, oppressed by religion and patriarchal culture, in contrast to the presumption of secular Western feminists. The niqab-wearing woman in Langsa city is a creative agency capable of overcoming the stigma and subordination of patriarchal culture. This ability is driven by three factors, specifically knowledge, experience, and skills.

First, knowledge is related to understanding oneself as a minority group that is stigmatised and must rise against subordination but adhere scrupulously to religious values. Second, experiences as a person who is stigmatised and marginalised encourage niqab-wearing women in Langsa City to be more inclusive in society. Lastly, skills are related to the ability of niqab-wearing women to choose creative and adaptive coping strategies after analysing the situations they are in.

The three components are acquired from autonomous self-awareness, which is the awareness that arises within the subject to become a self that has power. Foucault (1990) stated that the occurrence of an autonomous self is because someone wants to achieve certain goals, senses the importance of change, can adapt, and there are concrete strategies that are carried out. The statement Foucault mentioned is identified in the creative coping carried out by niqab-wearing women in Langsa City to overcome the stigma against them. This creativity also occurs because it is driven by the power of knowledge. As mentioned by Foucault (1982), someone takes action or fights because he is driven by the power of the knowledge he has. Thus, the creative coping actions carried out by niqab-wearing women in Langsa City aim to fight against subordination. Similar creative actions are also reflected in Srimulyani's (2013) study, which explores the experiences of Acehnese women ulama in advocating for women's rights.

Therefore, without intending to dramatise the situation, different perspectives must be reviewed in determining the meaning of the niqab and the choice of Muslim women to wear it. This aims to prevent situational generalisation that portrays all niqab-wearing women as being motivated by oppression, religious orthodoxy, or religious radicalism. Western feminists claim that niqab-wearing women are oppressed by the niqab, their activities are limited in public spaces, and old-fashioned ideas are not found in the current study. On the contrary, the niqab for Muslim women in Langsa City is a creative response in responding to the dynamics of modernism, staying Islamic but not outdated, even though the niqab is stigmatised with negative labelling.

This fact serves as a rebuttal for liberal feminism, which stigmatises women with a niqab, as well as strengthens the argument of the niqab as the creativity of Muslim women in responding to modernity. As has been proven by several studies, one of which is Mouser (2007), who reports on the experience of Malay women in Kuala Lumpur wearing the hijab and niqab because they feel more modern and enlightened in Islamic ways. Roy (2004), a French sociologist, also gives his opinion on the increasing number of Muslim women who wear the hijab in Europe, because they want to appear more religious in a secular European society. Thus, the desire to appear religious, Islamic and modern indicates that niqab-wearing women are exceptionally active in overcoming the stigma against themselves in a creative way.

Regulating Emotions and Avoiding Problems

Based on the experiences of ten niqab-wearing women in Langsa, they face significant psychological pressure from stigma, including emotional turmoil such as anger, irritation, depression, and even the urge to remove their niqab. Fitri (personal communication, 2022) stated that she felt angry and irritated when she was called a ninja and a terrorist. Similarly, Rea (personal communication, 2022) stated that she feels upset and stressed for days and experiencing mental pressure and wants to stop wearing a niqab.

To stay productive, niqab-wearing women cope with stigma by regulating emotions and avoiding conflict. They view stigma as a test of faith, practising patience not as passivity, but to avoid conflict and seek more elegant ways to gain public sympathy. They believe responding to verbal stigmatisation with violence would worsen the situation and cause greater harm. So, based on Syamsidar's (personal communication, 2022) answer, she stated that when she was stigmatised as a ninja and ISIS member, she prefers to be patient and pray for those who stigmatise her to avoid slander and conflict. However, she remains active in advocating for women and empowering women to plant vacant land with hydroponic plants.

The decision to embrace patience as a coping strategy demonstrates the emotional regulation skills and creativity of niqab-wearing women in Langsa City, enabling them to transform negative emotions into positive ones and maintain stability and productivity. Actions like this have been carried out by Muslim students wearing headscarves in London, who are stigmatised and prefer to act politely and patiently in interacting with others (Chapman, 2018). Thus, patience becomes an alternative coping strategy as a creative response for niqab-wearing women to overcome stigma. Patience among niqab-wearing women in Langsa is not a result of an inability to resist, but rather a deliberate choice rooted in piety, aimed at preserving a peaceful environment. It also does not mean running away from reality, but avoiding the source of the stigma while looking for other, more elegant strategies. Like Desi Lestari (personal communication, 2022), who chose to avoid crowds that stigmatised her, and maintain politeness and friendly communication when interacting with other people. Likewise, Mutia Balqis (personal communication, 2022) prefers to avoid sources of stigma, but provides religious consultation services at home and teaches children in Musalla. According to Balqis, this method can change people's perceptions of niqab-wearing women.

> Even though I don't socialise much in society, I still teach children to recite the Quran at the Musalla. That's my way to overcome the stigma of society, because by teaching children, I can convince society that I'm not like the veiled women that society has always thought of. I can also socialise with their parents when they come to pick up their children at the Musalla. That's my way to overcome the stigma (Balqis, personal comminication, 2022).

So, generally, these niqab-wearing women cope with stigma by being patient and taking creative actions, such as adapting to their environment, regulating emotions, and seeking social support. They face a dilemma as a minority: fight back and risk being labelled terrorists or remain silent and be viewed as passive, which prolongs discrimination. Thus, patience becomes the best option, though it does not equate to silence or inaction. This strategy is described by Piela (2012) as niqab-wearing women in America, who are stigmatised. To overcome the stigma, niqab-wearing women prefer to stay in America, while changing strategies to promote a tolerant Islam, rather than migrating to Muslim-majority countries.

Irrefutably, patience as a coping strategy allows niqab-wearing women to overcome stigma without conducting any radical actions and is influenced by cultural background, knowledge, experience, social environment, and self-concept (Suzanne, 1992). This creative approach reflects cognitive restructuring, driven by their desire to escape stigma, marginalisation, and subordination. It's evident how they balance being Islamic with appearing modern, elegant, and fashionable in public. Thus, this study complements Saba Mahmood's (2005) ethnographic research that establishes the religious mobility of women in Egypt without necessitating resistance. Religiousness delves into fundamental aspects, encompassing individuals who are continuously instructed to perform virtuous acts, so establishing a habitual practice.

CONCLUSION

This study highlights three key points: First, environmental intersectionality causes widespread stigma against niqab-wearing women, isolating and marginalizing them. Niqab-wearing women are stigmatised formally and informally. Second, niqab-wearing women are not passive but actively use creative, adaptive coping strategies to overcome stigma without resorting to radical actions. Finally, this study challenges previous research that portrays niqab-wearing women as radical, oppressed, or subordinated by patriarchy, calling for broader research from different perspectives for comparison.

This research has significant theoretical and practical implications. Theoretically, it challenges dominant narratives that depict niqab-wearing women as submissive, oppressed, or politicized (Zine, 2017) and also advances feminist theory, by rejecting the idea that they are uniformly subjugated by patriarchy (Mahmood, 2005). It highlights their resilience and ability to exercise autonomy amid constraining societal contexts. Furthermore, the current study enhances the understanding of how niqab-wearing women manage societal stigmatisation and marginalisation by emphasizing their agency, and innovative and adaptive coping methods. The notion of intersectionality, in this context, expands our theoretical comprehension of how several forms of discrimination—rooted in gender, religion, and public visibility—intersect to influence the lived experiences of women who wear the niqab (Crenshaw, 1991).

This study enhances feminist and sociological views by demonstrating that niqab-wearing women are not only victims of their circumstances, but rather active agents in their own lives, expressing autonomy within constrained contexts

These findings have important implications for public policy, community engagement, and education. Anti-stigmatisation policies should be grounded in an understanding of the social mechanisms that marginalize niqab-wearing women, including media portrayals, institutional practices, and everyday interactions. Public awareness and community programs should focus on dispelling misconceptions by emphasizing agency, personal choice, and social participation.

Educational institutions, workplaces, and governmental services are encouraged to implement inclusive and non-discriminatory policies, including clear dress code guidelines and equal access to opportunities for niqab-wearing women (Brown, 2020). Creating supportive environments may enhance social inclusion and gender equality. Future research should explore niqab-wearing women's experiences across diverse cultural contexts to inform context-sensitive policies.

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APPENDIX

Interview Results

Atik. *Neighbours Kurnia Ningsih in Langsa City, Interview Results on 2022.*

Balqis, Mutia. *Interview Results with Neighbours in Langsa City, Mei*, 2022.

Fitri, Kurnia. *Interview Results in Langsa City*, *April* 2022.

Intan. *Interview Results in Langsa City*, *September* 2022.

Lestari, Dini. *Interview Results in Langsa City with Neighbours Kurnia Ningsih*, *July* 2022.

Murlina. *Interview Results in Langsa City*, *June* 2022.

Ningsih, Kurnia. *Interview Results in Langsa City*, *April* 2022.

Rahmayani, Mughni. *Interview Results in Langsa City*, *Mei* 2022.

Rea. *Interview Results in Langsa City*, *Mei* 2022.

Syamsidar. *Interview Results in Langsa city*, *June* 2022.

Syarifatulain. *Interview Results in Langsa City*, *Mei* 2022.

Wardani. *Interview Results in Langsa City*, *June* 2022.

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Wisdom in Practice: Incorporating East Kalimantan's Oral Traditions from Primary to Higher Education Teaching

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ABSTRACT

East Kalimantan, recognised for its rich oral traditions, is presently facing challenges associated with modernisation. It is essential to safeguard the cultural identity and historical narrative of this area through educational settings. The primary objective of this research is to explore the views of educators concerning the incorporation of East Kalimantan's oral traditions in their teaching practices. Adopting a phenomenological research design, data were collected through semi-structured interviews, complemented by a comprehensive review of relevant literature. Fourteen teachers and five lecturers as research participants were recruited through purposive sampling. The responses were categorised to uncover similarities, which facilitated the emergence of a central theme: the strategies for incorporating the oral traditions of East Kalimantan into education. The school teachers developed learning activities that integrated traditional songs, games, storytelling, and creative writing derived from diverse oral traditions in East Kalimantan. Concurrently, the university lecturers employed instructional practices such as experiential and collaborative learning to weave oral traditions into their teaching. The values of local wisdom are actively internalised in the cultivation of character education and the enhancement of cultural pride, which collectively foster a sense of belonging to one's community. The findings underscore the value of sustained interaction with oral traditions at all educational levels as a means of facilitating cultural preservation and enhancing learning experiences.

Keywords: Instructional practices, local heritage, local wisdom, oral tradition, phenomenology

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INTRODUCTION

Local wisdom is an essential attribute of a society that contributes to the establishment of civilisation. It comprises a framework of

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ethics, norms, practices, and behaviours that serve as guiding principles for individuals in their daily interactions (Naryatmojo, 2019; Suhartini et al., 2019). Throughout history and across various civilisations, individuals have exchanged their knowledge and experiences related to the cultivation of wisdom. The evolution of certain insights and practices into cultural habits and tendencies has been facilitated by a range of educational methods and modalities. This process has played a crucial role in shaping spiritual, religious, philosophical, and ideological traditions, which can be traced through various media, including oral traditions, archaeological findings, literary works, and digital platforms (Diamond, 2021). These sources illustrate that individuals possess the capacity to acquire, experience, and cultivate wisdom, which they subsequently share with others.

The realm of oral traditions and expressions comprises a wide variety of spoken forms, including but not limited to proverbs, riddles, tales, nursery rhymes, legends, myths, epic songs and poems, charms, prayers, chants, songs, and dramatic performances (UNESCO, 2003). Local wisdom, which includes a variety of values like religion, social responsibility, and environmental awareness, should actively manifest itself in daily activities rather than just existing as part of the narrative (Asnimawati et al., 2023). The transmission and preservation of local wisdom through oral tradition occurs in a series of stages: socialisation, externalisation, combination, and internalisation (Safitri & Susetyo-Salim, 2019). These stages aid younger generations, particularly those with limited exposure to traditional knowledge, in comprehending the value of oral traditions. Among these stages, the process of internalisation is deemed crucial for maintaining local wisdom in society. It is a lifelong process of value inculcation through which individuals adopt culturally expected behaviours; nonetheless, its absence may result in local wisdom diminishing over time and possibly disappearing, especially in indigenous communities (Lubis, 2019; Ramli et al., 2024; Takari, 2020). Internalisation represents a foundational aspect of cultural learning within formal education. Oral traditions rich in local wisdom are maintained to educate learners regarding their cultural heritage, traditions, and practices that empower them to achieve a deeper insight into their roots and identity.

The journey of internalising local wisdom through oral tradition starts in early childhood and evolves as children transition from kindergarten to university. During this progression, they engage with academic subjects while also absorbing the values, stories, and cultural practices that shape their communities. Utilising traditional songs to internalise local wisdom serves to enrich early childhood education, ultimately contributing to the development of national character education (Desyandri, 2017). Furthermore, educational research acknowledges storytelling as a valuable oral tradition that serves as an affirming methodology, facilitating the construction, sharing, and retention of knowledge

within indigenous communities (Nakhid & Santana, 2023). Classroom activities such as performances, discussions, and group projects can serve as effective pedagogical tools for instilling the values associated with local wisdom, which include religion, discipline, social care, responsibility, hard work, democracy, independence, nationalism, patriotism, curiosity, and peace (Naryatmojo, 2019).

Higher education plays a crucial role in shaping individuals who possess not only the requisite competencies in their academic and professional pursuits but also a profound social awareness, empathy, and an understanding of the complexities of local and global environments. In line with this, the deliberate fostering of wisdom is emerging as a vital aspect of the future endeavours of universities (Diamond, 2021; Lombardo, 2014; Macdonald, 1993; Maxwell, 2021; Nylander, 2015). Correspondingly, the value of oral tradition is found in its potential to engage students in a dynamic educational experience, urging educators to implement a variety of strategies to incorporate oral traditions into their pedagogical practices. For example, the Productive Creative Learning model engaged students in the creation of oral literature, allowing them to explore diverse writing styles, genres, and media from their cultural narratives (Wati, 2024). This approach fosters the development of creative writing skills. The lecturer's viewpoint on employing project-based instruction among university students to convert local folklore into English texts through the instructional procedures of collecting, recording, and creating texts not only promotes active involvement among students but also enhances their awareness and appreciation of their cultural backgrounds, leading to a stronger sense of personal identity (Agung et al., 2024). Albantani and Madkur (2018) emphasised the critical importance of local wisdom, suggesting that its integration can be achieved by incorporating local wisdom values into educational materials, dedicating time to discussions centred on local wisdom, and engaging in classroom activities that enhance the teaching of linguistic skills.

The oral traditions of Kalimantan Provinces have attracted significant scholarly interest, as evidenced by various studies that highlight the necessity of integrating oral tradition as a means of fostering innovative teaching practices. For example, the Dayak Kanayatn community remains committed to upholding their oral literature through various initiatives, including cultural education programs in local schools and the hosting of literary festivals (Syam et al., 2024). The Dayak Kenyah community in East Kalimantan revitalised *Ngendau*, a traditional song, by creating documentary films that aim to foster creativity and uphold traditional cultural practices amidst globalisation's challenges (Istianingrum et al., 2022). In Lumholtz's travel writing 'Through Central Borneo,' locality is portrayed as an entity linked to a specific geographical area, thereby reflecting the sociocultural context of the Dayak community, the indigenous inhabitants of Kalimantan, which can be seen through

several cultural aspects such as place, social organisation, habit, object, convention, ecology, character, and belief (Arifin et al., 2022). The findings from these studies underscore the notion that modernity, shaped by the forces of globalisation, often undermines the importance of local cultures. This phenomenon can lead to various positive and negative outcomes for society. In response to this challenge, it is imperative for universities and educational institutions to take proactive measures in promoting local values.

This current research specifically focuses on the perspectives of educators regarding the incorporation of East Kalimantan's oral traditions in teaching. While there has been a lot of research exploring oral tradition as a valuable tool for enhancing learning and cultural understanding, there are still distinct discrepancies in the existing data. First, this research seeks to uncover alternative oral traditions that may be utilised in educational contexts, going beyond the traditional folktales. Second, there is a need for research that explores the ways in which theoretical models can be modified to integrate oral traditions, as well as to assess the effectiveness of these integrations in practical teaching situations. Third, the exploration of East Kalimantan's oral traditions remains under-researched, thus underscoring the importance of conducting further studies in this field. Bridging these gaps has potential for more innovative teaching practices and improved educational outcomes.

METHODOLOGY

A phenomenological approach is suitable for this research to gather educators' perspectives on the integration of oral traditions into their teaching practices from kindergarten to higher education level. Phenomenology seeks to uncover and detail the unique perceptions and reactions that individuals have in relation to their experiences, aiming for a comprehensive understanding of these subjective interpretations (Fraenkel et al., 2022). This phenomenological study involved conducting interviews aimed at collecting a range of perspectives from educators who have either experience or a vested interest in the integration of oral traditions within their teaching practices.

Research Participants and Sites

The selection of participants for a qualitative study is conducted using a purposive sampling technique. In purposive sampling, researchers employ their discretion to choose a sample that they anticipate, informed by previous knowledge, will yield the necessary data for their study (Fraenkel et al., 2022). Consistent with this, participants are chosen based on their relevant expertise, experience, or qualities that align with the research's objective. The participants of this study were the lecturers of the Faculty of Cultural Sciences, Universitas Mulawarman, East Kalimantan. Five participants were chosen on the basis of the following criteria. First, they are members of the *Oral Tradition Association* in Indonesia. Second, they integrate East Kalimantan's oral traditions

in their teaching practices. Third, several of their published works, including research articles and books, focus on various aspects of Indonesia's cultures. Fourth, they actively engage in cultural events and activities.

To enrich the body of research data, the views and understandings of teachers about the local wisdom inherent in the oral traditions of East Kalimantan were also acquired. Fourteen teachers, covering educational levels from kindergarten to high school, were chosen as participants in this investigation. The criteria for selecting teacher participants were established as follows: (1) a willingness to participate, demonstrated by signing an interview consent form, and (2) the incorporation of East Kalimantan's oral traditions into their teaching practices. The schools where the teachers work are in the cities of Balikpapan, Bontang, and Tenggarong. Each city—Balikpapan, Bontang, and Tenggarong—represents a unique perspective on the local wisdom of East Kalimantan, particularly regarding environmental practices, social dynamics, and cultural legacies. Their rich and varied histories, along with the integration of traditional and modern elements, make them particularly valuable for research focused on the adaptation and continuity of local wisdom in the face of industrialisation and the forces of globalisation.

Data Collection

In qualitative research, the data collection phase is characterised by its ongoing nature (Fraenkel et al., 2022). The data were collected through semi-structured interviews with five lecturers and fourteen teachers, guided by a predetermined set of questions or topics. The employment of open-ended questions dispels the idea that there exists a definitive right or wrong answer for every inquiry (Subramaniam et al., 2024). The interview protocol consisted of open-ended questions aimed at uncovering the lived experiences of lecturers and teachers concerning local wisdom within educational settings. It delved into the participants' perceptions of the integration of local wisdom in education, their knowledge of local oral traditions, as well as teaching and instructional practices. The duration of each interview was approximately 25 to 35 minutes on average. The interviews were transcribed and translated into English for academic purposes.

Data saturation is essential for understanding the completeness of qualitative data before analysis. It occurs when the participants' descriptions begin to show repetitive responses, and no additional experiential insights are revealed, emphasising the sufficiency of data, which then leads to the analysis of what has been gathered (Grady, 1998; Saunders et al., 2018). The decision to finalise data collection was made when the responses from interviews consistently demonstrated similar strategies for incorporating East Kalimantan's oral traditions across different educational levels. Throughout the research process, qualitative researchers practice reflexivity by critically examining how their subjectivity influences their inquiry, and

purposefully specifying the origins of the data they provide, the interpretations made, and how the findings are utilised (Olmos-vega et al., 2023).

Data Analysis

The process of data analysis in a qualitative study primarily consists of analysing, synthesising, and reducing the information from multiple sources (e.g. observations, interviews, documents) into a coherent description of the insights or findings derived from the research (Fraenkel et al., 2022). To maintain ethical standards and build trust between researchers and participants, pseudonyms are assigned when reporting the interview results. In the transcript and research report, the researchers labelled 'Lecturer 1' to represent lecturer number one, 'Teacher 1' for teacher number one, and similarly for other participants, thereby ensuring their anonymity.

Following the procedural guidelines outlined by Braun and Clarke (2012), the analysis focused on a meticulous investigation and characterisation of the various themes and ideas that emerged from the dataset. This inductive approach comprises six sequential steps: familiarisation with the data, coding, theme generation, reviewing themes, defining and naming themes, and compiling the findings. More specifically, trustworthiness was maintained through the systematic application of a three-level inductive analysis process (Chakma & Li, 2025). In level one analysis (organising, categorising, and initial coding), the researchers started by breaking down and coding the raw data from semi-structured interviews to understand the wide range of participants' views on East Kalimantan's oral traditions in their teaching practices. The research team reviewed the data several times to grasp its meaning, ensuring they minimised biases as much as possible and clarified any parts of the interview data that seemed unclear or misunderstood. In level two analysis (focused coding, focused categorisation, and theme development), the researchers explored theme generation more thoroughly to strengthen and confirm the participants' real experiences, as well as performed a data verification to ensure that theoretical studies and field data were consistent with each other. In level three analysis (answering the research question (s) or theory generation), conclusions were drawn upon re-examining the data to ensure alignment with the objective of the study and, when merged with earlier codes and categories, aid in forming a clear and meaningful interpretation of the data.

RESULTS AND DISCUSSION

The data obtained from the interviews were subjected to thematic analysis, resulting in the identification of a primary theme: the strategies of incorporating East Kalimantan's oral traditions into teaching. The learning experiences provided in schools will act as a reference point for determining how the evolution of knowledge in higher education is influenced by the values of local wisdom. The exact responses obtained from the interviews are classified under their

respective sub-themes, as shown in Table 1, corresponding to the research focus.

The Strategies for Incorporating East Kalimantan's Oral Traditions into Teaching

Amid the forces of modernisation, oral traditions serve as a crucial mechanism for cultural preservation and resistance. Previous research has also delved into the sustainability of oral literature and traditions, emphasising its function in the preservation of social identity, maintaining cultural practices and beliefs, and understanding the changes of oral literary practices among people, especially the Dayak tribes in Kalimantan Provinces (König, 2016; Olendo et al., 2022; Sada et al., 2019; Sukiada & Yanti, 2024; Syam et al., 2024). The data presented here reveal the perspectives of both teachers and lecturers on the strategies employed to incorporate the oral traditions of East Kalimantan into innovative pedagogical practices. The objective is to demonstrate how these strategies evolve and adapt at each educational level while maintaining the core principles of cultural preservation. Instances of oral traditions are also included in the range of responses provided.

Traditional Game and Song

Distinctiveness and local wisdom are inherent to each region. The sense of attachment and familiarity with a locale has traditionally been connected to cultural heritage, which includes the traditional values, customs, and beliefs that are inherited through generations within a cultural group (Ma et al., 2023). Individuals residing in a particular area must adapt culturally to the traditions and customs that are prevalent in that region. Games serve as alternative methods for conveying traditional knowledge and cultural information (Civallero, 2007). The kindergarten teacher introduces a traditional game known as 'gasing' to familiarise children with the cultural heritage of their region from an early age.

> The focus here is on introducing local cultures, particularly in Tenggarong or East Kalimantan. One example is the traditional game called gasing, which is a wooden top that you spin around. In kindergarten, children work with their teachers to craft tops from plastic bottles, and then they learn how to play with them (Teacher 10).

Table 1
Thematic analysis of the strategies for incorporating East Kalimantan's oral traditions into teaching

Section	Themes	Sub-themes
The strategies for incorporating East Kalimantan's oral traditions into teaching	Classroom activities by school teachers	a) Traditional game and song b) Storytelling and creative writing
	Classroom activities by lecturers	a) Experiential learning b) Collaborative learning/work

Gasing is a traditional game involving a spinning top, typically made from wood. Residents of East Kalimantan identify it by the term 'begasing' (Larasati, 2021 in Syamsudin et al., 2024). Teachers encouraged the use of materials available at school by leading students in the creation of a 'gasing' from plastic bottles, as well as providing guidance on the methods of playing the instrument. The game known as 'gasing' provides children with an opportunity to cultivate values such as unity, diligence, leadership, and resilience, while also promoting the spirit of sportsmanship (Dewia & Alam, 2020; Zurqoni et al., 2018). The teacher detailed the incorporation of the traditional game ‘gasing’ within play-based learning activities in kindergarten, fostering children’s engagement, motor development, and early cultural understanding. Facilitating play for students involves an interaction with their social surroundings and promotes the growth of a range of skills, including motor, cognitive, language, social-emotional, moral, and character development (Alirmansyah et al., 2024; Hidayati, 2020). The cultivation of character values in children during play can be observed through their willingness to assist one another and their ability to engage in a supportive environment.

In addition to games, early childhood needs to learn and internalise songs that embody the values inherent in their local wisdom (Desyandri, 2017). Teachers in kindergarten and elementary schools also incorporated traditional songs that originate from East Kalimantan into their teaching practices.

> Certainly, we also brought in the Kutai songs. The children eagerly followed along. The teacher then introduced the children's favorite, 'Buah Bolok', which is a well-known song among them. (Teacher 11)

> Traditional songs like 'Buah Bolok', 'Sungai Kandilo', and 'Leleng' have been included in the music arts subject. Moreover, traditional songs are frequently played to greet children, as they arrive at school and before entering the classroom. (Teacher 5)

Songs like 'Buah Bolok', 'Sungai Kandilo', and 'Leleng' are essential components of the cultural heritage of East Kalimantan's indigenous communities. Through these traditional pieces, the Dayak and various ethnic groups articulate their deep-seated connections to the natural environment, their territory, and one another. Teachers typically incorporated only one or two easily memorable songs into their teaching practices. When engaging in singing activities, students displayed various reactions, including the inclination to sing along.

The participants expressed largely similar views during their discussion regarding the incorporation of traditional songs in the development of character education. The cognitive understanding of children is primarily limited to perceptual experiences, lacking a developed appreciation for music (Lu et al., 2023). The traditional oral songs offer valuable

moral and character-building lessons that can significantly enhance children's comprehension of values and character, which in turn can promote their cognitive and emotional growth. Kistoro et al. (2024) add that the incorporation of local songs into educational curricula is beneficial, as they encompass a variety of intricate concepts related to character education.

Storytelling and Creative Writing

Expanding upon the incorporation of traditional games and songs in the kindergarten context, teachers also note storytelling as a pedagogical strategy for incorporating oral traditions in both kindergarten and elementary school settings. Traditionally, storytelling has acted as a medium for the transmission of knowledge. It is crucial to acknowledge that, since its initial formal implementations, storytelling has been a prominent method for passing down the beliefs and values of society from one generation to another (Hoogland, 1998). The presence of digital reading in daily activities highlights the importance of technology in enhancing (digital) literacy development for children in kindergarten (Maureen et al., 1998), as outlined in the subsequent response.

> YouTube features a variety of Kutai folk stories, including 'Putri Junjung Buyah', 'Putri Karang Melenu', and 'The Origin of the Kutai Kingdom'. We love to show these stories to children. They may not completely understand the plots, but the colorful visuals make it easier for them to enjoy and connect with the stories. (Teacher 11)

The use of YouTube as a digital platform allowed for the introduction of Kutai folktales to kindergarten students, enhancing their engagement with local East Kalimantan stories such as 'Putri Junjung Buyah', 'Putri Karang Melenu', and 'The Origin of the Kutai Kingdom'. As these children are not yet proficient in reading, they can connect with and enjoy these narratives through visual and auditory experiences. The storytelling experience for elementary students is distinct, primarily because most of them are literate, which allows them to actively engage in reading stories.

> On Saturdays, we usually have a fun literacy session where the children get to read. I'll be sharing a story from East Kalimantan. Each class will sit in a circle, and for about fifteen minutes, they'll memorise and read one of the folktales from the textbook. If anyone wants to share their story, they can step up and tell it to their friends. (Teacher 7)

The personalised instructional techniques utilised by teachers, which involve seating students in a circle, guiding them in the memorisation and reading of a folktale, and allowing for voluntary presentations in front of the class, fostered a unique learning environment. The practice of storytelling enhances the relationships between teachers and students, suggesting that teachers ought to interact with learners not in an authoritarian

manner, but as co-explorers of knowledge (Blackhawk, 1990). Engaging in storytelling activities significantly influences students' interpersonal relationships, self-perception, and their recognition of personal uniqueness (Nurhayati et al., 2020). Moreover, it presents an opportunity to familiarise students with cultural tales and indigenous wisdom in a format that is readily accessible. As noted by Nurhayati et al. (2020), the act of listening to stories and participating in subsequent discussions enables students to acquire an understanding of cultural practices and expectations, which facilitates a reflection on their own lives through the narrative framework.

As students move through higher educational levels, they cultivate the analytical competencies essential for probing and interpreting the complex meanings that are woven into oral traditions. In accordance with this, teachers provide opportunities for creative writing to facilitate the exploration of oral traditions, thereby enabling students to deepen their ties to their cultural heritage and improve their ability to communicate their knowledge to others. Both the junior high school teacher (Teacher 13) and the senior high school teacher (Teacher 1) have demonstrated a shared experience in employing creative writing techniques that integrate the oral traditions of East Kalimantan, as evidenced by their responses in the interviews.

> I used the approach to create short stories in my Indonesian class, such as 'Lembuswana', 'Putri Karang Melenu', and ‘Danau Lipan’. I decided to focus on the theme of local wisdom initially. The students are quite imaginative when it comes to crafting short stories that reflect the local wisdom of Kutai Kartanegara. This is how I incorporate it into my classroom activities. (Teacher 13)

> Since I teach Indonesian, our lesson plan includes a chapter on tales, focusing on traditional literature and folktales. In Bontang, these stories are passed down through generations, such as the story of ‘Pulau Segajah’, which mysteriously disappears at night and reappears during the day, along with its myths. In class, I guide my students to rediscover these stories by writing and expressing their own versions of the folklore they’ve learned from their community. (Teacher 1)

Both teachers are responsible for delivering lessons in the Indonesian subject. The schools are situated in distinct locations, namely Kutai Kartanegara and Bontang, both of which are rich in diverse folktales. The junior high school teacher in Tenggarong, located in the Kutai Kartanegara Regency, incorporated local Kutai folktales, including 'Lembuswana', 'Putri Karang Melenu', and 'Danau Lipan', into his instructional activities, encouraging students to develop their own short stories. Meanwhile, the senior high school teacher utilised the folktale entitled ‘Pulau Segajah’, encouraging students to recreate the narrative in their own distinctive styles.

The significance of local wisdom values is paramount in the construction of students' cultural identities. Thus, creative writing emerges as a powerful avenue for cultural identity development, as it incorporates these values into the students' expressive works (Rozin & Hermininggrum, 2016) and simultaneously nurtures critical survival skills required in the 21st century (Santosa et al., 2019). Creative writing can be understood as a means of constructing the self, wherein individuals endeavour to reconstruct or "recall" various fragments of their memories, encompassing lingering guilt, past traumas, and cherished dreams and aspirations (Nalbantian, 2003). This process highlights that identity is not a stable or essentialized concept; rather, it is a dynamic and perpetual journey fraught with internal conflicts and struggles.

Experiential Learning

The earlier paragraphs outline how East Kalimantan's oral traditions are included in school teaching practices through traditional songs, games, storytelling, and creative writing. In higher education, the incorporation of theoretical knowledge into practical application is frequently linked to activities conducted outside the campus environment. A lecturer specialising in oral theater has developed a participatory course aimed at fostering experiential learning among students. In this context, either a group of students or individual participants returned to their village to collect information regarding the oral traditions that exist in their community. As noted in the following response, the features of oral traditions could closely resemble to 'Tingkilan' or 'Tarsul', which are traditional performing arts representative of the Kutai people.

> In my oral theater class, I made it a point for the students to head back to their villages. I wanted them to dive into the oral traditions of theater that are emerging in their area. I encouraged them to jot down the texts, record them, and then practice in class. One student even recorded a 'Tarsul' performance. The key takeaway is for them to understand the oral traditions that exist in their surroundings. (Lecturer 2)

Additionally, the other lecturer expressed her views on the students' activities beyond the classroom, which are intended to examine the presence of traditional folktales that have emerged in their neighbourhoods. The students are required to carry out interviews and record the material as detailed in the following response.

> I teach courses on oral literature, the history of old Indonesian literature, and prose studies, all of which I've tied into oral traditions. After the midterm exam, I sent students out to connect with traditional or village elders in their neighbourhoods. They documented and recorded folklore from these visits. (Lecturer 1)

Educators across various educational levels, not limited to higher education,

are among the few who specifically focus on experiential learning when seeking to incorporate oral traditions into their teaching activities. Experiential learning, often referred to as "learning-by-doing," is characterised as a process through which knowledge is generated via transformative experiences; it involves the dual processes of grasping and transforming information (Kolb & Kolb, 2009, as cited in S. Foo & K. Foo, 2022). The lecturer participant emphasised the significance of activities undertaken by students to enhance their understanding of the oral traditions present in their environment.

Students in higher education are considered adult learners. Adult learners bring a lot of life experience and are dedicated to learning for self-discovery and practical use, not just to gain knowledge, and therefore it appears that experiential learning opportunities are particularly well-suited to meet the needs of adult learners (Brookfield, 2013, & Knowles, 1980, as cited in Sisselman-Borgia & Torino, 2017). In experiential learning, students are allowed to engage in more practical learning activities with the guidance from the teacher to reflect on their experiences (Fathan et al., 2023; Rahmat et al., 2020).

Collaborative Learning/Work

Along with experiential learning, collaborative activities facilitate a structured method for students to engage collectively with oral traditions, particularly in response to the decreasing interest of younger individuals towards local wisdom. This knowledge is frequently transmitted mainly to older generations, leading to a disconnect for younger people who lack direct exposure to these traditions. The following interview response illustrates that the lecturer incorporates mantras from various tribes of East Kalimantan as a focal point for discussion among students in the oral literature course.

> This oral literature course isn't just for the students; I'm also diving into the rich oral traditions of East Kalimantan. One topic we've explored is mantras. The tribes here, like the Dayak, Paser, and Kutai, have a really vibrant magical culture. We engage in discussions where I learn from the students, and they learn from me, creating a shared learning experience. (Lecturer 1)

In the context of traditional community life, a mantra, often referred to as a spell, holds significant value as a form of local wisdom. Mantras are viewed as sounds with spiritual strength and energy which play a key role in religious events, meditation, and protection from harmful forces (Suhardi & Huda, 2023). They are tied to cultural identity, and chanting mantras pays respect to the spiritual and cultural traditions of our ancestors (Cattoi, 2021; Joffe, 2019). A previous study also revealed that the Dayak Benuaq people's belief in curing diseases through shamanic spells affects how they behave (Krismonita et al., 2021).

Introducing the subject of traditional mantras in the classroom can be effectively achieved through interactive discussions.

Discussion, as a form of collaborative activity, is predominantly favoured by nearly all college educators in their teaching practices (U.S.Dept.of Education, 2000 cited in Barkley et al., 2005). In this case, it is strongly advised that educators encourage students to engage in collaborative learning to acquire experience within a learning community (Ariani & Valiantien, 2022). Rather than adopting an authoritative stance, they should position themselves as peers to the students.

Apart from the discussion, another lecturer in the interview shared his perspectives regarding local culture and emphasised the necessity of maintaining its presence within learning activities.

> Lecturers and students join forces to write research articles. We've shared the rich local wisdom of East Kalimantan during a festival, showcasing it through cultural performances and music. (Lecturer 4)

According to UNESCO's classification, intangible cultural heritage encompasses various forms such as oral traditions, performing arts, social practices, rituals, and festive events (Wahed et al., 2021). Fostering collaborative engagement between educators and students can be accomplished through various methods, such as co-authoring research articles and organising cultural festivals. In response, various supportive actions and collaborative efforts have been implemented to safeguard global cultural diversity, effectively preventing the erosion and loss of intangible heritage (Wahed et al., 2021). Educators are also required to proactively develop opportunities that ensure oral traditions are meaningful, reachable, and stimulating for learners.

CONCLUSION

The inclusion of local wisdom from the oral traditions of East Kalimantan in teaching practices is seen in a positive light by both teachers and lecturers, despite the differences in how it is applied and the challenges that are perceived. The diverse oral traditions of East Kalimantan are incorporated into educational practices across all levels, from early childhood education to higher education. School teachers perceive the integration of local folklore, traditional songs, and games as a vital strategy for the preservation of local wisdom and the enhancement of students' learning experiences. They underscore the importance of oral traditions in rendering lessons more engaging and pertinent, thus enabling students to cultivate a strong appreciation for their local heritage. In comparison to teachers at the primary and secondary levels, lecturers are more autonomous and collaborative in incorporating oral traditions into their instruction, especially considering that their students are adults.

The study has significant implications for character education and the instillation of moral principles in students. Future studies could focus on how the incorporation of local wisdom, taught through oral traditions during students' educational journey, affects their behaviours and attitudes as they

transition into adulthood. Researchers could also explore the influence of various instructional methods—such as the use of storytelling, interactive group discussions, and other techniques—on students' understanding of local wisdom and its associated moral lessons, ultimately determining which practices are most effective across different levels of education. Furthermore, it is advisable to consider the ways in which digital technologies and AI tools could support the incorporation of oral traditions into pedagogical practices.

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Integrating Multiple Counselling Approaches for Addressing Extreme Unlovable Feelings in a Muslim Client

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ABSTRACT

Integrating spiritual counselling with other counselling approaches is an important factor in achieving a positive outcome for Muslim clients. This study aimed to analyse the process and outcome of counselling for a Muslim client experiencing extreme unlovable feelings, who participated in ten sessions of an integrative counselling focused on the Spiritual Emotional Freedom Technique (SEFT) for 10 sessions. The research employed a qualitative approach, using a systematic case study. The data included counselling notes, interview results with the client and the counsellor, and a standard rating scale. This research identified five important results in the counselling process, 1) personal growth after undergoing counselling; 2) the integrative counselling including Spiritual Emotional Freedom Technique (SEFT) is effective for the client in this context; 3) the counsellor personality had an important role in the changes and the growth; 4) the client and the counsellor were able to demonstrate good ethical boundaries; and 5) there was a transpersonal process of getting closer to the God (Allah). This research recommends the importance of a combination of the modalities used by the counsellor, the counsellor's personality, and ethical boundaries in supporting the discovery of direction and personal development.

Keywords: Integrative counselling, Muslim client, process-outcome therapy, Spiritual Emotional Freedom Technique (SEFT), transpersonal process

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INTRODUCTION

Research focussing on therapeutic process-outcome has been widely carried out and demonstrates great progress, especially in identifying the mechanisms of change that occur within counselling (Crits-Christoph

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& Gibbons, 2021; Stephen et al., 2022; Wall et al., 2017). Counselling outcomes in general are greatly influenced by the alliance or relationship between the counsellor and client; therefore, strengthening this alliance and focusing the cognitive approach on clear assignment therapy treatment are essential (Stubbe, 2018; Watson & Geller, 2005). These new results have the potential to help refine and modify existing counselling so that more clients receive maximum benefit. Counselling process-outcome studies have been conducted using a hermeneutic approach, which combines quantitative and qualitative data (Stephen et al., 2011, 2022; Wall et al., 2017). Other studies use a case study model through an in-depth qualitative approach (McLeod & Elliott, 2011; Rafaeli & Markowitz, 2011; Wright, 2019). Case studies allow researchers to reveal the counselling process and results through evidence collected in depth (Fishman, 2011).

This research aims to analyse the process and results of counselling for a client with extreme feelings of unloved, by integrating multiple counselling approaches, including SEFT, person-centred therapy (PCT), cognitive behaviour therapy (CBT), and rational emotive behaviour therapy (REBT). This study emphasises qualitative data, with modest support from quantitative data. According to CBT, clients with problems involving feeling unloved are experiencing issues related to their core meaning (Jannah et al., 2019; Makwa & Hidayati, 2019; Stiles et al., 2006; van Dis et al., 2020; Wolf et al., 2022). This can be caused by various factors, for example, childhood trauma that can lead to the belief that no one loves them. This is like REBT, which perceives the root issue as the emergence of irrational beliefs in an individual. Therefore, they need to be helped by adopting more rational thoughts (Mu'afa et al., 2020). Meanwhile, if it is viewed through a person-centred approach, this client's problem is caused by repeated patterns in the past, which until now have become the subject of internal criticism. This is often referred to as a condition of worth, where it is associated with acceptance or a feeling of love from a particular person, which is an important aspect in evaluating oneself as worthy or unworthy (Rogers, 1959).

Therefore, in this context, the client was assisted with interventions that involved the four counselling approaches mentioned above. However, this study paid considerable attention to the use of SEFT because it considered the background of the counselee, namely, a Muslim. According to Smith, interventions that consider spiritual background become quite relevant in the context of multicultural culture (Smith et al., 2019). SEFT itself is a development of the Emotional Freedom Technique (EFT) with the addition of a spiritual aspect (Wahyuni et al., 2022). EFT is a meridian energy therapy that combines psychology and simple acupuncture techniques, which works directly to stimulate the body's meridian system by tapping the acupuncture points (Church et al., 2018). Meanwhile, in SEFT, the tapping is accompanied by positive affirmations and prayer. In the context of

this study, SEFT is expected to help a client focus on the problems she faces in relation to spiritual relationships and positive affirmations that can bring about change. The client can express all emotions freely with the help of the counsellor through tapping on eighteen important points. Although several studies claim that SEFT is considered effective (Salami & Fatmawati, 2019), it cannot be denied that this approach is also limited because not all clients are willing to use this method. The spiritual realm is quite private, and the effectiveness is determined by how convinced the client is of the method she follows.

A client with extreme feelings of being unloved often tends to generalise these feelings to the people around them. One way to help this client is usually by combining a cognitive and humanistic approach to make them aware that the world is not that bad to be generalised in such a way. A meta-analysis shows that the PCT, CBT, and psychoanalytic counselling approaches are equally effective in helping clients' problems (Cuijpers, 2019; Cuijpers et al., 2019; van Dis et al., 2020; Wolf et al., 2022). Another study found that extreme anxiety arising from feelings of being unloved or incompetent can be reduced with CBT (Otte, 2011). The method used involves replacing the client's negative automatic thoughts with more adaptive ones. However, in this context, the client showed a tendency toward the spiritual domain in several of the counselling sessions conducted; therefore, SEFT was introduced to the client. Essentially, the intervention given was intended to help the client become aware of the feelings within herself. Thus, in the end, this study can provide insight into the counselling process carried out by the counsellor in dealing with the problem of feeling unloved.

METHOD

The method was a systematic case study with a qualitative approach, as this study investigated an in-depth and rigorous investigation in a specific individual (Fishman, 2011; McLeod & Elliott, 2011). This research aimed to analyse in-depth the process-outcome of counselling for a client with indications of extreme unlovable feelings. The case was chosen based on the criteria of case uniqueness and valuable learning process. The steps were: (1) data collection consisted of collecting counselling notes, periodic client condition questionnaires, interviews with the client, and the counsellor; (2) the data were then processed using a systematic analysis approach to identify thematic patterns that emerged in the counselling process; and (3) finally, all data were confirmed with the client to obtain comprehensive and credible results. This research process received ethical approval from Universitas Negeri Yogyakarta and was approved by the counselling centre in the city of Yogyakarta, Indonesia, where the data were collected. Both the client and the counsellor provided informed consent before the interviews and counselling.

A Client

This client, named Anna (pseudonym) for this research, was a female Muslim student (21 years old). When the data were collected, she lived in a boarding house near her university. Anna's parents lived in a small town quite far from her campus. Anna underwent ten counselling sessions using online and offline platforms due to the pandemic period. She said that the main reason for seeking counselling services was to discuss family and friendship issues. Anna said that she had sought help from friends to tell her story but had not found relief.

Anna complained of difficulty sleeping and often used non-prescribed sleeping pills to help her. She often missed the prayer and felt far from Allah. At home, Anna lives with her father, mother and sister. However, she said that her relationship with her father was bad. Unlike her father, she was very close to her mother, and they supported each other. While undergoing counselling, Anna was a student studying while working.

A Counsellor

The counsellor, who facilitated the client's sessions, was one of the senior male counsellors at the counselling centre. He began practising counselling in 1990 for four years at school and then joined this counselling centre in 1995, approximately 27 years ago. He was a Muslim counsellor, and he is also one of the supervisors at the counselling centre. The modality he used was more integrative, where he often combined SEFT, PCT, CBT, REBT, behaviouristic, and Tapas Acupressure Technique (TAT).

Authors

The authors of this study were the counsellor and two external researchers. The first external researcher was a counsellor at the same counselling centre as the counsellor. She was a junior female counsellor with approximately 8 years of counselling experience. The researcher had relevant experience in process-outcome therapy studies. Her modality was humanistic PCT. The second external researcher was a male counsellor in an educational program, as one of the external judges. Considering that the main researcher has direct involvement as a counsellor, reflexivity measures were applied to reduce bias. In the data analysis process, the two external researchers played an active role in collecting the interview data, notes, and rating scales. Meanwhile, the process of synthesising the data was carried out collaboratively between the main researcher and the two external researchers to check the validity of the data. In addition, the analysed data were confirmed with the client and repeatedly compared with the raw data, such as interview transcripts and counselling notes. Thus, it is expected that the data presented are objective and trustworthy.

Treatments

Counselling sessions attended by the client were not held at fixed intervals, ranging from every week to once every 3 weeks, with each session lasting 60-90 minutes. The online mode was conducted through an e-counselling chat system and via video conference.

Meanwhile, offline face-to-face sessions were held at the university counselling centre. Sessions one to four, six and ten were conducted online due to the pandemic, whereas the other sessions were offline. There were three stages in the counselling session with the client that could be observed in Figure 1. The first stage aimed to explore the client's issues, followed by the treatment to dispute the irrational beliefs or automatic negative thoughts, and ended by understanding the problem through SEFT treatment.

Data Collection and Analysis

The data collected in this research were primarily qualitative, derived from counselling notes, client and counsellor interview results. As the counselling centre collected rating scale data on clients' conditions periodically; therefore, this study also collected those data to complement the qualitative findings. The rating scale data on the client's condition were collected at sessions 1, 5, and 10 (last session). The rating scale consisted of twenty feelings that the client needed to self-evaluate.

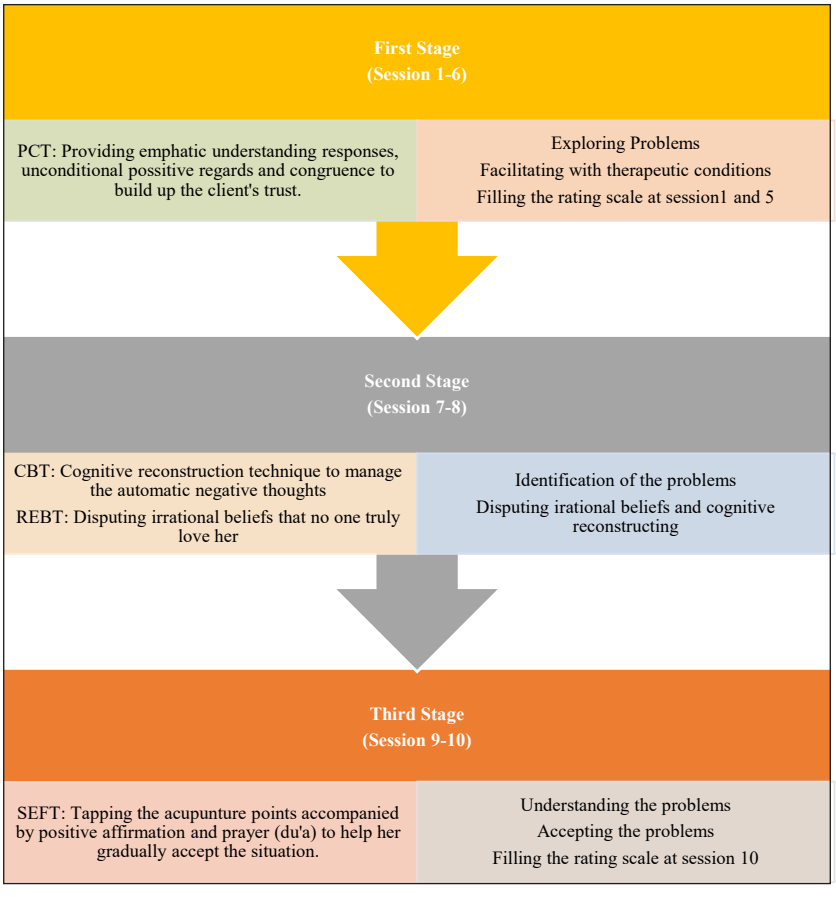

Figure 1. The counselling stages

The listed feelings included anxiety, depression, hallucination, loss of spirit, sleeping problems, anger, excessive energy, emotional explosion, panic, withdrawal, headache, sensitivity, crying, guilt, self-harm, hatred, disappointment, hopelessness, full of suspicion, and overwhelming. The interviews were in an unstructured form with an initial question asking about the client and counsellor's experience within counselling. The interviews were transcribed before being analysed.

Data analysis involved synthesising counselling notes from the ten sessions, comparing the rating scale and confirming the findings through the results of interviews with the client and counsellor. Data were compiled using a thematic analysis approach to identify relevant themes. The procedure referred to is from Braun & Clarke, which includes: (1) familiarising oneself with the data, which consisted of three data sources; (2) generating initial codes from the data; (3) searching for themes that emerged from the data; (4) reviewing potential themes together with all researchers; (5) defining and naming the themes obtained; and (6) writing the results of the thematic analysis (Braun & Clarke, 2019). These results were then presented in Table 2.

FINDING

The results of the counselling notes that the client has attended ten times showed several important findings as presented in Table 1.

Interview results indicated that the client perceived significant changes after attending counselling. The client stated that by the sixth meeting, she began to believe love and care existed. The client conveyed that she was difficult to accept her situation and feelings of hatred of her father at the initial meeting. She described that she was a fiery person before undergoing counselling. Meanwhile, after completing all stages of counselling, she felt calmer and calmer. The client also reported that she could reduce the intensity of watching murder films, which she had used as an outlet for frustration toward her father. The client also stated that her current education could provide a better understanding of her problems. Gradually, the client became a person who cared more about her surroundings after understanding her condition during counselling. The client felt that the genuine care of the counsellor, such as adjusting the room temperature, was also taken into consideration, and this made her realise how much the counsellor cares.

The results of interviews also showed that the intense use of sleeping pills had reduced, and she felt calmer and could carry out her activities well. The figure of the counsellor who was genuine and showed authentic concern also impressed her. She said that the counsellor embodied the father figure she had longed for but never received from her own father. There was a growing belief that there were many good people who cared around her, such as the counsellor. However, the client said that she still had to maintain boundaries and did not want to enter the realm of privacy. The client realises that the counsellor had a family of her own and might not actually be the father.

Table 1
Summary of counselling notes

Counselling Session	Type	Results
Session 1	Online-chatting	The client reported family problems where her parents did not get along, and her father often used violence. She felt tired, disappointed, and angry with him and desire for revenge due to his cruelty.
Session 2	Online-chatting	The client could never tell anyone about her problems. Counselling with the current counsellor was a new experience. She used to cope with problems by biking around town to relieve her emotions when she was not feeling well. She had many difficult times, one of which was when her younger sibling had an accident and her mother was deceived by quite a lot of money. She also feared of going to college that would burden her mother financially.
Session 3	Online-chatting	The client doubted whether there was love in this world. She felt that what she was experiencing was merely misery due to lack of love. Her father did not realise that he was hurting the family. However, the separation was not an option for her mother as they would be even more miserable without a house. The client's frustration of love was getting worst since her boyfriend fooled her.
Session 4	Online-chatting	The client felt better being with her friends, but when she was alone she felt terribly sad. Furthermore, to help with the financial situation during college, she worked and really enjoyed her job. However, she was still worried about "*is it possible for her to survive in the future?*". She often stayed up late thinking about future.
Session 5	Face-to-face	PCT: The client feels sorry for telling everything to the counsellor. On the other hand, she also said, "*I don't care about that, because I am very sick and suffering. I want to be free from that suffering.*" The client's belief that there was no love in the world began to waver, seeing examples of love around her, including when she received the attention of the counsellor.
Session 6	Online-chatting	The Muslim client said, "*Thank you very much sir, I thought you were just taking me for granted but it turns out you genuinely care, and I was moved.*"
Session 7	Face-to-face	CBT: The client found it difficult to control her thoughts (automatic negative thoughts) that was often worrying about the future and other people's perceptions of her. She noticed that she often overthought. However, by the end of the session, she began to realise that she could not control other people's thoughts.
Session 8	Face-to-face	REBT: The client felt that her father was not responsible to the family. She felt that her love issues and lack of belief in love stemmed from her father. At the end of the session, she said that she just wanted to be heard and if possible, found a solution to be better prepared to face her problems.

Table 1 (*continued*)

Counselling Session	Type	Results
Session 9	Face-to-face	SEFT: The client wanted to feel free from feelings of hatred towards her father and her ex-boyfriend who only took advantage of her. The counsellor provided SEFT with accupunture tapping and positive affirmation. During the session the client showed great emotional turmoil, her body shakes, her breathing became short, and she cried (a process punctuated by relaxation). In the end of the session, she felt relief.
Session 10	Online-chatting	The client said that at the end of last year, her parents had a major fight and her father kicked her mother out to return to her parents. The conflict continued for some time. However, after counselling, the client felt more in control of her feelings and learnt to be less emotional and upset about her past.

The client maintained these boundaries and conveyed them directly to the counsellor. At the end of the interview, the client stated that spiritually she was getting closer to Allah (the God) by increasing her worship. She said this made her much calmer and able to control her emotions well.

Interviews with the counsellor revealed that he employed multiple approaches to help the client understand her feelings. At the initial session, the counsellor used the PCT approach to build a good therapeutic relationship. However, by considering that the client had a deep hatred for her father and a feeling of disbelief in the existence of love, the counsellor helped the client to think more rationally with REBT. After the client's thoughts were reconstructed using CBT, the counsellor observed that there was a feeling of hatred that had not yet been resolved. After deeper digging, it turned out that there were many disappointments from her father, who had not accepted. Considering the client's religious background and exploring the client's spiritual side, the counsellor offered the use of the SEFT. During SEFT sessions, the client expressed her emotions and even cried profusely. The counsellor found that the client felt more relieved afterwards. The counsellor noted the sign of transference as she associated him with her father. However, she managed to maintain the boundaries by good awareness, which she openly communicated to the counsellor. The counsellor observed that the client, over the session, showed significant changes to be more adaptive, despite initially appearing stuck and emotionally unstable.

At the first, fifth, and tenth sessions, the client was asked to fill out a rating scale about the feelings or what she might have felt, consisting of 5 graded options, in which scale 1 means very unsuitable and scale 5 means very suitable. The results showed that there was a consistent decrease in the rating scale points related to the disappointment felt by the client from 4 to 2 after the tenth session. In general, the points regarding

anxiety, difficulty sleeping, anger, emotional outbursts, panic, sensitivity, and feelings of guilt showed an increase at the fifth meeting, and consistently decreased by one level after the tenth session. These results indeed do not show a significant reduction in symptoms within ten sessions. However, the counselling that the client underwent appears to have had a significant impact on her feelings of disappointment. This is in line with the results of the interview with the counsellor, that in the early sessions, the client's emotions tended to be unstable. In addition, the process of helping the client with SEFT to address her feelings of disappointment was also carried out in the ninth session. Therefore, such results appear reasonable as the counselling is indeed not something for fixation but a process for growth.

Based on the results of counselling notes, interviews with the client, interviews with the counsellor and counselling questionnaires, five significant points were found in Table 2.

The five themes found in this study show things that are commonly found as factors that influence the effectiveness of counselling and the client's therapeutic journey, such as the integration of counselling approaches (Zarbo et al., 2016) and counsellor personality (Norcross & Wampold, 2011). However, considering that this study used a single-subject research design, the results obtained could not be generalised to different cases and different clients. The level of effectiveness of the intervention given was also considered relative and applied only to this case within the time frame of ten counselling sessions.

DISCUSSION

Five main points emerged from the counselling process with the client: 1) personal growth; 2) counsellor modalities; 3) counsellor personality; 4) ethical boundaries; and 5) transpersonal journey. These five points came from a synthesis of counselling notes, interviews with both the client and the counsellor, and intake assessments. These results indicate that the counselling process typically covers the following five topics with the client.

Personal growth is essential for individuals to continue developing in the face of various challenges (Andreou et al., 2020; Gallagher et al., 2018; Joseph, 2004). Studies found that personal growth is a commonly used parameter for evaluating therapy outcomes (Choi et al., 2010; Novella et al., 2022). Quantitative personal growth is often measured using authenticity scales, subjective general well-being, personal questionnaires, and resilience (Diener et al., 2009; Jungers & Gregoire, 2016). Qualitatively, the insights that emerge during counselling with real changes in understanding and behaviour also demonstrate a person's personal growth (Novella et al., 2022; van Dis et al., 2020; Wolf et al., 2022). Counselling results revealed that the client had a good level of personal growth, characterised by 1) increasing resilience towards her family situation, 2) increasing self-understanding of the importance of reducing the intensity of watching thriller films, 3) awareness of controlling herself and her emotions, and 4) gradually accepting the existing situation and hateful feelings.

Table 2
Codes and themes

Codes [TN=therapist notes; CI=client interview; TI=therapist interview; QS=questionnaire]	Themes
True love and care [TN; CI]; accepting situation and hated feeling [CI]; reduce thriller movies [CI]; self-control [TN]; reduce of sleep pills [CI]	Personal growth: resilience, self-understanding, and absence of substance
Cognitive therapy [TN; TI] PCT [TN; TI]; SEFT [TN; TI]	The dynamic of modalities, including person-centred therapy, cognitive therapy and SEFT (transpersonal counselling)
Idea father [CI]; counsellor's care [TN; CI]; genuineness of counsellor [CI]	Counsellor personality, including trust and modelling
Boundaries [CI; TI]; transference [TI]	Understanding of ethical boundaries
Spiritual [TN; CI; TI]; religion [TI]; close to the God [CI]	Transpersonal journey and religiosity

Moreover, the client began to realise the importance of reducing her use of medication for sleeping. Based on existing research, the growth of self-awareness in clients is an indication of a person's self-development, and this also happened to the client in this case (Hays, 2013, 2020).

The counsellor's modalities are also a supporting factor for the success of the counselling process. According to previous research, counsellors can use an integrated approach based on the client's needs (Bastemur et al., 2016). In this case, the relationship-building paradigm with a humanistic approach used by counsellors in initial counselling was able to foster a sense of self-confidence in the client (Cornelius-White & Carver, 2012; Stephen et al., 2011; Sutanti, 2020). The client, who initially did not realise that love existed, then gradually began to revise her perception. The counsellor was able to strengthen the client's thoughts through the REBT approach. Identification of demandingness and awfulising was done before disputing irrational thoughts that arose in the client (Mu'afa et al., 2020). The process of adjusting modalities was also carried out after the discovery of the client's difficult feelings towards her father. The anger and resentment felt by the client were helped to regulate using the SEFT. Through this long process of counselling, the client then found a better understanding of herself and the people around her. Based on the results of meta-analysis research, the approaches

considered to be the most effective include humanistic, cognitive and psychodynamic approaches, which in this study were also applied by the counsellor (Stiles et al., 2006).

An interesting finding from this research was the significant influence of the counsellor's personality on the client. Norcross (2010) argued that an essential counsellor quality lies less in the approach used and more in the counsellor's personal qualities. Norcross emphasised that the counsellor's personal qualities should be considered when recruiting counselling students. Consequently, the counsellor's personality can act as a catalyst in the counselling process, a topic of ongoing research with emerging findings (Delgadillo et al., 2020). For example, humanistic counselling research highlights that empathy, congruence, and unconditional positive regard are key parameters of counselling outcomes which reflect the counsellor-client relationship (Chen et al., 2022; Elliott et al., 2018; Farber et al., 2018; Sutanti, 2020). This indicates that stronger counsellor-client relationships lead to better therapeutic outcomes. These findings offer insights that challenge research concluding that counselling success depends solely on the approach used. The counsellor's identified qualities include genuine caring, authenticity, and a warm, idealised presence. From a psychodynamic perspective, the client's feelings, perceiving the counsellor as an ideal father figure, reflected a transference tendency (Høglend et al., 2012; Jenks & Oka, 2021). However, from a humanistic perspective, this enhances the therapeutic nature of the counsellor-client relationship (Cornelius-White & Carver, 2012).

In Eastern culture, distinguishing a professional relationship from a friendship between counsellor and client is sometimes difficult. Research showed that ethical boundaries between counsellors and clients are crucial for effective counselling (Herlihy & Corey, 2015; Jungers & Gregoire, 2016). Counsellors must follow an ethical framework to maintain professional relationships and ensure the counselling process is effective (Grace et al., 2020). The counsellor and the client demonstrated excellent awareness. The client realised that her perception of the ideal father figure did not change her way of thinking about professional counselling relationships. Similarly, counsellors established clear boundaries within the developing relationship. From a psychodynamic perspective, transference issues can be minimised by counsellors and clients maintaining strong ethical awareness (Werbart et al., 2022). A positive counsellor-client relationship develops into a therapeutic relationship maintained through a strong ethical understanding.

The inclusion of spiritual elements via the SEFT and the counsellor's exploration of the client's spiritual experiences had a significant impact. Understanding her experiences enabled the client to understand how she relates to herself, her environment, and Allah. The client reported that feeling close to Allah helped her to feel calmer. In Eastern culture, incorporating spiritual thoughts and practices was an essential

component of psychological healing (Asmawati et al., 2020). In general, the client's calmness was influenced by her feeling of closeness to Allah and the perceived meaning of her life (Mufid, 2020).

CONCLUSION

The case study conducted on the Muslim client found that the counselling process brought about positive changes, including increased self-development marked by enhanced self-understanding, increased resilience, and a reduced use of sleeping pills. The integrative approach including SEFT, PCT, CBT and REBT, had helped the client to have a good therapeutic relationship and strong bonding with the counsellor, before the client accepted her situation. The client was helped by reconstructing her thoughts to realise the extreme feeling of being unloved, which causes some tendency to hurt her father. To support comprehensive change, the client was helped to express her feelings of hatred mainly using the SEFT. The counsellor's character also apparently influenced the changes that occurred in the client. The client perceived the counsellor as examples and learnt about trust and care from the counsellor. The good client understanding in counselling also supports changes, such as a good understanding of boundaries, so that the counselling process remains objective. Another significant change experienced by the client was an increased transpersonal understanding of her relationship with Allah (the God).

Implications of the Study

This research found that supporting factors for the client change could include counsellor modalities, a good therapeutic relationship, good self-awareness of the client and the client's personal values. Although this study does not lead to generalisation, there are some important implications for counsellor training in which the integration of counselling approaches in helping clients becomes very necessary to be provided to students, considering the complexity of counselling problems that they may encounter. In addition, clinical supervision for counsellors becomes an important part of counsellor development, which will encourage the effectiveness of the counselling by upholding the ethical code and professional boundaries.

Limitation and Recommendation for Future Research

Even though this research identified five key elements in the counselling process with the client, other clients might experience different outcomes, even when the counselling approach was the same. Each individual is unique, and this study is limited to this context; therefore, similar studies with other participants are necessary. In-depth case studies can offer insights into how counselling should be tailored to individual differences. Although this study provides a comprehensive view from both client and counsellor perspectives, quantitative instruments to measure personal growth or standardised therapy outcomes remain necessary.

Such instruments can reinforce qualitative findings derived from the experiences of counsellors and clients.

Future research may use outcome measurement instruments such as subjective general well-being (Longo et al., 2017) or authenticity scale (Jungers & Gregoire, 2016; Wood et al., 2008), measured periodically during the counselling process, or even adapt international outcome instruments such as the Clinical Outcome in Routine Evaluation–Outcome Measure (CORE-OM) (Zeldovich & Alexandrowicz, 2019) to fit the Indonesian context. Studies involving a greater number of clients with similar tendencies are also important to measure the extent to which general factors influence the success of the counselling process.

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From Translation to Theory: Cross-cultural Adaptation and Validation of the Personal Brand Equity Scale for the Turkish Context

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ABSTRACT

The Personal Brand Equity Scale (PBES) has been developed initially in English to assess the brand equity of professionals; however, there is no equivalent measure in the literature in a different language that would allow cross-cultural studies. In this study, PBES was translated, adapted and validated into Turkish to make it suitable for use by Turkish-speaking professionals. With this adaptation, the scale now extends beyond its original linguistic context and becomes available for use in different cultural settings. To achieve this aim, a five-stage translation and adaptation process was implemented, and the structural consistency of the translated scale was tested with comprehensive psychometric tests. As a result of the research, the three dimensions of the original scale were retained in the Turkish translation. Due to weak and inconsistent psychometric performance, one item from each dimension was removed, resulting in a nine-item version of the Personal Brand Equity Scale-Turkish (PBES-TR). Psychometric test results indicated that the Turkish version demonstrated strong validity, reliability, and linguistic equivalence, confirming its suitability for use in research settings. The study's findings indicate that the PBES, originally developed in English, also functions as a valid instrument in a different linguistic and cultural setting. This result contributes to the literature on personal branding, identity, and cross-cultural measurement. Beyond these findings, the clarity and replicability of the method and process used also provide a usable path for further scale translations and adaptations in the fields of marketing and psychology.

Keywords: personal brand equity, scale adaptation, scale translation, Turkish, validation

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INTRODUCTION

In today's corporate environment, a professional's success depends on distinguishing themselves from their competitors in the face of intense competition, being visible both physically and digitally, and effectively managing their professional identity. All these elements come together through what is commonly referred to as "Personal Brand Management". Effective personal brand management requires a professional to consciously and systematically build their own identity and accurately project that identity to their target audience as her brand image.

In today's global environment, competition is no longer limited to companies; it has also reached the level of the professionals working within them. As a result, branding is no longer associated only with companies and their products. Individuals have also become brand agents. In this context, the perceived value of an individual's brand has become an indicator of their position in business life. As a result, understanding and assessing the perceived value of a professional's personal brand has become an important phenomenon for both practitioners, from company executives to human resources managers, and academics working in the fields of personnel psychology and marketing.

The importance of personal branding is rapidly growing between practitioners and academics. But studies related to the assessment of the brand equity between professionals are very scarce. The theoretical basis for the concept of personal brand equity is the extension of the traditional brand equity framework (Aaker, 1991; Keller, 1993) to the individual level, encompassing dimensions of brand attractiveness, differentiation, and brand recognition (Gorbatov et al., 2021).

The roots of the personal brand equity concept can be traced back to "Identity theory" (Burke & Stets, 2009) and "Signaling theory" (Spence, 1973). Both examine how individuals communicate their competence, trustworthiness, and authenticity in social and organisational contexts. The concept of personal brand equity forms a link between reputation management, self-concept, and social capital at the intersection of psychology and marketing.

The original Personal Brand Equity Scale was developed in English by Gorbatov et al. (2021). In the initial validation study of the PBES, the scale was tested on English-speaking participants recruited through crowdsourcing. This approach prevented the scale from being evaluated in a homogeneous sample that aligned with the cultural context of its developers, leaving uncertainty about the scale's cultural stability. In this study, translating, adapting, and validating the scale into Turkish also validated the developed personal brand equity scale in a homogeneous market. In a society like Türkiye, where collectivist norms prevail (Hofstede, 2001) and relational trust are paramount, validation is valuable for assessing whether different cultures can be assessed with the same measurement tool when applied in the original language

of the survey. In this context, a validated adaptation and translation of the Personal Brand Equity Scale offer the opportunity to examine the universality of the concept and its limitations across cultures.

Numerous studies exist in literature examining the concept of personal brand management from various perspectives. Only one measurement tool could be found developed specifically to measure personal brand equity. The accessibility of this measurement tool is limited to English-speaking audiences. This study aimed to fill this gap in literature. The original scale was meticulously translated and adapted into Turkish following a comprehensive, five-stage psychometric process, and its validity was confirmed.

The fundamental question guiding this research is whether the three-dimensional structure of the Personal Brand Equity Scale retains its structural stability across cultural contexts, particularly within a collectivist, high-context society such as Türkiye. The study's contribution to literature is multifaceted. The first of these dimensions is the expansion of the scale to a language other than English, thus increasing its generalisability. Another contribution is the provision of theoretical clarity by positioning the concept of personal brand equity within the framework of identity and personal brand management. Finally, it provides a replicable methodological procedure for future cross-cultural validation studies.

With these contributions to literature, the study strengthens the theoretical and methodological link between personal branding and psychology and provides evidence on how personal brand equity operates within different cultural self-presentation and value creation logics.

LITERATURE REVIEW AND METHODOLOGY

Theoretical Foundations of Personal Brand Equity

The theoretical roots of personal branding are based on psychology, specifically the concept of identity, and on economics and marketing, specifically the concept of brand. According to symbolic interactionism and identity theory (Goffman, 1956; Burke & Stets, 2009), individuals tend to manage how they are perceived in social settings. This process parallels the process of building brand equity. Individuals consciously manage qualities of attractiveness, distinctiveness, and recognisability to demonstrate their perceived value. Signaling theory (Spence, 1973) also explains how professionals convey their competence and credibility through observable cues. Social capital theory, on the other hand, focuses on how an individual's value is reinforced through networks, recognition, and individual resources. When viewed from a common perspective across all these theories, personal brand equity can be said to be "the market value attributed to an individual's self-constructed identity."

Personal branding was once explained more in abstract terms, such as how an individual presents themselves, their image, and the impression they make. Over time, this approach has shifted.

Now, personal branding is considered a measurable construct tied to an individual's perceived market value. This necessitates the use of multidimensional scales that capture psychological and communication dimensions to understand personal branding.

Evolution of the Concept in Empirical Studies

Personal branding refers to a combination of values (Kaputa, 2010), processes, and elements (Karaduman, 2022) that make a person unique by increasing self-worth (Thompson, 2010) and differentiation (Paprocki & Paprocki, 2009). While often treated as a marketing sub-discipline, it integrates managerial professionalism and psychological behavior. Khedher (2015) traces its lineage from Carnegie (1936) and Goffman (1956) to Peters (1997), who popularised the modern term. When personal branding first emerged, it was a concept primarily of interest to practitioners; over time, it evolved into a multifaceted field of research that integrates marketing, organisational behavior, and psychology.

Early empirical work (Labrecque et al., 2011; Karaduman, 2013; Chen, 2013) emphasised digital self-presentation, while later studies expanded into professional sectors such as librarianship (Baharuddin & Kassim, 2014), art and design (Kucharska & Mikolajczak, 2018), and politics (Armannsdottir et al., 2020). These studies consistently show that strong personal brands enhance perceived competence and employability. Gorbatov et al. (2018) provided the first systematic review, identifying brand authenticity and differentiation as key attributes, and Baccarella et al. (2019) linked Instagram identity cues to audience engagement.

In recent years, scholars have increasingly examined how digital platforms and networked environments mediate personal branding processes, transforming how individuals signal credibility and build brand equity. (Jacobson, 2020; Confente & Kucharska, 2021; Md Saad & Yaacob, 2021; Marin & Nilă, 2021; Gorbatov et al., 2021; Kucharska & Mendoza, 2022; Kongsri & Jaroenwanit, 2024; Kromalcas, Kraujalienė & Ževžikovas, 2024; Szántó, Papp-Váry & Radácsi, 2025).

Despite this progress, personal brand equity, the quantifiable perception of an individual's brand value, remains underexplored. Earlier works (Vitberg, 2010; Waller, 2020; Te'eni-Harari & Bareket-Bojmel, 2021) were context-specific and lacked unified measures. Gorbatov et al. (2021) introduced the Personal Brand Equity Scale (PBES), defining the construct as "an individual's perception of the value of one's personal brand derived from its appeal, differentiation, and recognition." Their three-dimension model demonstrated high reliability ($\alpha = 0.88–0.91$) across various industries. Its validation was confined to English-speaking samples, leaving its cross-cultural generalisability untested.

Conceptual Rationale for Cross-cultural Adaptation

Identity expression and reputation management vary across cultures (Hofstede, 2001). In

this context, verifying whether the PBES dimensions remain stable in a collectivist, high-context society like Türkiye is important both to demonstrate the scale's applicability in Türkiye and to provide insight into its generalisability to similar societies. In similar societies, norms of modesty, relational harmony, and indirect self-promotion may have a direct impact on personal brand dimensions. Therefore, adapting the PBES to Turkish serves the literature as a conceptual test of measurement equivalence rather than a mere linguistic translation, contributing to the global theory of personal branding.

In collectivist, high-context societies like Türkiye, self-presentation norms differ significantly from those in the individualistic, low-context environments where the PBES was first developed. The way individuals express their personal brands may be influenced by cultural norms such as modesty, relational harmony, indirect communication, and avoiding self-praise. In Türkiye and similar societies, these cultural dynamics may result in more subtle and implicit operation of personal brand equity dimensions. This raises the question of whether the scale's dimensions remain valid in an environment where assertive identity signaling is less prevalent.

These cultural nuances make Türkiye an analytically valuable setting for assessing the cultural robustness of the PBES. Therefore, the translation and adaptation conducted in this study also serves as a conceptual test of cross-cultural measurement equivalence.

METHODOLOGY

In this study, the Personal Brand Equity Scale, originally developed in English, was translated, adapted, and validated into Turkish using a quantitative approach. For this purpose, the process proposed by Sousa & Rojjanasrirat (2011) was reconsidered and adapted. This adaptation considered the guidelines of the International Test Commission (2017) and the procedures outlined by Hambleton and Patsula (1999), Wild et al. (2005), and Heggestad et al. (2019). The overall process consisted of five stages: (1) forward translation, (2) blind back-translation, (3) content clarity and validity assessment, (4) bilingual pre-psychometric testing, and (5) full psychometric validation.

In the first stage, the scale was translated from English into Turkish by two translators, one with expertise in linguistics and the other in the subject area, following the principles described by Brislin (1986). In the second stage, two independent experts translated the Turkish version back into English to ensure semantic consistency (Wild et al., 2005). During the third stage, content clarity and content validity were evaluated with 25 native speakers and 12 subject-matter experts, in line with the procedures suggested by Lawshe (1975) and Polit et al. (2007). In the fourth stage, sixty bilingual participants completed both versions of the scale, allowing for the assessment of cross-language equivalence (Ross & Willson, 2017). Finally, in the last stage, exploratory and confirmatory factor

analyses (Hair et al., 2010; Kline, 2015) were conducted using data collected from a sample of 438 professionals.

Population and Sampling

In determining the sample size described above, the target population of the study was defined as "professional managers living in Türkiye." Care was taken to ensure that the sample included managers predominantly from sectors in which personal branding is highly salient, such as business, academia, healthcare, and communication. The final sample exceeded the minimum requirement of 385 participants at the 95 percent confidence level. In addition, the guideline for having at least five respondents per item, as recommended by Boateng et al. (2018) and DeVellis & Thorpe (2021), was also satisfied.

Instrument and Item Rationale

The original scale consists of 12 items, each rated on a five-point Likert scale, organised into three dimensions with four items per dimension. These three dimensions of the PBES are Appeal, Differentiation, and Recognition (Gorbatov et al., 2021). The dimensions reflect the logic of brand equity theory and align with identity- and signaling-based processes.

Item Retention and Data-driven Refinement

No items were removed a priori; item reduction occurred data-driven, post-analysis and is explained subsequently.

Statistical Analyses

KMO and Bartlett tests confirmed sampling adequacy. Oblique rotation was used due to correlated dimensions. Model fit was evaluated via χ^2/df, GFI, CFI, TLI, NFI, RMSEA, and SRMR. Convergent validity was verified through CR $\geq .70$ and AVE $\geq .50$; discriminant validity via Fornell-Larcker and HTMT ($< .85$). Reliability and composite measures supported internal consistency.

Ethical Considerations

Participation was voluntary and anonymous; respondents were informed of research aims, and procedures complied with ethical standards for studies involving human participants. Additionally, ethics committee permission was obtained for the data collection process within the scope of the study.

RESULTS AND DISCUSSION

Results

This study aims to translate, adapt, and validate the Personal Brand Equity scale into Turkish. Table 1 shows the five-stage process developed based on the method conceptualised by Sousa & Rojjanasrirat (2011).

Forward Translation (Phase 1)

Two translation teams were established, each consisting of two guides, one of whom was an expert in the marketing field. The original scale (SL1) was translated into Turkish by two teams, and these translations were named TL1 and TL2.

Table 1
Five-stage scale translation, adaptation, and validation process

Phase	Input	Process	Outcome	Participants
Forward Translation	Original Scale-OS	Translation of the original scale into the target language	Translated Scale 1-TS1 Translated Scale 2-TS2	Translator 1 (Target language expert) Translator 2 (Expert in the field of the scale) Or Translation Team 1 (Two translators who are experts in the target language and scale Translation Team 2 (Two translators who are experts in the target language and scale
	TS1 and TS2	Comparison of both translations	Comparison Report	Translator/Translation Team 3
	TS1, TS2 and comparison report	Removing inconsistencies and creating the first translated Version	FTS	Translator/Translation Team 1 Translator/Translation Team 2 Translator/Translation Team 3 Researchers
Blind Back-Translation	FTS	Translation of FTS from the target language to the original	BFTS1 BFTS2	Translator A (Original language expert) Translator B (Expert in the field of the scale) or Translation Team A and B
	BFTS1, BFTS2, OS, FTS	Comparison of all translations and evaluations of all items and preparing a pre-final Version of the translated scale	PFTS	Translators/Translation Teams 1,2,3 Translators/Translation Teams A, B Researchers At least one field expert
Content Clarity and Validity	Content Clarity Test of PFTS	Pre-Final Pilot Testing for Content Clarity	Content Clarity Results	10-40 target language-speaking participants
	Content Validity Test of PFTS	Expert Panel Study for Content Validity	Content Validity Results	Preferably, at least five experts in the field
Bilingual Preliminary Psychometric Testing	PFTS Shuffled OS	Scale in both languages will be tested	Repeated measures T-Test results	At least five bilingual (both original and target language) participants per item
Pre-Final Full Psychometric Testing	PFTS	The internal consistency reliability (or sensitivity and specificity), stability reliability, homogeneity, construct validity, criterion validity, factor structure, and model fit of the instrument are determined.	Exploratory Factor Analysis Results Explanatory Factor Analysis	Full sample from the target population

Source: Modified and developed by Sousa and Rojjanasrirat (2011)

Subsequently, a third translator compared TL1 and TL2 with SL. Then, in a meeting held with the participation of translators and researchers, the inconsistencies were resolved, and the first translation of the scale, PI-TL, was developed.

Blind Back-translation (Phase 2)

The scale was translated into its original language by teams consisting of two bilingual guides, one of whom was knowledgeable in the field of marketing (B-TL1 and B-TL2). Again, translators and researchers came together to evaluate the similarity of items in terms of vocabulary, sentence structure, meaning, and relevance. As a result of this stage, the pre-final Version of the scale P-FTL was developed.

Content Clarity and Validity (Phase 3)

Pre-final Pilot Testing for Content Clarity (Phase 3.1)

In this phase, content clarity was tested with a sample of 25 native Turkish speakers. Participants were presented with the options of (1) not clear, (2) needs revision, (3) clear but requires minor revision, and (4) very clear for each scale item. The resulting item and scale clarity results are in Table 2.

Expert Panel Study for Content Validity (Phase 3.2)

Content validity can be defined as the ability of the items to reflect the variables of the construct (Zamanzadeh et al., 2015). CVR was developed by Lawshe (1975) and can be calculated by using the formula $CVR=(N_e - N/2)/(N/2)$.

At this stage of the study, the content validity of the scale was assessed through an online expert panel. For this, a panel of twelve experts was formed. Neutral responses are not desired in the evaluation made with this online expert panel (Shrotryia & Dhanda, 2019). Therefore, CVI was evaluated using a four-point scale. Probability of Chance Agreement (PC): The probability of chance agreement is calculated by the formula $Pc = [N! / A! (N – A)!] \times 0.5^N$, and the Kappa Coefficient is calculated by the formula $K= (I\text{-}CVI - P_C) / (1- P_C)$. Results can be seen in Table 3.

Since CVR for all items is higher than 0.56 (Lawshe, 1975), scale items can be accepted as valid. A scale with excellent content validity should have I-CVIs of 0.78 or higher, S-CVI/UA, and S-CVI/Ave of 0.8 and 0.9 or higher (Shi et al., 2012). Since Polit, Beck, and Owen argued in their study that the S-CVI/UA approach is overly stringent (Polit et al., 2007), conservative (Zamanzadeh et al., 2015) and provides better results with a small number of panelists, with a relatively large number of experts as 12 S-CVI/UA approach doesn't provide proper results.

Bilingual Preliminary Psychometric Testing (Phase 4)

P-FTL was tested by using a bilingual sample (60 international students, all speaking both Turkish and English). The sample size was calculated to be over five people for each item.

Table 2
Item and scale clarity

Dimension	Item	Number of the Participants	Item Clarity Rating Average (ICR-A)	Item Clarity Rating Percentage	Total Clarity Rating Average (TCR-A)	Total Clarity Rating Percentage
Brand Appeal	1	25	3.96	0.99	3.92	0.98
	2	25	3.96	0.99		
	3	25	3.8	0.95		
	4	25	3.96	0.99		
Brand Differentiation	5	25	3.96	0.99	3.95	0.9875
	6	25	3.92	0.98		
	7	25	3.92	0.98		
	8	25	4	1		
Brand Recognition	9	25	4	1	3.93	0.9825
	10	25	3.92	0.98		
	11	25	3.88	0.97		
	12	25	3.92	0.98		

Source: Authors' own work

Table 3
Content validity of the measure

Dimension	Item	Quite & Highly Relevant	Not & Somewhat Relevant	I-CVI	P_C	S-CVI/A	S-CVI/UA	Kappa Coef.	CVR	Interpretation
Brand Appeal	1	10	2	0.83	0.09375	0.9575	0.75	0.81	0.67	Appropriate
	2	12	-	1	0.015625			1	1	Appropriate
	3	12	-	1	0.015625			1	1	Appropriate
	4	12	-	1	0.015625			1	1	Appropriate
Brand Differentiation	5	12	-	1	0.015625	0.9575	0.75	1	1	Appropriate
	6	12	-	1	0.015625			1	1	Appropriate
	7	12	-	1	0.015625			1	1	Appropriate
	8	10	2	0.83	0.09375			0.81	0.67	Appropriate
Brand Recognition	9	12	-	1	0.015625	0.915	0.50	1	1	Appropriate
	10	12	-	1	0.015625			1	1	Appropriate
	11	10	2	0.83	0.09375			0.81	0.67	Appropriate
	12	10	2	0.83				0.81	0.67	Appropriate

Source: Authors' own work

Participants filled out the P-FTL, and then the original scale (SL) was given in a shuffled order. Thus, conceptual, semantic, content, and structural equivalence were tested by comparing P-FTL with SL. To conduct a repeated measure T-test (Ross & Willson, 2017), the items in the two groups were placed in the same order and compared using the Paired-Samples T-test. Results can be seen in Table 4.

H1: There is a significant relationship between P-FTL and SL.

The H1 hypothesis was accepted as the significance value for each pair of questions was greater than 0.015, as seen in Table 4. In addition, the closeness of the mean values for each pair reveals that the answers are very close to the scale versions in both languages. Since none of the pairs showed significant differences ($p > .05$), linguistic equivalence was supported.

Pre-Final Full Psychometric Testing (Phase 5)

At this final stage of the study, the full psychometric test of the scale, which has now become pre-final, was performed. The PBES, translated into the Turkish Language, is aimed at professionals in business life. For this reason, the research population was determined to be "Turkish-speaking professionals," and the sample size at the 95% confidence interval should be 385 or more. The sample was selected using the exponential non-discriminative snowball sampling method. Questionnaire forms prepared using Google Forms were sent to the participants online, and 438 valid returns were received.

The scale validation process starts with Exploratory Factor Analysis (EFA), followed by selecting and interpreting subscales based on the preferred factor solution and calculating internal consistency per subscale using Cronbach's α (Dima, 2018). The emerging factor structure is expected to be compatible with the scale's factor structure in the original language.

In Table 5, as a prerequisite to Exploratory Factor Analysis (EFA), Kaiser-Meyer-Olkin (KMO) and Barlett's test have been implemented to test the adequacy of the sample size.

Since the KMO Value was 0.892, it was concluded that the sample size was sufficient for exploratory factor analysis. As a second prerequisite, Bartlett's Test of Sphericity was implemented. As a result, a chi-square with a p-value found,000 < .05, an acceptable value for EFA. As a third prerequisite, the anti-image correlation matrix which can be seen in Table 6 has been checked, and it was seen that high values are in the diagonal of the matrix and low values out of the diagonal.

After it was determined that the sample data were suitable for exploratory factor analysis (EFA), the analysis was performed. EFA is a widely used statistical technique for identifying factors or dimensions underlying variables or items. In the context of measurement scales, EFA is used to identify the underlying constructs the scale is intended to measure.

Table 4
Paired-samples T-test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1	-.033	.181	.023	-.080	.013	-1.426	59	.159
Pair 2	.017	.129	.017	-.017	.050	1.000	59	.321
Pair 3	-.017	.129	.017	-.050	.017	-1.000	59	.321
Pair 4	.000	.184	.024	-.048	.048	.000	59	1.000
Pair 5	.017	.291	.038	-.058	.092	.444	59	.659
Pair 6	-.033	.181	.023	-.080	.013	-1.426	59	.159
Pair 7	-.017	.129	.017	-.050	.017	-1.000	59	.321
Pair 8	-.050	.220	.028	-.107	.007	-1.762	59	.083
Pair 9	.083	.334	.043	-.003	.170	1.932	59	.058
Pair 10	.000	.260	.034	-.067	.067	.000	59	1.000
Pair 11	.017	.225	.029	-.041	.075	.574	59	.568
Pair 12	.000	.184	.024	-.048	.048	.000	59	1.000

Source: Authors' own work

Table 5
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,892
Bartlett's Test of Sphericity	Approx. Chi-Square	5546,639
	df	66
	Sig.	,000

Source: Authors' own work

Table 6
Anti-image correlation matrix

	Kmc1	Kmc2	Kmc3	Kmc4	Kmf1	Kmf2	Kmf3	Kmf4	Kmt1	Kmt2	Kmt3	Kmt4
Kmc1	.934[a]	-.026	-.404	.055	-.078	.005	-.079	-.024	-.135	.104	.061	-.017
Kmc2	-.026	.919[a]	-.292	-.232	-.073	-.295	.274	.035	.033	.000	-.132	-.146
Kmc3	-.404	-.292	.902[a]	-.302	-.146	.032	.100	-.115	.116	-.113	.092	-.100
Kmc4	.055	-.232	-.302	.908[a]	-.041	.172	-.380	.031	-.141	.157	.017	-.201
Kmf1	-.078	-.073	-.146	-.041	.958[a]	-.239	-.126	-.317	.022	-.055	.009	-.029
Kmf2	.005	-.295	.032	.172	-.239	.850[a]	-.711	-.268	.197	-.227	-.028	.026
Kmf3	-.079	.274	.100	-.380	-.126	-.711	.839[a]	.054	-.159	.179	-.057	-.018
Kmf4	-.024	.035	-.115	.031	-.317	-.268	.054	.933[a]	-.137	.171	.064	-.040
Kmt1	-.135	.033	.116	-.141	.022	.197	-.159	-.137	.800[a]	-.899	-.133	-.008
Kmt2	.104	.000	-.113	.157	-.055	-.227	.179	.171	-.899	.789[a]	-.086	-.193
Kmt3	.061	-.132	.092	.017	.009	-.028	-.057	.064	-.133	-.086	.969[a]	-.179
Kmt4	-.017	-.146	-.100	-.201	-.029	.026	-.018	-.040	-.008	-.193	-.179	.969[a]

a. Measures of Sampling Adequacy (MSA)

Source: Authors' own work

As seen in Table 7, 81.716% of the total variance in three dimensions was explained in parallel with the original scale.

In Table 8, the questions numbered KMT (1-4), KMF (1-4), and KMC (1-4) are grouped in their own sub-dimensions, precisely the same as the original scale. Confirmatory Factor Analysis (CFA) aims to determine whether the observed variables measure the same underlying construct by examining the correlations between these observable variables. When high correlations are found, it provides evidence that the measurement instruments are valid, indicating that they accurately measure the intended construct.

The AMOS 20.0 program evaluated the effectiveness of each structure. As the AMOS software cannot handle missing data, frequency analysis in the SPSS 21.0 software was initially employed to determine whether any data were missing. The identified missing data were then replaced using the Maximum Likelihood Approach, considered the most appropriate method (Allison, 2003).

In most Structural Equation Modeling (SEM) studies, various standard fit indices are used to evaluate model adequacy. These indices include absolute fit indices, such as $\chi 2$, GFI, RMSEA, RMR, SRMR, and Normalised $\chi 2$; incremental fit indices, such as NFI, TLI, CFI, and RFI; and parsimony fit indices, such as AGFI and PNFI.

Hair et al. (2010) suggest that at least one absolute fit index and one incremental fit index should be reported together. This study used $\chi 2$, standardised $\chi 2$, GFI, RMSEA, and RMR as absolute fit indices and NFI, TLI, and CFI as incremental fit indices.

According to the recommended fit indices (Kline, 2005), the goodness-of-fit for the measurement model as a whole can be expressed as follows: $\chi 2$=86,888 (22), p=.000. The normalised $\chi 2$ of 3.94 is within acceptable limits, but these results are consistent with a good fit in large samples (Kline, 2005). RMR=.038; GFI= .953; CFI= .983; NFI= .977; TLI=. 971 indicates a good level of fit. The RMSEA=.082 falls within an acceptable range of fit. As seen in Figure 1, these fit indices indicate that the model fits the data well.

The initial order of fit indices did not meet the necessary standards, prompting the utilisation of second-order confirmatory factor analysis. Due to the considerable amount of interaction between the assertions (kmt4, kmc4, and kmf3) and the questions in other dimensions, these assertions were excluded from the study.

Although three items from the Turkish scale were omitted for statistical reasons, this situation is clearly consistent when evaluated conceptually and culturally. The phrase "My professional strengths are clear" from the attractiveness item does not resonate in a modesty-oriented cultural context like Türkiye. The item removed from the differentiation dimension is "I provide greater professional value compared to others." The explicit comparison contained in this item does not resonate in collectivist societies. Such societies tend to soften their claims of superiority.

Table 7
Total variance explained

Comp.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Var.	Cum. %	Total	% of Var.	Cum. %	Total
1	7,454	62,116	62,116	7,454	62,116	62,116	5,476
2	1,575	13,129	75,245	1,575	13,129	75,245	6,150
3	,777	6,472	81,716	,777	6,472	81,716	6,032
4	,498	4,151	85,867				
5	,396	3,300	89,167				
6	,334	2,787	91,954				
7	,275	2,289	94,244				
8	,222	1,852	96,096				
9	,204	1,696	97,792				
10	,162	1,349	99,140				
11	,073	,608	99,748				
12	,030	,252	100,000				

Extraction Method: Principal Component Analysis

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance

Source: Authors' own work

Table 8
Pattern matrix

	Component		
	1	2	3
Kmt2	,993		
Kmt1	,980		
Kmt3	,926		
Kmt4	,646		
Kmf3		,974	
Kmf2		,932	
Kmf4		,888	
Kmf1		,749	
Kmc3			,988
Kmc1			,894
Kmc2			,732
Kmc4			,579

Extraction Method: Principal Component Analysis
Rotation Method: Promax with Kaiser Normalisation [a]

a. Rotation converged in 5 iterations

Source: Authors' own work

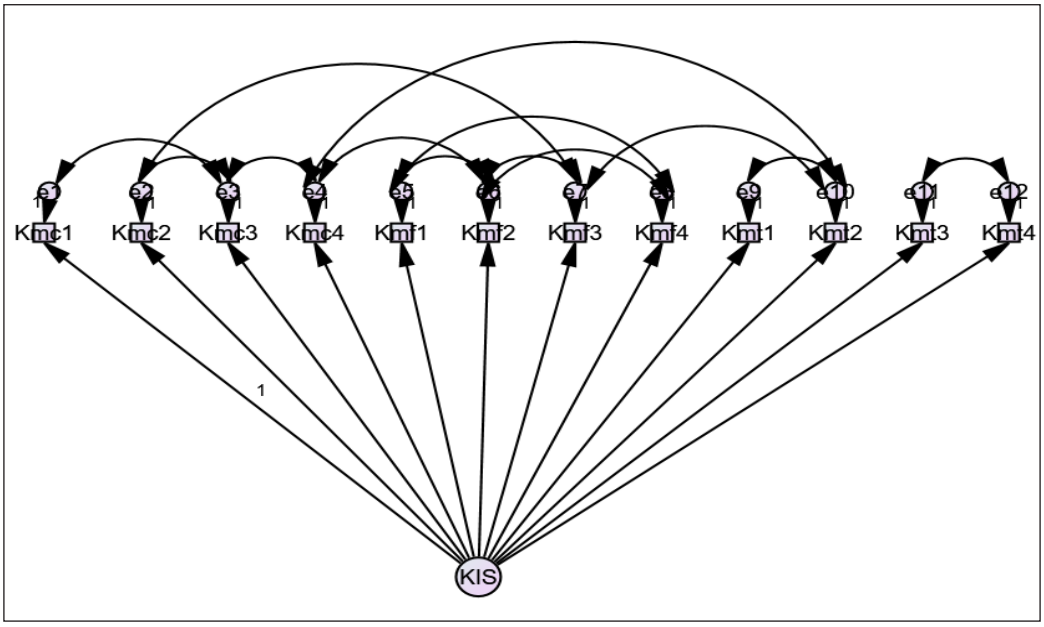

Figure 1. First-order confirmatory factor analysis
Source: Authors' own work

Similarly, the item "I am often recommended to others," removed from the recognition dimension, contradicts cultural dynamics. This clearly demonstrates why the three removed items do not fit.

The results of the second-order confirmatory factor analysis are presented in Figure 2, showing the revised model after excluding items kmt4, kmc4, and kmf3. The fit of the measurement model was evaluated using various fit indices. The chi-square value was 86,888 with 22 degrees of freedom, and the normed chi-square value was 3.94 with a p-value of .000. Although the chi-square value was not ideal, the other fit indices in Figure 2 indicated that the model fit was acceptable.

The SRMR value was 0.0336, which indicated a good fit. The RMSEA value was 0.082, which also fell within an acceptable range. The acceptable range for other fit indices was as follows: GFI = 0.953, CFI = 0.983, NFI = 0.977, TLI = 0.971, and IFI = 0.983.

When these indicators are evaluated together, the model demonstrates a good fit with the data, despite the slightly higher chi-square value. Based on the findings of second-order confirmatory factor analysis, the PBES-TR consists of three dimensions, each with three questions, consistent with the original scale.

Discussion

The findings of this study confirm that personal brand equity is a construct based on conceptual foundations such as identity theory, signaling theory, and brand equity, and that it resonates across cultures.

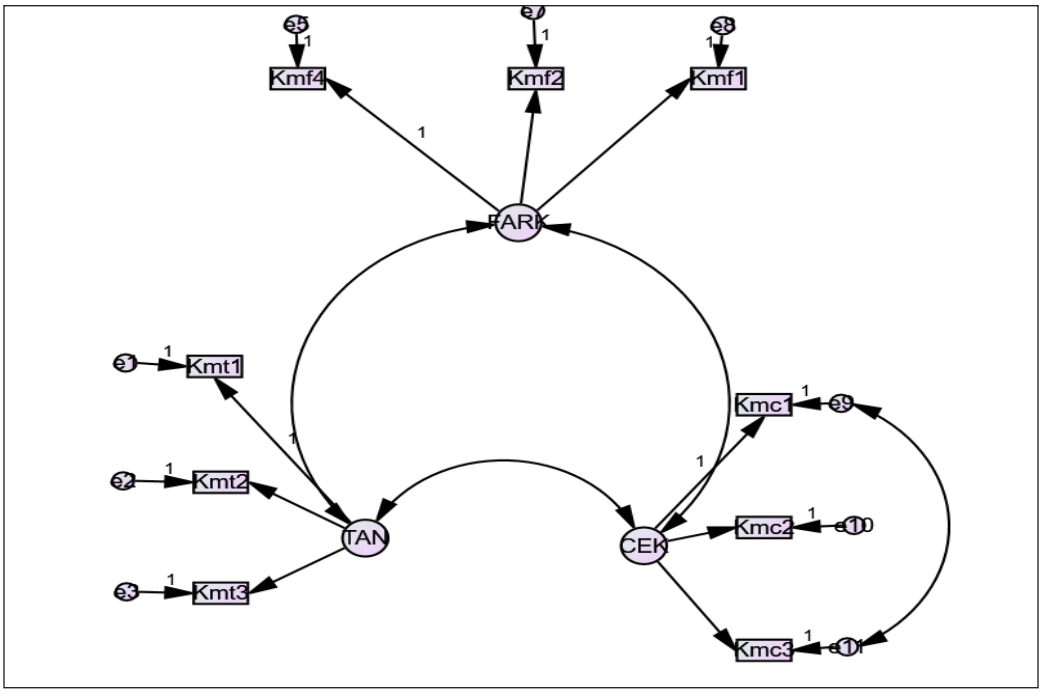

Figure 2. Second-order confirmatory factor analysis
Source: Authors' own work

The preservation of all three dimensions of the original scale in the Turkish adaptation demonstrates that the perception of personal brand equity is not culture-specific. While this could be interpreted as a universality of the concept, variations in factor loadings reflect cultural differences.

From a theoretical perspective, the results support the view that individual identity functions like a brand. This is consistent with the fundamental assumptions of signaling theory (Spence, 1973) and social capital theory (Bourdieu, 1986).

These findings also resonate with earlier discussions in the personal branding literature, particularly the view that the "visibility, differentiation, recognition" structure reflects a general cognitive process rather than a culture-bound pattern. The fact that the three-factor model remained largely intact in the Turkish sample suggests that individuals may rely on similar mental shortcuts when forming impressions of professional value, even in contexts where self-presentation norms differ. At the same time, the weaker performance of the three removed items indicates that certain aspects of personal brand signaling remain sensitive to cultural expectations. This balance between stability and cultural nuance offers a more refined understanding of how personal brand equity operates across contexts.

CONCLUSION

As a result of the study, the PBES, originally in English and translated and adapted into Turkish, was validated through a series of psychometric analyses. The study followed a five-stage process derived from an examination of best practices. As a result, all three dimensions of the original scale were retained, while three items were removed from the 12-item scale to create the 9-item PBES-TR.

It is assessed that this study makes a significant contribution to marketing and psychology, as well as to management and communication literature. This validation demonstrates that the three-dimensional construct of personal brand equity—appeal, differentiation, and recognition—operates consistently with the principles of brand equity and identity-signaling theories across cultures.

Theoretical Implications

The most fundamental theoretical contribution in this study is the standardisation of a successful scale translation and adaptation process. As is known and stated in the research, the importance of the personal branding process is increasing day by day, and it finds a detailed place in both marketing and psychology literature. The scale developed in this field will have wide use.

With the translation of the scale, Turkish-speaking individuals have also been included in this area of use. This scale translation and adaptation study confirmed the conceptual stability of the PBES across different cultural contexts. This broadened the scale's scope of application and enhanced its value. Scales adapted for different cultural contexts contribute to theory by facilitating cross-cultural studies.

Practical Implications

The study has some important practical implications. The translation and adaptation conducted within the scope of the study expanded the geographic boundaries within which the PBES can be applied. The scale is used not only in academic studies but also in measuring the brand equity of professionals. The translated and adapted scale also serves as a self-assessment tool for professionals in Turkish-speaking regions.

In addition, organisations and consultants may apply the scale for leadership development, personal marketing, and talent management purposes. The scale may also assist universities and training institutions in designing programs that help individuals manage and communicate their personal brands more effectively.

Another practical contribution is related to the standardised process in the scale translation method. This process has been proposed using previous good practices and developed processes and is a roadmap for the scale's translation and adaptation.

Limitations and Future Directions

A translated version of the PBES is evaluated as bringing an intercultural perspective to the concept of personal brand equity. In future studies, the scale from both languages can be used to evaluate and compare

different cultures. In this respect, the study will contribute significantly to literature, it has some limitations.

Firstly, the study was limited to only Turkish-speaking samples, which may not be representative of the broader population. Therefore, the generalisability of the findings to other languages or cultures should be treated with caution. Additionally, the study did not examine the test-retest reliability of the scale, which could provide further insight into the stability of the results over time. Finally, the study did not investigate the criterion validity of the scale by comparing it with other measures of personal brand equity, which could provide further support for its construct validity. Despite all the limitations of this study, considering both the methodology and the results, it is considered that it contributes to future scale translation and adaptation studies and personal brand management literature.

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Generational Cohort Shifts in Post-COVID-19 Purchasing Patterns: Anxiety-driver Consumption

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ABSTRACT

This study aims to deepen the understanding of post-COVID-19 consumer purchasing behaviour by analysing trends and the impact of pandemic-induced anxiety across different generational cohorts in Malaysia. The study focuses on multiple generations to examine how shared crisis experiences, socio-economic positions, and collective anxieties shaped distinct patterns of consumption behaviour during the COVID-19 pandemic and endemic phases. The research investigates behavioural shifts observed during two key periods: the pandemic phase (March 2020-March 2022) and the endemic phase (from April 2022 onwards). A quantitative survey involving 883 respondents was conducted across selected regions in Malaysia, targeting the Silent Generation, Baby Boomers, Generation X, Generation Y, and Generation C (Corona Generation). One-way ANOVA and multiple regression analyses were employed to assess the influence of anxiety-related stimuli, specifically health anxiety and economic anxiety, on consumer behaviour. The findings indicate both significant differences and notable similarities across generations in purchasing patterns, reflecting broader social and behavioural changes resulting from the COVID-19 crisis. Younger generations demonstrated stronger adaptation toward digital and anxiety-driven consumption, while older generations exhibited greater health-related concerns and essential purchasing behaviour. The study contributes empirical evidence to Generational Cohort Theory and provides sociological insights into how collective crises influence generational behaviour, consumption practices, and social adaptation in post-pandemic society. The findings offer important implications for researchers, policymakers, and businesses in understanding evolving consumer and social dynamics in the post-COVID-19 era.

Keywords: COVID-19, generational cohort, generational consumption, purchasing pattern, sociology

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INTRODUCTION

The COVID-19 pandemic has altered global cultures and economies, causing disruptions across various areas. Since the pandemic turned into a global health matter, it exerted a deep influence on consumer behaviour via the transformation of shopping habits, spending priorities, and decision-making processes. As the world shifts from crisis management toward economic recuperation, multiple pivotal patterns materialise. Telecommuting elevates, digitisation expedites, online commerce broadens, wellness vigilance escalates, voyaging undergoes alteration, provision networks acclimate, psychological well-being recognition heightens, and administrations engage further. These shifts have had a prominent impact upon consumer habits because organisations and individuals must navigate a transforming commercial landscape (Donthu & Gustafsson, 2020; Pantano et al., 2020).

More than any other recent disruption, COVID-19 has changed the way people communicate, shop, and work (Despin, 2020). According to a Nielsen Company analysis, consumer behaviour is globally shifting. More focus is put on basic needs like cleaning supplies, hygiene, and food. Consumers strongly preferred to purchase necessities, and they preferred health plus safety products like protective gear and sanitisation products (Esposti et al., 2021). Furthermore, research also shows that economic uncertainty and job insecurity during that pandemic increased consumer anxiety because it altered purchase habits at that time (Chirumbolo et al., 2021).

Understanding consumer purchasing behaviour is vital because it eases prosperous market segmentation. Because attitudes, tastes, and consumption patterns are shared, generational cohort theory represents a valuable model for evaluating consumer behaviour because they're formed by formative experiences (Marjanen et al., 2019; Parment, 2013). Earlier investigations evince that generational cohorts mould dispositions, preferences, and purchasing habits, and such sway renders these cohorts a valuable instrument of division when scrutinising consumeristic patterns emergent after the pandemic (Chaney et al., 2017). This investigation employs the generational cohort perspective to scrutinise shifts in consumer conduct. These changes are examined across five meaningful generations: Generation Corona (Gen C), Generation Y, Generation X, Baby Boomers, and the Silent Generation.

The major goal of this research is to probe into the impact of COVID-19 upon consumer buying behaviour among differing generational cohorts during two critical phases that include the pandemic phase (March 2020-March 2022) and the endemic phase (April 2022 onwards). Aspiring to furnish perceptions into consumer behavioural adaptations, this investigation concentrates on the Malaysian population given pandemic-related apprehension. Companies, advertisers, and lawmakers should comprehend these variations to formulate tactics. They must retain existing consumers, coupled with the acquisition of fresh ones within a post-pandemic economy.

This study augments the broader discourse on consumer behaviour, notably amid periods of worldwide disruption, for it furnishes information about how disparate age cohorts react to crises and transform their purchasing habits.

LITERATURE REVIEW

Generational Cohort Theory

Generational cohorts refer to groups having mutual, formative experiences shaped by pivotal historical events, individuals born during a similar timeframe (Ryder, 1985). Generational Cohort Theory (GCT) posits an assertion. Distinct values arise from collective experiences. Furthermore, predilections and operations linking collectives are configured through those situations (Schewe & Noble, 2000; Ting & de Run, 2015). These "cohort effects" influence consumer choices and existence. These effects are caused by socio-economic transformations, technological innovations, or political disruptions (Sessa et al., 2007). GCT has been extensively employed within consumer behaviour inquiries since it illuminates generational differences concerning brand outlook, buying customs, and media usage (Carpenter et al., 2012; Shulga et al., 2018).

GCT advises research within education, politics, and social sciences, exceeding marketing. It further yields perspectives into learning preferences, activism, as well as generational engagement (Davis, 2004; Oblinger, 2003). Since this inquiry is contingent on such preparatory analysis, it utilises GCT to examine the origins of Generation Corona, a demographic which experienced a shaping of their consumer behaviour amid the COVID-19 pandemic. This investigation yields perceptions into shopping behaviours after the pandemic, with marketing ramifications envisioned thereby. This happens via contrasting this demographic against former groupings like Generations Y, X, Boomers, and the Silent Generation and policymaking in parallel with commercial acclimation.

The Change in Consumer Behaviour and the Theory of Anxiety

Behavioural economics and consumer psychology investigations have determined disparate influences act upon consumer behaviour, influences derived from diverse psychological elements (Di Crosta et al., 2021). Specific, economic, cognitive, environmental, and social aspects shape consumer actions through an elaborate convergence (Di Crosta et al., 2021). The investigation of consumer behaviour is defined as the study of individuals or of groups as they procure, utilise, and assess goods and services. It also examines how they discard those items to satisfy their requirements.

Nonetheless, during instances where volatility arises, or precariousness takes hold, like when pandemics emerge, when economies decline, or when environmental disasters transpire, psychological components, especially trepidation and unease, might mould consumer decisions with amplification. The Theory of Anxiety finds its origins within psychological and behavioural economics literature.

Elevated apprehension degrees do generate hazard-avoidant actions since consumers stress security, soundness, and important requirements instead of optional consumption (Di Crosta et al., 2021). This modification manifests in various ways, including heightened accretion behaviour, brand devotion lessening, and sensitivity concerning price and promotions increasing.

For example, shared uncertainty coupled with dread spurred panic buying and stockpiling vital goods amid the COVID-19 pandemic. Consumers acted for the mitigation of impending future perils. Further exigencies have manifested analogous conduct modifications. As an example, economic downturns depict the way that trepidation motivates options, resulting in individuals reducing lavish spending and favouring frugal, important purchases.

Customer responses remain deeply shaped by trepidation, and Anxiety Theory gets incorporated into this consumer behaviour examination. Customer preferences, purchasing actions, and brand interactions throughout the post-pandemic marketplace are shaped through options compelled by uncertainty.

Sociological Perspectives on Consumer Behaviour During Crisis

Consumer behaviour during periods of crisis can be understood through the sociology of consumerism and economic behaviour. From a sociological perspective, consumption reflects broader social practices shaped by cultural values, collective identities, and social anxieties rather than purely economic decisions (Bauman, 2007; Slater, 1997). The sociology of economic behaviour further explains that purchasing actions are socially embedded and influenced by social structures, collective experiences, and economic uncertainty (Granovetter, 1985). During the COVID-19 pandemic, consumer behaviour was strongly shaped by fear, uncertainty, and changing social norms, resulting in increased digital consumption, health-oriented purchasing, and precautionary spending across generations (Eger et al., 2021; Laato et al., 2020). Therefore, examining post-pandemic consumer behaviour through a sociological lens provides a deeper understanding of how crises reshape social behaviour and generational adaptation within society.

Consumers' Behaviour During the COVID-19 Pandemic

Consumer behaviour has transformed greatly. This modification was brought about by the COVID-19 pandemic in conjunction with containment measures. Rajagopal (2020) depicted the consumer behaviour process in this manner. Need fulfilment involves individuals or collectives that obtain, utilise, and discard merchandise and amenities. Economic, psychological, and social influences shape consumer behaviour due to this process. Global pandemics typically increase these determinants, thereby initiating prompt modifications to consumer behaviours (Leach, 1994).

Since 2020, consumers have manifested greater circumspection, and they prioritise

important commodities, virtual commerce, and domestic provisions (Eger et al., 2021). Firms should overhaul consumer interactions and value tenets because this attitudinal alteration accentuates (East et al., 2016). Lockdowns and mobility restrictions prompted expanded utilisation of online platforms because digital tools presented secure contactless substitutes (Laato et al., 2020; Pantano et al., 2020).

Ferraresi (2020) stressed alterations to social customs and temporal awareness, and Sheth (2020) observed realistic acquisitions spurred by extended constraint. Heightened anxiety, economic spending, and patronage of local brands were reported by McKinsey and Company (2020). To stay competitive, businesses must embrace digital transformation, remote models, and data-driven adaptability (Lehmann & Beckmann, 2024). They should orient themselves toward reacting to changing consumer expectations and impending disruptions.

Cross-cultural Evidence on Generational Consumer Behaviour During COVID-19

Empirical studies across various cultural and regional contexts consistently demonstrate that the COVID-19 pandemic significantly altered consumer behaviour across generational cohorts. In Europe, Eger et al. (2021) found that Generation Y and Generation Z accelerated their adoption of e-commerce, online food delivery, and digital payment systems during lockdowns, while older cohorts displayed more cautious and necessity-driven purchasing behaviour. Similarly, studies in the United States reported that Millennials and younger consumers prioritised hygiene products, home essentials, and online subscriptions due to uncertainty and lifestyle disruptions (McKinsey & Company, 2020). These findings indicate that crisis-induced anxiety influenced both purchasing frequency and consumption channels across generations.

In Asian contexts, studies from China and South Korea revealed that health anxiety, uncertainty, and perceived vulnerability strongly shaped consumer behaviour during the pandemic. Laato et al. (2020) and Hesham et al. (2021) reported increased panic buying, stockpiling, and health-oriented consumption, particularly among younger consumers who relied heavily on online shopping platforms. Older generations, meanwhile, prioritised protective equipment, medicines, and essential goods due to heightened health concerns. Studies in Southeast Asia further identified growing preferences for local products, contactless services, and neighbourhood shopping practices during mobility restrictions.

Collectively, these findings suggest that although consumer responses varied across socio-economic and cultural contexts, common behavioural patterns emerged globally. Health risks, economic uncertainty, and social disruption consistently influenced purchasing behaviour across generations, supporting the relevance of Generational Cohort Theory in explaining crisis-driven consumer adaptations. At the same time, regional variations highlight the importance

of contextualising generational consumption patterns within specific socio-economic environments, including the Malaysian context.

Level of Anxiety and the Change in Consumer Behaviour

Earlier studies suggest unpleasant feelings, such as anxiety and fear, greatly impact consumer behaviour. These sentiments impede deliberate acquisitions and spontaneous ones (Yuen et al., 2020). Ahmed et al. (2020) and Leverin & Liljander (2006) find these behaviours are moulded through hedonic (emotional) motivations. Practical motivations do indeed also mould these behaviours. During crises like pandemics, survival instincts strengthen, and consumption is emotionally driven (Dodgson, 2020; Fairfield, 2015). Perceived menaces to individual security precipitate adaptive strategies, according to Terror Management Theory. These mechanisms are frequently manifested through pleasure-based acquisitions (Arndt et al., 2004; Greenberg et al., 1997).

Decisions born of anxiety can precipitate stress-related conduct. Such behaviours extend between disengagement toward imprudent expenditure (Duhachek, 2005; Hesham et al., 2021). Throughout COVID-19, ambiguity with forfeiture of dominion engendered strengthened psychological suffering, with such suffering shaping both magnitudes and essence regarding expenditure (Arafat et al., 2020 ; Sneath et al., 2009). Maslow's hierarchy of needs postulates that we stress physiological requirements since it elucidates the increase in important commodities during lockdowns (Accenture, 2020; Maslow, 1970).

While the post-pandemic era persists, key motivational aspects stay as people perceive and question (Sheth., 2020). Per emerging revelations, elderly persons exhibit heightened anxiety (Chen, 2020). Therefore, establishments with legislators do require strategies that are focused on responding to these transforming consumer behaviours.

Generation Differences and Shopping Behaviour

The collective memory of each generation, shaped by past events, influences values, attitudes, and consumer behaviour according to the generational differences theory. As generational cohort theory suggests, each cohort develops distinct perspectives regarding existence since it experiences salient external events during its formative period (Ting & de Run, 2015). Economic transformations, political doctrines, disputes, and technological innovations are important elements since they mould consumer inclinations and procurement choices (Noble & Schewe, 2000).

Distinct behavioural patterns and decision-making inclinations are presented by generational cohorts due to disparities within historical contexts (Ignatius & Hechanova, 2014). Influences wielded and experiences assimilated inside a generation mould behaviours more powerfully than simple age (Jones et al., 2018).

Collective recollections flourish among groups encountering analogous initial episodes in addition to impacting models in consumption and outlooks (Alwin & McCammon, 2003). Age-related identity greatly affects shopping behaviour, for each cohort possesses purchasing motivations along with preferences. Per research, inclusive of Lissitsa & Kol (2016) plus Parment (2013), these cohorts also possess usage behaviours.

Silent Generation (1925-1944)

The Silent Generation, commonly identified as traditionalists, weathered economic hardship plus they socially acquiesced. They experienced the Great Depression and World War II. These incidents imparted a sense of resolution and frugality in them. They were additionally feeling cautious (Wallenfeldt, 2023). This cohort, valuing assurance and reliability, prefers instrumental acquisitions with utility above indulgence in elevated commodities. As opposed to subsequent generations that amuse themselves while employing technology as necessities, the Silent Generation requires items more than desires them since they underwent paucity and economic precariousness early in life.

Baby Boomers (1945-1964)

Assiduous work habits and fiscal stability define Baby Boomers. Self-actualisation is additionally sought by them. This generation is markedly individualistic, competitive, and also regards economic success. These characteristics result in large consumer influence (Jackson et al., 2011). Revolutionary merchandise and technical developments improving existence and comfort are frequently desired by Baby Boomers who value kin, wellness, and monetary security (Brosdahl & Carpenter, 2011). They are devoted to brands coupled with a preference for tenured firms. They favour procurement via conventional commercial establishments during a progressive assimilation of virtual interfaces (Williams & Page, 2011).

Generation X (1965-1982)

Economic transition, technological innovation, and changing family structures defined the upbringing of Generation X; accordingly, shopping behaviours that are realistic and independent are exhibited. Individuals generally prize merit and utility beyond trademark reputation while endeavouring to harmonise cost with product advantages. In contrast to Baby Boomers, Gen X consumers favour brands echoing their individual principles and display heightened doubt toward advertisements. Conventional along with digital shopping methods remain comfortable for them, frequently depending upon peer recommendations plus online reviews before purchases (Lissitsa & Kol, 2016).

Generation Y (1983-2000)

Recognised also as Millennials, perhaps digital natives, Generation Y exhibits a strong connection to technology and accesses information without obstruction (Eger et al., 2021). This cohort assuredly

performs, navigates toward objectives, and diligently investigates when they resolve to procure. Often selecting digital payment methods plus online commerce, they value efficiency and convenience. Firms displaying authenticity, coupled with social responsibility, are favoured among brand-conscious Millennials. Evaluations from contemporaries and marketing by prominent figures remain vital aspects impacting consumer conduct. Prevailing social media fads additionally impact it (Lissitsa & Kol, 2016).

Generation Corona (2020 onwards)

Generation Corona includes Generation Z as well as Generation Alpha. Investigators are continuing to scrutinise this nascent cohort since they assess the protracted repercussions of the COVID-19 crisis upon their consumption patterns (USA Today, 2020). The pandemic's salient influence has moulded their perspectives, principles, and electronic media utilisation patterns. This generation is exceptionally knowledgeable. They perform a wide-ranging investigation before their purchase decision. They exhibit price sensitivity and assiduously pursue optimal offers. They favour interacting alongside brands on social media platforms. Instead of customary retail, their shopping predilections incline toward e-commerce, mobile apps, coupled with influencer-driven marketing (IMARC Services Private Limited Perception Report, 2023).

Grasping such generational distinctions is vital for enterprises, advertisers, and legislators since they formulate strong approaches that address each group's singular demands and anticipations. For sustained competitiveness as consumer conduct changes, enterprises should acclimate to generational transformations inside the post-pandemic market.

METHODS

Study Design and Data Collection

A quantitative survey was conducted between September and December 2022, during the endemic phase of COVID-19. Respondents were asked to recall their anxiety levels and purchasing behaviours during the pandemic (March 2020-March 2022) and the endemic phase (April 2022 onwards). Data were collected via online platforms (WhatsApp, Facebook, Instagram) and face-to-face interviews to ensure inclusivity, particularly among senior citizens who required assistance.

Sampling Procedure

A total of 883 respondents aged 18 and above participated in the study. Using the Raosoft sample size calculator, the minimum required sample was 384. A clustered sampling strategy was applied across five regions in Malaysia—North (Penang), South (Johor), East (Terengganu), West (Kuala Lumpur & Selangor), and East Malaysia (Sarawak). Within each region, purposive sampling was used to recruit respondents across twelve age cohorts (ranging from 18 to 71+ years).

The inclusion of multiple generational cohorts in this study was essential to examine how shared crisis experiences,

socio-economic positions, and life-stage differences influenced consumer behaviour during the COVID-19 pandemic and endemic phases. Based on Generational Cohort Theory, individuals from different generations develop distinct values, attitudes, and behavioural responses shaped by collective historical experiences. By incorporating the Silent Generation, Baby Boomers, Generation X, Generation Y, and Generation C, this study enables a broader sociological understanding of how pandemic-induced anxiety and uncertainty influenced consumption patterns across diverse age groups. The comparison across cohorts also strengthens the study's analytical depth by identifying both generational differences and behavioural similarities within the Malaysian post-pandemic context.

Research Instrument

The questionnaire comprised four sections: (1) anxiety levels (personal and societal), (2) changes in purchasing habits, (3) brand/category preferences and purchase convenience, and (4) alignment with personal values and lifestyle. Items were adapted from validated instruments and previous studies (Accenture, 2020; Edelman, 2020; Egeret al., 2021 ; Pantano et al., 2020).

Ethical Considerations

Informed verbal and written consent were obtained prior to participation. Participation was voluntary, and respondents were assured of data confidentiality. All consents were securely documented by the research team.

RESULTS

Table 1 shows the distribution of respondents by generation. As can be seen, a total of 883 respondents were gathered from the Malaysian population for this research study. Respondents were categorised according to generations, which include Generation Corona, Y, X, Baby Boomers and Silent.

In this study, we focus on respondents' anxiety factors, which include their health, the health of others, job security, the general economic situation in Malaysia and educational disruption, factors that impact their purchasing behaviour as a result of the COVID-19 outbreak. We focus on two phases of the COVID-19 outbreak, pandemic (T1: March 2020 - March 2022) and endemic (T2: April 2022 onwards), and we used a five-point Likert scale (1 - very low anxiety, 5 - very high anxiety) to measure the instruments.

Table 2 presents the levels of anxiety across generational cohorts—Generation C, Y, X, Baby Boomers (B), and the Silent Generation (S)—in relation to health, job security, economic conditions, and educational disruption during the pandemic (T1) and endemic (T2) phases.

Table 1
Distributions of respondents based on generations

	Frequency	Percent (%)
Generation Corona	146	16.5
Generation Y	311	35.2
Generation X	186	21.1
Baby Boomers	215	24.3
Silent Generation	25	2.8
Total	883	100

Across all cohorts, anxiety concerning the health of others consistently exceeded concern for one's own health (T1: 4.24 vs. 4.04; T2: 3.86 vs. 3.51), aligning with findings by Accenture (2020). Generation S reported the highest anxiety regarding others' health, followed by Generations C and B.

Similarly, anxiety over others' job security was greater than anxiety over one's own (T1: 3.78 vs. 3.26; T2: 3.43 vs. 3.11), with Generation C showing heightened concern, possibly due to increased social awareness and exposure to peers' employment struggles. Economic anxiety remained elevated across generations, with Generation C and B expressing comparable concern (T1: 4.06, T2: 3.75), reflecting their respective vulnerabilities—entry-level job insecurity and retirement instability.

Anxiety over educational disruption was most pronounced among Generations C, Y, and X, who were directly affected by the abrupt transition in learning modes. Overall, the findings highlight intergenerational variations in anxiety responses, shaped by differing life stages, socio-economic roles, and exposure to pandemic-induced challenges.

In subsequent studies, we use two variables: AnxietyH, which represents health anxiety, and AnxietyE, which represents economic anxiety. AnxietyH was calculated by averaging the items anxiety for own health and anxiety for the health of others, whereas AnxietyE was calculated by averaging the items anxiety for job loss (one's own and others) and anxiety for the economic situation. AnxietyH and AnxietyE are two key variables in our study that have the most influence on the Malaysian community because of the COVID-19 outbreak.

Table 3 shows the average mean values of these two anxiety variables according to generations, namely Generation C, Y, X, B and S, taken in phases T1 and T2. According to the ANOVA F-test, a statistically significant result was found in T2 for both variables: AnxietyH, $F(4, 712) = 3.007$, $p=0.018$ and AnxietyE, $F(4, 712) = 2.472$, $p=0.008$. Apart from this, post hoc analysis based on Tukey's method, with p-values adjusted for multiple

Table 2
The level of health anxiety (own and others), job security (own and others), overall economic situation in Malaysia and education disruption by generation: average mean levels

Characteristic	**Average Mean Level**											
Need/Generation	**C**		**Y**		**X**		**B**		**S**		**TOTAL**	
	T1	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**	**T1**	**T2**
Own health	3.92	3.33	3.92	3.31	3.93	3.50	4.13	3.66	4.32	3.73	4.04	3.51
Health of others	4.26	3.81	4.19	3.75	4.16	3.82	4.22	3.81	4.36	4.09	4.24	3.86
Job security for others	2.86	2.83	3.12	2.95	3.20	3.08	3.41	3.24	3.73	3.45	3.26	3.11
Overall economic situation in Malaysia	3.72	3.38	3.70	3.26	3.89	3.47	3.82	3.51	3.73	3.55	3.78	3.43
Education disruption	4.06	3.75	4.14	3.46	4.08	3.70	4.06	3.75	4.05	3.73	4.08	3.68

Table 3
Generational Differences level of anxiety related to the COVID-19 era: one-way ANOVA

Anxiety		**Mean Estimates**					**ANOVA**		**C-Y**	**C-X**	**C-B**	**C-S**	**Y-X**	**Y-B**	**Y-S**	**X-S**	**B-X**	**B-S**
Variable		**C**	**Y**	**X**	**B**	**S**	**F**	**P**	**Padj.**									
AnxietyH	T1	4.09	4.05	4.04	4.17	4.10	1.078	0.366	0.100	0.100	0.093	0.074	0.100	0.063	0.059	0.056	0.063	0.092
	T2	3.57	3.53	3.66	3.74	3.91	3.007	0.018	0.100	0.087	0.035	0.029	0.045	0.004	0.015	0.058	0.088	0.084
AnxietyE	T1	3.54	3.65	3.72	3.76	3.83	2.104	0.079	0.063	0.026	0.008	0.003	0.090	0.054	0.078	0.095	0.054	0.099
	T2	3.32	3.22	3.41	3.49	3.58	3.474	0.008	0.086	0.088	0.038	0.068	0.017	0.000	0.032	0.091	0.088	0.099

comparisons, identified the differences between generations for health anxiety and anxiety for economic situation.

Shopping behaviour was measured using 14 items on a 5-point Likert scale, with data collected during both the pandemic (T1) and endemic (T2) phases. Summary statistics and one-way ANOVA results are presented in Table 4. Significant generational differences were found in three behavioural items across both time phases: purchasing for others (Item 11; T1: $F(4,719) = 7.225$, $p < .001$; T2: $F(4,714) = 4.039$, $p = .003$), buying cheaper products (Item 12; T1: $F(4,719) = 4.368$, $p = .002$; T2: $F(4,713) = 3.057$, $p = .016$), and minimizing food waste (Item 13; T1: $F(4,719) = 6.952$, $p < .001$; T2: $F(4,712) = 3.290$, $p = .011$). These trends reflect a shift toward frugality and sustainable consumption in response to pandemic-related disruptions.

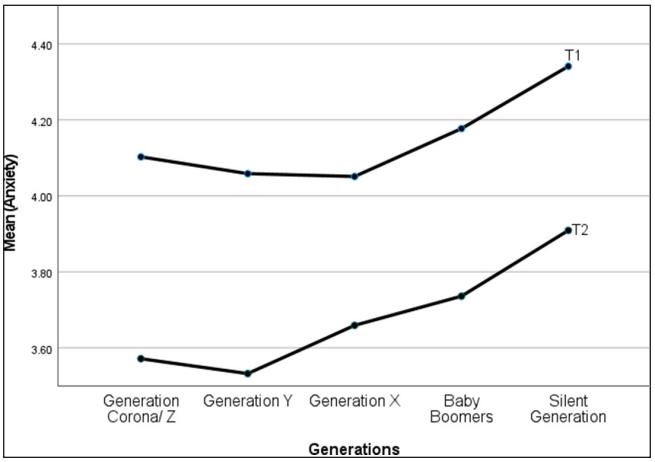

Figure 1. Level of health anxiety (in mean) according to the generations during COVID-19 pandemic (T1) and endemic (T2)

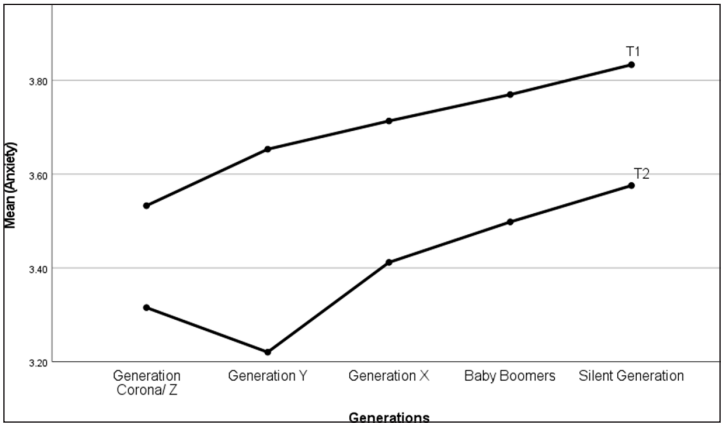

Figure 2. Level of anxiety on overall economic situation (in mean) according to the generations during COVID-19 pandemic (T1) and endemic (T2)

Table 4
Changes in shopping behaviour by generation: one-way ANOVA

Characteristic		ANOVA	Gen	Average Mean Level					
Item/Generation		**F**	**P**	**C**	**Y**	**X**	**B**	**S**	**Total**
1: I buy health products	T1	7.844	0.000	4.05	4.28	4.18	3.88	3.54	3.99
	T2	0.317	0.867	3.18	3.16	3.27	3.21	3.09	3.18
2: I buy necessities.	T1	0.321	0.864	3.46	3.48	3.49	3.49	3.47	3.48
	T2	1.271	0.280	3.48	3.50	3.37	3.35	3.42	3.42
3: I think first before deciding to buy any product.	T1	4.983	0.001	3.71	3.89	3.73	3.60	3.73	3.73
	T2	2.017	0.090	3.66	3.64	3.65	3.53	3.60	3.62
4: I buy Malaysian products	T1	1.914	0.106	3.25	3.33	3.43	3.34	2.91	3.25
	T2	1.141	0.336	3.54	3.55	3.52	3.46	3.18	3.45
5: I shop in the neighborhood stores	T1	2.217	0.066	3.13	3.32	3.38	3.23	2.68	3.15
	T2	1.709	0.146	3.24	3.22	3.35	3.20	2.82	3.17
6: I shop for green products.	T1	0.872	0.480	2.88	2.82	2.86	2.96	2.64	2.83
	T2	0.828	0.507	3.12	2.92	3.01	3.01	2.86	2.98
7: I buy products from known brands.	T1	1.213	0.304	2.21	2.25	2.25	2.44	2.27	2.28
	T2	0.316	0.867	2.63	2.51	2.49	2.53	2.45	2.52

Table 4 (*continued*)

Characteristic		ANOVA	Gen	Average Mean Level					
Item/Generation		F	P	C	Y	X	B	S	Total
8: I do brand search before buying the product.	T1	0.778	0.539	2.53	2.63	2.68	2.70	2.36	2.58
	T2	0.307	0.874	2.80	2.80	2.78	2.75	2.55	2.74
9: I buy products consciously.	T1	2.658	0.032	3.41	3.58	3.44	3.33	2.91	3.33
	T2	0.562	0.690	3.43	3.38	3.39	3.35	3.05	3.32
10: I buy products in bulk.	T1	1.409	0.229	2.66	2.69	2.68	2.60	2.23	2.57
	T2	2.332	0.054	2.86	2.80	2.71	2.63	2.32	2.66
11: I buy products for family members, friends, etc.	T1	7.225	0.000	3.27	3.50	3.29	2.98	2.68	3.14
	T2	4.039	0.003	3.23	3.32	3.26	2.99	2.50	3.06
12: I buy cheaper products to save.	T1	4.368	0.002	3.79	3.95	3.71	3.72	3.27	3.69
	T2	3.057	0.016	3.86	3.85	3.74	3.68	3.14	3.58
13: I try to minimise food waste.	T1	6.952	0.000	3.83	3.96	3.86	3.64	3.05	3.67
	T2	3.290	0.011	3.77	3.77	3.70	3.58	3.14	3.59
14: I buy products through e-commerce platforms such as Shopee, Lazada etc.	T1	5.046	0.001	3.71	3.66	3.62	3.25	2.86	3.42
	T2	2.297	0.058	3.41	3.27	3.33	3.13	2.68	3.16

Additionally, purchases of health products increased notably during T1 (M = 3.99), with significant differences across generations (Item 1; T1: $F(4,720) = 7.844$, $p < .001$), particularly among Generations C, Y, and X. Item 3 ("I think before deciding to buy") also showed significant variance during T1 ($F(4,719) = 4.982$, $p = .001$), indicating a cross-generational shift toward more deliberate purchasing decisions amid uncertainty.

Table 5 presents the results of multiple regression analyses examining the influence of health anxiety (AnxietyH), economic anxiety (AnxietyE), and generational cohort on changes in shopping behaviour across 14 items, during both pandemic (T1) and endemic (T2) phases. Each shopping behaviour item served as a dependent variable, with AnxietyH, AnxietyE, and generation as predictors. Multiple comparisons were conducted using the approach by Hothorn et al. (2008) .

Findings indicate that higher anxiety levels generally correlate with greater behavioural change. However, in T1, AnxietyH did not significantly affect Items 7, 8, 10, and 13; while in T2, Items 4, 8, 9, 10, 12, and 14 were unaffected. Similarly, AnxietyE showed no significant association with Items 11, 12, and 13 in T1, and Items 4, 7, and 11 in T2.

The most sensitive behavioural indicator of AnxietyH in both phases was Item 1 (purchase of health products), with slope estimates of 0.15 (T1) and 0.13 (T2). For AnxietyE, Item 2 (necessities) and Item 6 (green products) were most affected in T1 ($\beta = 0.16$ and 0.14), while in T2, Item 3 (deliberate decision-making) and Item 6 ($\beta = 0.13$) were most responsive. These results confirm the significant impact of health and economic anxiety on consumer behaviour.

The study also examined changes in purchasing behaviour across 12 product categories, measured on a 5-point scale (1 = much less, 5 = much more), during the pandemic (T1) and endemic (T2) phases. Table 6 shows significant generational differences for Item 11 (internet data subscription), with increased reliance during both T1 ($F(4,718) = 3.419$, $p = .009$) and T2 ($F(4,715) = 3.776$, $p = .005$). The pandemic accelerated digital consumption for work, education, shopping, and entertainment, especially among younger cohorts.

Other items showing significant differences during T1 include Item 2 (hygiene products; $F(4,721) = 4.313$, $p = .002$), Item 6 (clothing and footwear; $F(4,720) = 2.829$, $p = .024$), and Item 10 (non-sport hobbies; $F(4,718) = 3.028$, $p = .009$).

Generation C exhibited increased purchasing of internet data, food, hygiene, and health-related products during T1, with slight declines in T2. Generation Y, similarly, tech-savvy, reported high spending on food, hygiene items, PPE, and data subscriptions in T1, with reductions in T2 as routines normalised. Generation X focused on essentials, shifting toward medicines and supplements in T2. Baby Boomers and the Silent Generation consistently prioritised food, hygiene, and health products across both phases, reflecting heightened vulnerability and health-conscious behaviour.

Table 5
Changes in shopping behaviour in relation to anxiety related to the COVID-19 pandemic and endemic: multiple linear regression results

Variable		AnxietyH		AnxietyE	
Subject (Item)		**Effect**	**P**	**Effect**	**P**
1: I buy health products	T1	0.13	0.000	0.06	0.033
	T2	0.15	0.000	0.12	0.001
2: I buy necessities	T1	0.11	0.002	0.16	0.000
	T2	0.08	0.009	0.07	0.020
3: I think first before Deciding to buy any product	T1	0.09	0.007	0.11	0.002
	T2	0.10	0.002	0.13	0.000
4: I buy Malaysian products	T1	0.07	0.021	0.08	0.009
	T2	0.05	0.112	-0.00	0.491
5: I shop at neighborhood stores	T1	0.08	0.011	0.08	0.016
	T2	0.09	0.006	0.06	0.044
6: I shop green products	T1	0.08	0.011	0.14	0.000
	T2	0.10	0.002	0.13	0.000
7: I buy products from known brands	T1	0.03	0.199	0.06	0.053
	T2	0.07	0.025	0.04	0.144
8: I do brand search before buying the product	T1	0.05	0.077	0.08	0.009
	T2	0.04	0.106	0.06	0.040
9: I buy products consciously	T1	0.09	0.004	0.12	0.000
	T2	0.05	0.083	0.08	0.011
10: I buy products in bulk.	T1	0.01	0.437	0.08	0.010
	T2	0.03	0.209	0.07	0.022
11: I buy products for family members, friends etc.	T1	0.07	0.027	0.03	0.190
	T2	0.02	0.297	0.02	0.233
12: I buy cheaper products to save	T1	0.11	0.001	0.03	0.172
	T2	0.05	0.091	0.06	0.044
13: I try to minimise food waste	T1	0.05	0.066	0.01	0.311
	T2	0.09	0.008	0.08	0.010
14: I buy products through e-commerce platforms such as Shopee, Lazada, etc.	T1	0.07	0.020	0.09	0.007
	T2	0.04	0.142	0.08	0.011

Table 6
Changes in the purchase of selected items by generation: one-way ANOVA

Characteristic		ANOVA	Gen	Average Mean Level					
Item/Generation		F	P	C	Y	X	B	S	Total
1: Food	T1	0.280	0.891	3.76	3.85	3.84	3.76	3.82	3.81
	T2	1.823	0.123	3.64	3.71	3.57	3.55	3.36	3.57
2: Hygiene products	T1	4.313	0.002	4.12	4.31	4.28	4.10	3.73	4.12
	T2	1.111	0.350	2.87	2.88	2.95	3.07	2.95	2.94
3: Supplementary health products	T1	0.890	0.469	3.68	3.81	3.76	3.72	3.45	3.68
	T2	0.296	0.881	3.07	3.12	3.10	3.17	2.95	3.08
4: Medicines	T1	1.609	0.170	3.81	3.99	3.96	3.85	3.64	3.67
	T2	1.322	0.260	3.50	3.60	3.60	3.50	3.18	3.48
5: Personal protective Equipment	T1	1.986	0.095	3.97	4.12	4.11	3.96	3.68	3.97
	T2	2.029	0.089	3.16	3.32	3.21	3.28	2.77	3.17
6: Clothing and footwear	T1	2.829	0.024	2.81	3.03	2.91	2.67	2.55	2.79
	T2	2.024	0.089	2.86	2.97	2.87	2.70	2.45	2.77
7: Electronic appliances	T1	0.753	0.556	2.89	2.96	3.07	2.91	2.82	2.93
	T2	0.814	0.517	2.77	2.84	2.85	2.73	2.59	2.74
8: Home furniture	T1	0.475	0.754	2.13	2.20	2.26	2.15	2.36	2.22
	T2	0.200	0.938	2.20	2.22	2.28	2.20	2.27	2.23
9: Sporting goods	T1	0.647	0.629	2.05	2.10	2.09	2.01	2.32	2.11
	T2	0.177	0.950	2.11	2.12	2.15	2.11	3.37	2.37
10: Hobbies outside sports	T1	3.028	0.017	2.32	2.38	2.16	2.06	2.36	2.26
	T2	2.010	0.091	2.81	2.73	2.56	2.49	2.45	2.61
11: Subscription of internet data	T1	3.419	0.009	4.08	4.04	3.79	3.70	3.50	3.82
	T2	3.776	0.005	3.76	3.79	3.55	3.44	3.14	3.54
12: Digital devices	T1	0.755	0.555	3.07	3.10	3.05	2.96	2.68	2.97
	T2	1.193	0.312	2.96	2.97	2.89	2.78	2.59	2.84

Table 7 provides the findings of the regression analyses on the changes in the purchase of all 12 products in connection with health anxiety and economic anxiety.

The frequency of shopping in T1 and T2 was statistically significantly related to health anxiety (AnxietyH) for the following items: Item 1 (food), Item 3 (supplementary health and products), Item 4 (medicines), Item 7 (Electronics appliances) and Item 8 (home furniture) with positive correlation. (the greater the level of anxiety, the greater the frequency of purchase). Apart from that, in T1, the frequency of shopping was statistically significant for Item 6 (clothing and footwear) and in T2 for Item 2 (hygiene products) and Item 5 (personal protective equipment), with positive correlation.

While the frequency of shopping in T1 and T2 was statistically significantly related to anxiety of economic situation (AnxietyE) for the following items: Item 3 (supplementary health product), Item 8 (home furniture), and Item 9 (sporting goods), with a positive correlation. Other items that were statistically significantly related to anxiety of economic situation were, in T1, Item 1 (food), Item 4 (medicines), and Item 7 (electronic appliances). Furthermore, in T2, the items statistically significantly related were Item 2 (hygiene products) and Item 11 (subscription to internet data) with a positive correlation.

Table 7
Changes in the purchase of selected items in relation to anxiety related to the COVID-19 pandemic and endemic: Multiple linear regression

Variable		**AnxietyH**		**AnxietyE**	
Subject (Item)		**Effect**	**P**	**Effect**	**P**
1: Food	T1	0.11	0.001	0.09	0.006
	T2	0.10	0.002	0.03	0.192
2: Hygiene products	T1	0.02	0.244	0.02	0.237
	T2	0.13	0.000	0.09	0.008
3: Supplementary health products	T1	0.14	0.000	0.15	0.000
	T2	0.13	0.000	0.08	0.014
4: Medicines	T1	0.09	0.006	0.08	0.015
	T2	0.13	0.000	0.05	0.081
5: Personal protective Equipment	T1	-0.01	0.389	-0.00	0.438
	T2	0.14	0.000	0.04	0.130

Table 7 (*continued*)

Variable		AnxietyH		AnxietyE	
Subject (Item)		**Effect**	**P**	**Effect**	**P**
6: Clothing and footwear	T1	0.07	0.026	0.03	0.186
	T2	0.01	0.409	-0.02	0.229
7: Electronic appliances	T1	0.07	0.030	0.07	0.024
	T2	0.07	0.031	0.01	0.380
8: Home furniture	T1	0.06	0.039	0.07	0.017
	T2	0.06	0.047	0.10	0.002
9: Sporting goods	T1	0.08	0.012	0.11	0.002
	T2	0.01	0.385	0.09.	0.006
10: Hobbies outside sports	T1	-0.02	0.255	-0.01	0.388
	T2	-0.06	0.048	-0.04	0.132
11: Subscription of internet data	T1	0.01	0.396	0.02	0.290
	T2	0.02	0.219	0.06	0.037
12: Digital Devices	T1	-0.02	0.228	0.05	0.071
	T2	-0.02	0.260	0.05	0.091

DISCUSSION

This study affirms that the COVID-19 pandemic substantially altered consumer buying and shopping behaviour across generational groups in Malaysia, largely driven by varying levels of anxiety and uncertainty. Consistent with previous studies (Eger et al., 2021; Sheth, 2020), the findings demonstrate that consumers increasingly prioritised essential goods, health-related products, and digital purchasing during both the pandemic and endemic phases. More importantly, the findings suggest that consumer behaviour during crises should not be understood solely as an individual psychological response, but rather as part of broader social and economic transformations that reshape everyday life and consumption practices within society.

From a sociological perspective, the increased reliance on digital purchasing, precautionary spending, and health-oriented consumption reflects broader social adaptations shaped by collective anxieties, socio-economic uncertainty, and changing lifestyle practices across generations (Bauman, 2007; Granovetter, 1985). The findings further indicate that consumer

behaviour is socially embedded within broader socio-economic structures, collective experiences, and generational identities. During the COVID-19 crisis, consumption no longer functioned merely as an economic activity but also as a coping mechanism through which individuals attempted to manage uncertainty, maintain social stability, and reduce perceived vulnerability. The normalisation of online shopping, stockpiling behaviour, and increased concern toward health-related products illustrates how crises can reconstruct social norms and redefine consumer priorities within post-pandemic society.

Significant generational differences were also observed. Generation C, Generation Y, and Generation X expressed stronger concerns regarding economic stability due to employment responsibilities, financial commitments, and social pressures, whereas older cohorts such as Baby Boomers and the Silent Generation demonstrated greater health-related anxieties. These findings align with international studies conducted in Europe, the United States, and East Asia, which similarly reported increased digital consumerism among younger generations and heightened health-oriented purchasing among older populations (Eger et al., 2021; Laato et al., 2020). However, the Malaysian context also demonstrates that socio-cultural environments and local economic conditions influence the intensity and manifestation of anxiety-driven consumption behaviours. This suggests that while pandemic-induced behavioural adaptations may transcend geographical boundaries, consumer responses remain shaped by local social structures, cultural expectations, and economic realities.

The study further contributes new sociological insights by demonstrating that pandemic-related anxieties accelerated broader social and behavioural transformations, particularly in digital consumption, precautionary spending, and health-oriented purchasing practices. Unlike earlier studies focusing primarily on individual consumer responses, this study highlights how collective crises reshape consumption behaviour as a socially embedded phenomenon across generations within the Malaysian context. The findings also suggest that post-pandemic consumerism increasingly reflects adaptive social behaviour, where purchasing decisions are influenced not only by personal preference but also by collective insecurity, social responsibility, and changing societal norms. These findings therefore, contribute to the growing corpus of knowledge on the sociology of consumerism, sociology of economic behaviour, and post-pandemic social transformation.

Limitations and Recommendations for Future Research

While this study provides important empirical insights into generational purchasing behaviour within the Malaysian context, several limitations should be acknowledged. First, the findings are limited to Malaysia and may not fully capture variations in consumer behaviour across different cultural, economic, and social

environments. Consumer responses to crises such as COVID-19 are often influenced by local cultural norms, government policies, technological accessibility, and socio-economic conditions. Therefore, the absence of cross-country comparative analysis may limit the broader generalizability of the findings.

Future studies should incorporate multicultural and cross-national comparative datasets involving diverse societies and regions to strengthen the external validity of generational consumer behaviour research in post-pandemic contexts. Comparative studies between Asian, Western, and emerging economies may provide a deeper understanding of how cultural values, economic resilience, and public health responses shape anxiety-driven consumption patterns across generations. In addition, longitudinal approaches are recommended to examine whether the behavioural changes observed during the pandemic remain permanent or gradually diminish over time. Such approaches would contribute toward a more comprehensive understanding of long-term generational shifts in consumer behaviour following large-scale global disruptions.

Practical Implications for Asian Business

This study provides important practical implications for businesses operating in the Asian post-pandemic market environment. The findings demonstrate that consumer behaviour is increasingly shaped by health anxiety, economic uncertainty, and generational experiences, highlighting the need for businesses to adopt more adaptive and consumer-centred strategies. Retailers and marketers should prioritise transparent communication emphasising product safety, hygiene, reliability, and consumer well-being to strengthen trust and reduce consumer anxiety during periods of uncertainty.

The findings also reveal significant generational differences in digital consumption and purchasing behaviour. Younger cohorts, particularly Generation Y and Generation Corona, demonstrated stronger reliance on digital platforms, e-commerce, and social media engagement, indicating the importance of strengthening digital infrastructures, personalized online experiences, and seamless digital payment systems. In contrast, older generations placed greater emphasis on health security, convenience, and reliability, suggesting that businesses should adopt more targeted and generationally responsive communication strategies.

From a broader sociological perspective, the study highlights how large-scale crises reshape consumer values, social behaviour, and economic practices across generations. The findings further suggest that consumer behaviour during crises should be understood as a socially embedded practice influenced by collective experiences, socio-economic uncertainty, and generational identity. Businesses should therefore continuously monitor shifts in consumer sentiment, social anxieties, and behavioural adaptation to remain resilient during future disruptions. Policymakers and

business sectors should also collaborate in developing consumer support frameworks and public communication strategies that address generational concerns, strengthen consumer confidence, and support long-term social and economic recovery in a post-pandemic society.

CONCLUSION

This study demonstrates that the COVID-19 pandemic significantly reshaped consumer behaviour across generational cohorts in Malaysia through anxiety-driven consumption patterns during the pandemic and endemic phases. The findings reveal that health anxiety, economic uncertainty, and collective crisis experiences influenced purchasing behaviour differently across generations, resulting in increased digital consumption, precautionary spending, and health-oriented purchasing practices.

From a sociological perspective, the study highlights that consumer behaviour during crises is socially embedded and shaped by collective anxieties, socio-economic conditions, and generational experiences rather than purely individual decision-making. By integrating Generational Cohort Theory with perspectives from the sociology of consumerism and economic behaviour, this study contributes empirical and sociological insights into post-pandemic social transformation and generational behavioural adaptation within the Malaysian context.

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Religion, Environment, and Politics: An Eco-critical Discourse Analysis of NU and Muhammadiyah's Support for Indonesia's Forthcoming Capital Ibu Kota Nusantara (IKN)

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ABSTRACT

State-led mega-development projects in ecologically sensitive regions increasingly depend on religious institutional endorsement to secure public legitimacy. This article examines how Indonesia's two largest Islamic mass organisations, Nahdlatul Ulama (NU) and Muhammadiyah, discursively mediate the legitimisation of *Ibu Kota Nusantara* (IKN), the government's controversial new capital city project in East Kalimantan, despite documented ecological risks including deforestation, biodiversity loss, and indigenous community displacement. The study adopted an eco-critical discourse analysis (eco-CDA) framework, combining the three-dimensional model of Norman Fairclough with the eco-linguistic techniques of Arran Stibbe. It analysed public discourse from national, regional, and organisational actors in the period 2022–2024. The results show that both organisations are discursive brokers that diffuse environmental opposition through different but complementary strategies of legitimisation. NU sacralises growth, using religious imagery to frame IKN as a spiritual duty. This leads to *pseudo-sustainability*, when green language acts as a moral sanction rather than an ecological critique. Muhammadiyah applies a procedural-pragmatic strategy that contextualises the encounter in terms of institutional expansion. This is demonstrated by passive *eco-silence*, the systematic discursive absence of ecological discourse. These findings help explain when

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religious civil society organisations are vehicles of hegemonic developmental normalisation and when they are champions of ecological accountability.

Keywords: Eco-critical discourse analysis, eco-silence, Ibu Kota Nusantara, Muhammadiyah, Nahdlatul Ulama, pseudo-sustainability

INTRODUCTION

The tension between state-led developmentalism and environmental sustainability has become one of the key themes of twenty-first century politics around the globe, especially in the light of growing concerns with the climate crisis. The way in which this contestation is articulated, legitimised and disputed in public discourse influences which narratives ultimately dominate and whose interests are ultimately fulfilled (Kim & Thurbon, 2015; Zhouri, 2010). In this dynamic, the importance of religious institutions in framing development narratives has become particularly significant, especially in the Global South, where faith-based actors operate at an unusual nexus of moral authority and political power – a nexus where they emerge as central actors in public discourses about national development paths and their attendant costs (Epley, 2004; Karaçuka, 2018). Thus, the way they respond to either critical independence in such circumstances or loyalty to states' development ambitions has actual consequences for populations directly touched by their outcomes and at-risk ecosystems, and civil society itself.

This question is particularly pertinent in Indonesia, a developing country which, as the world's largest Muslim-majority democracy, has seen Islamic organisations historically at the centre of negotiating state power, public morality, and national identity (Hefner, 2000; van Bruinessen, 2013). In 2022, the government announced its most ambitious infrastructure project to move its capital from Jakarta to a brand-new city in one of the greenest regencies, Penajam Paser Utara Regency (East Kalimantan), called Ibu Kota Nusantara (IKN). This USD 33 billion mega-project, legalised under Law Number 3 of 2022, is expected to accommodate a new capital city and administrative centre over an area of roughly 256,000 hectares (Chaniago & Siregar, 2025), much of it within or at least adjacent to ecologically sensitive forest functioning zones (Arfiansyah et al., 2024).

The government has set IKN in a sustainability and spatial equity, with 75 percent of its total territory designated as a conservation area. On top of that, several markers are deployed, such as '*kota hijau*' (green city) and 'smart city' as part of Indonesia's vision (Widodo, 2022). However, this official framing has been met with strong opposition from scientists and civil society organisations worried about the deforestation, biodiversity loss, displacement of indigenous peoples, and

poor environmental impact assessments done before project approval (Handyastono et al., 2025; Ridwanuddin, 2024; Wijaya et al., 2025). The gap between the government's green narrative and ecological reality has created a deficit of legitimacy, which the state has to cover to keep the public order intact. In other aspects of governance, the state has a commendable record in co-opting religious authority, mainly Islamic ones, to fill such vacancies amid the enhancement of political stability and socio-economic advancement (Arifianto, 2021; Metera, 2021; Setiawan et al., 2025).

Nahdlatul Ulama (NU) and Muhammadiyah are undoubtedly the main actors in this dynamic. With a combined following of roughly 150 million people (CNBC Indonesia, 2024), they wield a level of influence beyond the spiritual sphere as stewards over massive networks of educational, health, and social institutions at nearly every level of society. Throughout much of Indonesia's post-colonial political history, they have negotiated the balance between institutional autonomy from the state and cooperation in ways that have shaped both the religious landscape within Indonesian politics as well as their broader political culture. Whether in response to state-led development and service delivery plans or more significant national policy initiatives, their responses as pivotal civil society actors have mattered by influencing people's opinions on pressing issues and mediating relations between the citizenry and the state, while framing the vocabulary through which contentious political questions are debated (Al-Ansi & Kartono, 2023). This positions them as, from the perspective of state actors, extremely valuable legitimising partners and, from an analytical point of view, especially suited subjects for exploring how religious and developmental discourse condition each other.

In the case of IKN, both NU and Muhammadiyah have publicly issued statements that are broadly in line with the government's developmental agenda (CNN Indonesia, 2024; Kompas.com, 2024). Such broader support raises significant questions about the role of religious endorsement in an environmentally contentious mega-project, beginning with the fact that both organisations have ecological programmes and theological mandates to protect nature. NU using its *bahtsul masā'il* (legal deliberation) mechanism for environmental matters, and Muhammadiyah through its *Majelis Lingkungan Hidup* (Council on the Environment) (Harimurti & Alam, 2024; Mufid, 2020). By virtue of the Islam-based environmental advocacy both organisations are committed to, they should be critical of big development projects that threaten ecosystems. Nevertheless, this affiliation means little at best. Because on the other hand, proximity to the state offers material incentives and infrastructural support that can strengthen their institutional assets (Arifianto, 2021). The tension between a theological mandate for environmental advocacy and institutional pragmatism makes the public discourse on NU and Muhammadiyah on IKN an urgent object of study.

Departing from this importance, this study investigates the discursive mechanisms through which NU and Muhammadiyah mediate the legitimisation of the IKN project, particularly along its ecological dimension. Whilst previous studies have frequently analysed both organisations through the perspective of political alignment or institutional pragmatism (Al-Ansi & Kartono, 2023; Al-Hamdi, 2022; Arifianto, 2024; Bush, 2009), systematic examination of how their public language addresses—or fails to address—the material ecological risks of state-led development remains lacking. By applying eco-critical discourse analysis (eco-CDA), integrating Norman Fairclough's (1995) three-dimensional framework with Arran Stibbe's (2015) ecolinguistic tools, this study examines how NU and Muhammadiyah's discourse on IKN constructs, appropriates, and forecloses ecological meaning across the dimensions of textual analysis, discursive practice, and sociocultural practice. The analysis of this study focuses on the specific linguistic strategies instrumentalised to translate the technical and often contested objectives of IKN into registers that resonate with religious publics. It then explores the extent to which these narratives privilege ecological preservation or, conversely, facilitate its marginalisation.

This article contends that NU and Muhammadiyah serve as discursive brokers in alleviating the effects of environmental opposition through two distinct forms of legitimation. NU uses a method of sacralised growth, with religious analogies framing the capital's move as a spiritual and civilisational duty. This leads to a kind of pseudo-sustainability when the green language is used for moral affirmation rather than critical analysis. Meanwhile, Muhammadiyah has a procedural-pragmatic mode as it frames its participation as an expansion of Islamic institutions and social service channels. Here, eco-silence is actively played out in a pattern that silences environmental consequences in the interest of the organisation. Overall, these findings reveal the conditions under which faith-based organisations with high levels of organisational autonomy and moral authority become agents of hegemony rather than ecologically accountable advocacy. It delivers profound implications for both discourse studies and prospects for environmentally just development in Indonesia and elsewhere.

The remainder of this article is organised as follows. The next section is a literature review of the use of religion to justify environmental sustainability in large-scale development projects. After that, we offer a conceptual framework including operational definitions and theoretical implications for both pseudo-sustainability and eco-silence. It is followed by a section on research methodology, which describes the research design and data sources used, in addition to other aspects of analytical methods. The results and discussion section is divided into three sub-sections based on Fairclough's three-dimensional framework. The article concludes with a summary and the broader theoretical and empirical implications of

the findings, while also addressing research limitations to provide directions for future study.

LITERATURE REVIEW

The scholarly engagement with religion and ecology has grown rapidly since the late twentieth century, driven in large part by White's (1967) provocative thesis that Judaeo-Christian anthropocentrism bears historical responsibility for the global ecological crisis. Some scholars have supported White's thesis by demonstrating how certain theological themes can impede environmental understanding and mobilisation (Taylor et al., 2016). Subsequent research, however, has overwhelmingly shown that virtually all major world religious traditions contain doctrinal and ethical resources supportive of environmental stewardship, giving rise to the 'greening of religion' or a broad movement within religious institutions towards ecological awareness, environmental ethics, and green advocacy (Gottlieb, 2006; Jenkins & Chapple, 2011; Koehrsen, 2018; Narayanan, 2013). Drawing on some or all of these commitments, a growing number of both global and local religious leaders have sought to play a more prominent role in promoting ecologically responsible lifestyles among their followers and organisations and in mobilising them in support of progressive ecological movements (Guth et al., 1995; Ives et al., 2024).

In contemporary environmental theology, religious organisations are important institutions that help promote sustainability narratives. They have considerable power to influence public opinion and the course of environmental policy, due to their large social networks, relatively high levels of public credibility, and committed membership (Guth et al., 1995; Koehrsen & Ives, 2025; Tarakeshwar et al., 2001). But such mobilisation is not always even or real. The literature on greening religion reveals considerable tensions, which suggests that the presence of ecological theology does not inevitably translate into political activism. Particularly, when religious groups are embedded into larger political and economic systems. In global developmentalism, states are increasingly seeking moral capital from religious organisations as a way of alleviating social costs of modernisation, implying that green religious narratives are employed as symbolic endorsement for state agendas under increased ecological scrutiny (Koehrsen, 2018; Tomalin, 2024). In such cases, religious organisations provide moral validity to efforts which would probably be strongly opposed if they were presented only in secular terms.

This phenomenon is well documented in Indonesia, for instance, in the form of its manifestation on issues such as palm oil production (land use change-related) or large infrastructure projects such as mining concessions or toll road beneficiaries (Gritten & Saastamoinen, 2010; Wicaksana, 2021). These studies illustrate the way the state employs sophisticated discursive strategies to repress dissent, including the strategic use of sustainability rhetoric, the mobilisation

of religious and community identities, and the framing of environmental opponents as obstacles to national development. Religious institutions are considered a significant resource in the construction of ideological consent, in the Gramscian conception of hegemony. In this, it generates a multi-layered bargaining space where the two fiercely contest the state trying to exploit this terrain, and the state attaches or mobilises through religious organisations where the latter strategically follow their institutional interests (Arifianto, 2021). This makes this contact a dynamic and participatory accommodation and discursive translation, not a one-directional co-optation.

NU and Muhammadiyah are the main actors in this link. Founded in 1926 on a traditionalist basis, NU is known for its strong grassroots base in rural areas through its pesantren network, and for its active historical relationship with state authority. That kind of nature has often been organisationally advantageous, but also a trial of its institutional autonomy (Bush, 2009). Muhammadiyah, established in 1912 as a modernist reform movement, is distinguished by its focus on rational discourse, its vast network of educational and social welfare institutions, and its more independent organisational position from direct political affiliations. However, its independence has not stopped pragmatic interactions with state actors when institutional interests necessitated such engagement (Burhani, 2018). Both of them hold significant social and moral capital, serving not just as religious authority but also as essential social intermediaries that can validate or contest national political power. Compared to other civil society organisations, whether religious or secular, only NU and Muhammadiyah are sufficiently equipped to mobilise community-level networks for legitimising large-scale development in Indonesia.

The IKN mega-project is no different. The government has sought both symbolic and institutional support from the two, making efforts to normalise it. It has produced an intricate discursive space where moral principles and developmentalist goals are permanently debated in everything. Unfortunately, while it has been demonstrated that both NU and Muhammadiyah have the theological assets to be environmental advocates (Harimurti & Alam, 2024; Mufid, 2020), and this has included documenting both the ecological and discursive-political threats posed by the IKN project (Handyastono et al., 2025; Wijaya et al., 2025), no research has systematically compared how these two large organisations discursively construct their positions on IKN, how they include or exclude ecology from those positions, nor what differences in their respective discursive constructions reveal concerning the relationship between religious authority, state power and environmental governance in Indonesia more broadly. This lack is telling, not just in Indonesian studies but comparative religion, development and ecology at large since Indonesia is the world's largest Muslim-majority.

This study aims to fill that gap by using an integrated eco-critical discourse analysis

(eco-CDA) framework on the discourses of IKN from NU and Muhammadiyah. The study proposes ways to theorise *pseudo-sustainability* and *eco-silence* as critical analytical devices that are able to account for the different but mutually reinforcing mechanisms by which ecological critique is absent from discourse. The first key concept, pseudo-sustainability, is defined as a discursive formation where language congruent with the ideal of sustainability is used to give legitimacy and social currency to an intrinsically unsustainable development project, while tangible ecological risks are largely ignored (Kopnina & Bedford, 2024). This research reveals *pseudo-sustainability* through three conspicuous markers: the employment of sustainability discourse in official language, the muffled discussion of ecological hazards in recorded history, and the cooptation of environmental discourse to moral or symbolic ends of national growth.

Meanwhile, *eco-silence* is the systematic lack of ecological discourse in discursive structures that have the institutional authority to express such issues. Conceptually, it differs from pseudo-sustainability, which implies the non-substantial use of green jargon; *eco-silence* refers to a state in which the environmental components of a project become discursively invisible. The idea is based on general notions of absence and silencing in critical discourse studies (Verschueren, 2012). In addition, political ecology's concern with whose voices are systematically excluded from dominant development discourses (Forsyth, 2003). In this view, *eco-silence* is not neutral but a form of tacit assent to state developmental priorities. Its formation is marked by distinct discursive mechanisms that this study seeks to explore.

This research identifies subtle strategies of legitimation, or other techniques that can be characterised as an institutionalized form which produces legitimacy and even goes beyond it with *pseudo-sustainability* and *eco-silence*. It becomes a religious authority to domesticate ecological contentiousness technocratic goals and brings to life new ways of conceptualising religious organisations as discursive brokers. Such as mediators that are able to translate ecological trade-offs into moral or rational imperatives that gain public traction. Accordingly, this study not only offers a fresh perspective on how developmentalist hegemony is reproduced across the Global South, but also a critical lexicon for analysing how environmental dangers are often discursively sidelined in public discourse.

METHODS

We employ a qualitative design through eco-critical discourse analysis (eco-CDA) that is curated from Norman Fairclough's (1995) three-dimensional model and Arran Stibbe's (2015) integrative ecolinguistic framework. The model developed by Fairclough offers essential resources for questioning the power, ideology, and hegemonic relations that are inscribed in the texts. It is operationalised at three levels, namely the textual level which attends to

particular features of language at a micro-level such as lexical choice, metaphor, syntactic structure and rhetorical strategy; the discursive practice level which examines meso processes by which discourse is produced, distributed and consumed across institutions and media channels; and finally the sociocultural practice level whereby discursive formations are placed within wider macroscopic structures of power/ideology/historical context that shape what can be said, by whom, and with what kinds of legitimising force. This structural framework is conditioned through the ecolinguistics of Stibbe (2015), which structures a methodological way to assess discourse ecologically to critically analyse linguistic features that both aid and prevent more sustainable relations between humans and the rest of nature integrated in one viewpoint. This articulation of both frameworks allows the study to elucidate how the master narrative of sustainability used by NU and Muhammadiyah is thus reeking with legitimising IKN while sidelining other voices.

The data gathering strategy is founded on a purposive technique. The unit of analysis is the discursive statement, which includes text segments ranging from clauses to paragraphs that perform recognisable legitimising, ecological or ideological functions. The research corpus is public speech produced by or related with NU and Muhammadiyah in the period of January 2022 – December 2024. The time span was selected as it includes the phase of most intense public debate, from the enactment of Law Number 3 of 2022 on the State Capital to the end of President Joko Widodo's term, when public legitimisation efforts for the IKN project were most aggressively pursued. The selection procedure yielded a full set of primary and secondary texts. Their distribution and categorisation are outlined in Table 1.

Data selection was limited to the strict application of four criteria for scientific analytical rigour. First, the source must publicly be referenced to NU or Muhammadiyah figures, both on a national or regional level. Second, the text needs to explicitly address the IKN project in terms of contextualisation related to institutional orientation. Third, texts released via readily available avenues should have been notified as a means of assuring discursive reach. Fourth, texts must pertain to the core thematic dimensions of the research: development justification, ecological framing, religious legitimation and national identity. All texts were examined in their original language (Indonesian) so as not to lose any of the semantic and rhetorical meanings of religious-specific lexicon or organisational usages, with the English translations created by the researcher for this paper's purpose only. From the perspective of an institutional hierarchy and those actual individuals who contribute to public narrative, Table 2 shows a detailed overview for key stakeholders identified from both organisations.

The analytical approach was conducted in three consecutive yet iterative stages according to the model of Fairclough and guided all along by the tools of

Table 1
Summary of the research data corpus (January 2022–December 2024)

Organisation	Type	Platform/Medium	Category	Total Texts (n)
Nahdlatul Ulama	News article, podcast/ video, organisational editorial, official statement	*Swara NU* (YouTube), *TVNU Televisi Nahdlatul Ulama* (YouTube), *NU Online*, *NU Kaltim*	Organisational platform	4
		Kompas, Viva, CNN Indonesia, CNBC Indonesia, Kumparan News, Okezone	National mainstream media	8
		Tribun Kaltim Official	Regional media	2
Muhammadiyah	News article, organisational article, institutional press release, campus-affiliated statement	*Muhammadiyah, Suara Muhammadiyah, Universitas Muhammadiyah Jakarta, Kabar Muhammadiyah* (Instagram)	Organisational platform	4
		Rakyat Merdeka, CNN Indonesia, Pontas, Antara News, TVRI (YouTube)	National mainstream media	6
		Tribun Kaltim Official, Suara Jogja	Regional media	2
		Sekretariat Presiden	State official media	1
Total Corpus				27

ecolinguistics of Stibbe. The first phase, textual analysis, focused on micro-linguistic characteristics, such as the metaphorical registers informing IKN and the syntactic structures encoding authority and spiritual obligation. The second stage, the analysis of discursive practices, turned the attention to the institutional conditions of text production and the distribution of discourse to Muslim audiences. The third step of sociocultural practice analysis contextualised the discursive patterns observed in the previous stages within the macro-level setting of state-religion interactions in Indonesia and the prevailing ideology of developmentalism. Analytical categories were constructed abductively. Initial coding was theoretically informed; the notions of *pseudo-sustainability* and *eco-silence* were further refined by continuous and iterative interaction with the obtained material.

Table 2
Actors identified as producing discourse

Organisation	Category	Actor	Total Actors (n)
Nahdlatul Ulama	National leadership	Yahya Cholil Staquf (General Chair), Yaqut Cholil Qoumas (Minister of Religious Affairs)	2
	Institutional representatives	Myrna Safitri (Deputy for Environment and Natural Resources of the IKN Authority)	1
	Regional leadership	Muhammad Askin Bahar (Chairman of the Kutai Kartanegara Branch Board)	1
Muhammadiyah	National leadership	Haedar Nashir (General Chair), Abdul Mu'ti (General Secretary)	2
	Regional/youth leadership	Mariman Darto (PWM Kalimantan Timur), Edi Rahman (Chairman of the Muhammadiyah Youth Association for Kutai Kartanegara Regency), Yamin Hadi Firmadi (Chairman of the Kutai Kartanegara Regional Board), Afandi (Chairman of the North Kalimantan Muhammadiyah Youth Association)	4
	Academic figures	Ma'mun Murod Al-Barbasy (Rector of Universitas Muhammadiyah Jakarta), Muhamad Yusuf (Rector of Universitas Muhammadiyah Palangkaraya)	2
Total Corpus			12

RESULTS AND DISCUSSION

Sacralising Development and Rationalising Participation

This section presents the textual analysis (micro-level) of NU and Muhammadiyah's public discourse in turn. With regard to dominant metaphors and lexical choices, NU's vocabulary is saturated with religious-spiritual framing. Participation in sustainable development is construed as '*bagian dari ibadah*' (part of worship) (Swara, 2023), IKN is positioned as an arena for '*membangun peradaban*' (building civilisation) (Kompas.tv, 2022), and the Nusantara acronym is reinterpreted as '*NU, Santri, Pemerintah, Rakyat*' (NU, *Santri*, Government, People) to encode institutional identity (Okezone, 2022)—thereby transforming a state geographical designation into an organisational claim of presence. Expressions such as '*tuntutan spiritual*' (spiritual responsibility) further immerse IKN in a moral-religious teleology where involvement in the project is an expression of Islamic commitment rather than political choice. At the dominant narrative level, the discourse of NU constructs a very affirmative and optimistic image of IKN by liberally utilizing state promotional vocabulary such as '*kota hijau*' (green city), 'smart city', '*ramah lingkungan*' (eco-friendly), '*kota 10 menit*'

(10-minute city), '*ekowisata*' (ecotourism), and '*kota layak huni*' (livable city) (Swara, 2023). These emerge in NU's messages regularly, without critical elaboration or independent evidential underpinning. The cumulative impact is one of narrative convergence: NU's view of IKN is, in its broad outlines, the state's vision of IKN rendered in a religious and organisational idiom.

Thus, the sacralisation and moral-spiritual authorisation are the main modes of legitimisation of NU. It combines the creation of IKN with Islamic worship and morals, making political backing a spiritual requirement and participation in—and by extension criticism of—the project a religious, not political, concern. A syntactic structure with imperative, authoritative and collectivist grammatical orientations is also reinforcing this discursive technique. Expressions such as '*Jangan termakan hoaks*' (Don't be taken in by hoaxes) (Swara, 2023, 23.30–23.35), *'Sampeyan mau jadi pecundang selama-lamanya?'* (Want to be a loser for life?) (KumparanNews, 2023; CNN Indonesia, 2024), and *'PBNU mohon izin untuk ikut menempati IKN'* (PBNU wants permission to occupy IKN) (NU Online, 2022) collectively enact a discursive authority that speaks on behalf of a collective moral community, delegitimising dissent and positioning organisational participation as a shared obligation. The imperative mood, in particular, performs a closure function, framing the appropriate response as already determined and thereby foreclosing deliberative space.

The lexical register of Muhammadiyah, on the other hand, is a rational–technocratic vocabulary. It includes terms like '*rasional*' (rational), '*objektif*' (objective), '*konstruktif*' (constructive), and in combination with their previous value dichotomy, such as, '*kontribusi nasional'* (national contribution) and '*amal usaha*' (charitable ventures) (Muhammadiyah, 2024; RM.id, 2023; Suara Jogja, 2024), framing the organisation as a deliberative civic actor who assesses IKN by institutional rather than spiritual criteria. In this way, NU's language works affectively as a matter of religious identity and obligation, whilst that of Muhammadiyah is procedural signalling organisational independence and discipline. As such, the dominant narrative among Muhammadiyah is one of rational vigilance. Phrasings like '*faktor kompleks*' (complex factors), '*pertimbangan strategis*' (strategic consideration), and '*pertimbangan hati-hati*' (careful consideration) repeatedly repackage IKN not as something that is settled, but just as a moral commitment that needs prolonged deliberation (CNN Indonesia, 2022; Muhammadiyah, 2024). This narrative stance places Muhammadiyah not as a reluctant but an unreceptive interlocutor, which can deny or untie endorsement from the basis of institutional pragmatism.

Muhammadiyah's syntactic register similarly tends towards the declarative and evaluative. They also risk an opening syntax that implicitly insists on institutional positions in constructions like '*memanfaatkan peluang'* (utilising the opportunity); '*tidak terikat dengan*

kedudukan ibu kota negara' (not bound by the location of the state capital); '*memerlukan pertimbangan strategis*' (requires strategic consideration) or *'berdasarkan Anggaran Dasar Muhammadiyah'* (based on Muhammadiyah's Articles of Association) (CNN Indonesia, 2022; Suara Jogja, 2024). These proclamations do not rule out further deliberation as they merely ground organisational action in procedural authority rather than moral imperative. This grammatical restraint may be read as a legitimisation strategy that performs the rationality and deliberativeness Muhammadiyah claims as organisational values. It is reinforced by the organisation's consistent emphasis on institutional process, statutory authority, and evidence-based deliberation—avoiding direct religious justification in favour of pragmatic arguments grounded in socio-economic benefit and organisational mandate. Thus, whilst NU's legitimisation sacralises the IKN mega-project, Muhammadiyah's tends instead to rationalise its own participation, a distinction that reflects not merely a difference in rhetorical preferences, but a fundamentally different conception of how a religious organisation ought to relate to state power. The comparison of linguistic and lexical strategies of both organisations is summarised in Table 3.

Organised Consensus and Cautious Engagement

NU's discourse of IKN is made in an almost centralised and elitist framework at the level of senior organisational leadership, directly formed by long-standing and high-intensity interactions with state actors. Above all, the makings of NU's discourse on IKN are its key producers: the PBNU Chairman Yahya Cholil Staquf; Minister of Religious Affairs Yaqut Cholil Qoumas (Yaqut) and Myrna Safitri as members of IKN Authority that brings together authorities in both religious and state agencies. There are essentially two spheres crucial in shaping its contents and directions. This becomes apparent via three mechanisms of organisational opportunities, national mainstream media and regional media, the last in a much-reduced way. Distribution patterns suggest a top-down organisational model of communication in which messages produced by senior leadership are disseminated down the organisational hierarchy and via mass media, with few indications of dialogic or reciprocative conversation with rank-and-file members. Internally, the discourse takes place among and for NU members, while externally it addresses both the state and general public.

Muhammadiyah's discourse production, by contrast, is characterised by a semi-centralised structure that tends towards internal fragmentation—a condition that reflects, and partly constitutes, the organisation's deliberative institutional culture. A significant and analytically consequential divergence exists between the cautious, evaluative stance of central leadership figures such as Haedar Nashir and Abdul Mu'ti, and the more affirmative orientation of regional bodies such as PWM East Kalimantan and the Muhammadiyah Youth branch in Kutai Kartanegara.

Table 3
Comparison of linguistic/lexical strategies of NU and Muhammadiyah textual dimensions

Textual Aspect	Nahdlatul Ulama	Muhammadiyah
Metaphors and Key Vocabulary	Religious-spiritual: 'Worship protects the environment', 'Participate in building civilisation', 'Nusantara' as an acronym for NU, Santri, Government, People, 'Civilisation building', 'Spiritual duty'.	Rational-technocratic: 'Rational', 'Objective', 'Constructive', 'National contribution', 'Charitable act'.
Dominant Narrative	Affirmative optimism: 'Comfortable city', 'Green city', 'Smart city', 'Eco-friendly', '10-minute city', 'Ecotourism', 'Livable city', 'Restore and rehabilitate forests'.	Rational vigilance: 'Complex factors', 'Strategic evaluation', 'Careful consideration', 'No discussion yet', 'Institutional autonomy'.
Syntactic Structure	Imperative, authoritative, collective: 'Do not believe hoaxes about the IKN development', 'Do you want to be losers forever?', 'God willing, we will build educational and health facilities','PBNU asks permission to participate...'	Declarative, evaluative, cautious: 'Muhammadiyah is utilising the opportunity…', 'Muhammadiyah is not bound by the capital's location', 'Requires strategic consideration', 'Based on Muhammadiyah's Statutes'.
Legitimisation Strategy	Sacralisation and moral-spiritual: Connecting the IKN development project with religious worship and morality, making participation a religious obligation (spiritual imperative).	Procedural rationalisation: Emphasises procedural and institutional aspects; avoids direct religious justification; uses pragmatic arguments based on socio-economic benefit.
Approach to Environmental Issues	Symbolic morality: 'Environmental protection as worship'. There is no analytically in-depth elaboration of negative ecological impacts.	Minimal pragmatic: Provides no specific elaboration on environmental issues; ecological concerns are sidelined in favour of a focus on business charity and institutional social contributions.
Response to Public Criticism	Delegitimising criticism through imperative and authoritative language: Criticism is framed as a hoax or a 'loser's attitude'.	Critical tolerance with a rational approach: Criticism is implicitly accepted through cautious and evaluative sentences, maintaining an institutional distance from the official state narrative.

Rather than a mere product of organisational inconsistency, this divergence more accurately reflects Muhammadiyah's statutory commitment to internal deliberation prior to the adoption of formal institutional positions. Discourse production is explicitly referenced to organisational bylaws and internal decision-making procedures, such that no single actor—even at the level of central leadership—can unilaterally commit the organisation to a discursive position without the sanction of collective

deliberation. The result is a production process that is inherently evaluative and procedurally grounded, in contrast to NU's more directive and authority-driven model.

A different model also applies to the distribution strategy of Muhammadiyah. It draws much more on organisational platforms, national mainstream media and a regionally larger share of media than is allocated to NU. Such a trend mirrors the decentralised nature of the organisation and its responsiveness to local regional contexts. With regard to consumption audiences, Muhammadiyah's discourse is broadly directed at both internal and external registers, just as NU. However, its orientation is not the same. It is internally narrated and addressed to Muhammadiyah cadres through a narrative of institutional contribution in the form of educational initiatives, charitable work and community empowerment programmes. It does so internally by encouraging individual Muhammadiyah members, especially educators, to take up leading roles in all aspects of the community. Externally, Muhammadiyah actors position themselves as a more critical partner to the state than other Muslim organisations (such as NU). In Table 4, we contrast how these texts were produced and consumed.

Table 4
Comparison of discursive dimensions of NU and Muhammadiyah support for IKN

Discursive Dimension	Nahdlatul Ulama	Muhammadiyah
Discourse Production	Centralised and elitist. Conducted by NU elites (Yahya Cholil Staquf, Myrna Safitri). Directly linked to intensive interaction with the state (the president, IKN Authority). Conducted in formal forums (istighatsah, presidential audiences, official forums).	Semi-centralised, tending towards fragmentation. Divided between a cautious central leadership (Haedar Nashir, Abdul Mu'ti) and more affirmative regional branches (PWM East Kalimantan, Muhammadiyah Youth). Rooted in the principles of the statutes and internal Muhammadiyah resolutions. Deliberative and evaluative.
Discourse Distribution	Utilises national mainstream media (*Kompas, Viva, CNN Indonesia, CNBC Indonesia, Kumparan News, Okezone*) and organisational platforms (*NU Online, Swara NU*). Top-down vertical communication model. Leverages symbolic momentum (religious holidays, religious forums). Predominantly symbolic and steeped in spirituality.	Utilises national (*Rakyat Merdeka, CNN Indonesia, Antara News*) and regional media channels (*Suara Jogja*, *Tribun Kaltim Official*). Semi-horizontal and educational distribution model. Based on rational and informative argumentation, devoid of explicit religious symbolism. Promotes public awareness regarding the urgency of education and social welfare.

Table 4 (*continued*)

Discursive Dimension	Nahdlatul Ulama	Muhammadiyah
Discourse Consumption	Internal: Aimed at NU members through religious symbolic narratives (worship, contribution to the ummah, civilisational building). External: Aimed at the public and the state to politically legitimise government projects, such as land acquisitions and sociopolitical investments.	Internal: Aimed at Muhammadiyah cadres with a narrative of institutional contributions to education, charity, and community empowerment. External: Positioned as a critical partner to the state, projecting an image of an independent yet constructive organisation focused on mitigating social and economic impacts.
Eco-CDA	Frames environmental issues within a religious symbolic structure ('environmental worship'). Fails to provide substantive criticism or ecological impact analysis. Establishes 'pseudo-sustainability' by using environmental terminology ('eco-friendly', 'green city') without in-depth discussion of the potential physical environmental impacts of the IKN project. Implicitly supports a state development agenda that may marginalise critical environmental voices.	Places environmental issues in a marginal or minimalist position. Lacks explicit ecological discourse critical of IKN's development. Ecological issues are eclipsed by considerations of institutional social benefits, such as the expansion of commercial charities, education, and healthcare. Indicates a form of 'passive eco-silence,' where the organisation indirectly contributes to the normalisation of the dominant development discourse without questioning ecological implications.
Relationship with the State and Political Agenda	Strong hegemonic alignment with the state. Participates in reproducing the state's dominant narrative within a religious and nationalist framework. Fully supports government projects explicitly and formally, without critical questioning.	Maintains a cautious institutional distance from the state. Not fully beholden to the state's agenda, yet open to limited collaboration that is institutionally advantageous. Avoids direct religious justification of state projects, opting for a pragmatic-rational approach when adopting a supportive stance.

The Sociocultural Praxis of NU and Muhammadiyah in IKN's Discourse

What do the NU and Muhammadiyah discourses reveal about the structural roles that religious authority, state power, developmentalist ideology, and environmental accountability play in contemporary Indonesia? No matter how different at the micro and meso levels, they converge at the macro level. While operating from very different socio-cultural bases, both contribute to the entrenchment of a developmentalist paradigm that works systematically to disregard real ecological critique.

The deepest historical roots and the structural closeness of this organisation to the state is perhaps one of the most important fundamental sociocultural determinants of NU's discourse on IKN. It occupies a position at the nexus of religious authority and political power among many groups in Indonesia (Bush, 2009; van Bruinessen, 2013). Its position makes it a useful tool for the state, allowing controversial policies to be legitimised under its mantle; and yet this same position would leave it vulnerable, as perhaps a compromised actor when developmental interests favoured by the state cause stronger damages successively on communities and ecosystems where their members live. The state's use of NU as a 'discursive broker' in securing public consent for a mega-project around which substantial ecological and social contestation is likely to concentrate can be explained precisely because NU has been building its institutional identity on its proximity to power over decades. In this case, NU acts more as an institutional handmaiden to state developmentalism than a civil society actor independent from the state. It lends religious legitimacy to a project whose environmental costs have already been thoroughly documented by scientists, indigenous rights advocates and civil society organisations.

The legitimacy processes are best characterised as discursive sacralisation of secular-modernist language and claims about the state forms it should develop (and others that ought not be adopted), to an extent that technocratic discourse can no longer sustain itself without being appropriated in religious and civilisational registers for moral authority. This is much more than lexical borrowing. It is a very subtle device where the semantic content of state language remains, but its ideological framing changes. Thus, development, far from being a mere political ideal, is framed as an expression of a spiritual imperative. Thus, NU speaks to its audience not as citizens asked to adopt a certain form of state policy, but as believers invited to labour in service of a God-willed civilisational charge. This is where forms of civil society are absorbed or at least co-opted by the order of governance, and the organisation instead presents a more sociocultural construction whose institutional interests and incentives become so intermingled with those of government that true independence becomes structurally elusive.

The limitation of intertextual strategies has ideological implications. By sacralising state developmental discourse, NU seems to foreclose the discursive space for any alternative possible intertextual connections to be established, especially those with environmental science, indigenous rights frameworks, or ecological theology (fiqh al-bi'ah). It might provide a serious theological critique of development as it has been understood by the state. For example, according to the concept of intertextual closure, alternative discourses in NU are at least not so much countered as rendered structurally impossible on account of NU's own strategies of discourse practices. Reading through Fairclough

(1995), the appropriation of phrases like 'green city', 'eco-friendly industry', and 'forest restoration and rehabilitation' never attains a level of critical scrutiny that could permit an absolutist separation between language and practice. This strategy allows NU to look good on environmental issues while avoiding engagement with real environmental data, a process we call *pseudo-sustainability*. It is not an outright denial of ecological wreckage but the embedding of environmental discourse into a representational system where immediate critique has structural impotence.

On the other hand, Muhammadiyah generally has a more subtle sociocultural position toward the state. Historically, it has kept a greater institutional distance from state power than NU by anchoring its public identity in the values of organisational autonomy, rational deliberation and civil independence (Al-Hamdi, 2022; Jung, 2014). In the case of the IKN where this history is explicit in terms of a political agenda resisting symbolic co-optation, Muhammadiyah's central leadership has set aside space for moral authority outside the bounds of state-development narrative. So the organisation emphasises procedural deliberation and community benefit over political allegiance. However, it is not independence as in "full autonomy," though. As shown by the more upbeat orientations of some branches and affiliated bodies of Muhammadiyah, the temptation of the IKN development pie is putting pressure on organisational coherence. This creates a socio-cultural tension between centre's caution and regional pragmatism.

Such a construction of modernist Islamic identity shapes Muhammadiyah's mode of legitimisation, which is rational-technocratic in nature. Here, rather than absorbing and sacralising state discourse as NU does, Muhammadiyah practises a type of selective intertextual appropriation. Further, bits and pieces of the state-developmental discourse are surreptitiously plucked out from their original context (like a symbol of nationhood or breaking the poverty cycle) and reset into an institutional backdrop particularly centred around Muhammadiyah's social mission on community service. As a consequence, the organisation neither adopts the overall state narrative nor declares itself in opposition; instead, it picks components—especially dimensions about social infrastructure and human development—that suit well with its own objectives and selectively reorganises them while remaining discursively distanced from many of the project's more expansive political/ideological horizons. Both central and regional figures exhibit this pattern, though the former are far more cautious and measured: the IKN mega-project is acknowledged and responded to, but only through the intertextual lens of amal usaha—Muhammadiyah's institutional tradition of philanthropic ventures. The state's civilisational and nationalistic rhetoric is absent from these formulations; what is reproduced instead are the developmental opportunities the project offers for the organisation's expansion in Kalimantan.

On the one hand, this intertextual position situates Muhammadiyah in a relation of neither inside nor outside the

dominant IKN narrative by engaging it within a framework of its own (institutional discourse). However, it also creates virtually complete detachment from environmental critiques. The way this organisation institutionalises philanthropic giving systematically marginalises environmental questions from its related discourse on IKN not through symbolic appropriation like NU, but through a form of issue prioritisation where ecology is neither mentioned nor addressed. This *eco-silence* is not a function of active repression, but the result of more structural inattention. While ecology might have been a possible area for critique, it was blocked out as an institutional incentive or object of analysis, a credit to the organisation's identity and mission frameworks. As a result, concerns with the environment have not entered into its dialogue, even while the organisation has come to claim itself as potentially a key and institutional partner of the state. Thus, this silence is a lost structural possibility for religious civil society to take on the valuable ecological function that is otherwise so clearly blocked by the dominant developmentalist discourse of the state. Table 5 displays these macro-level differences.

Table 5
Comparison of NU and Muhammadiyah sociocultural analyses of IKN project support

Sociocultural Dimension	Nahdlatul Ulama	Muhammadiyah
State-Religion Relations	Close relationship with the state; integrated into the government's hegemonic strategy.	Maintains institutional distance; resists symbolic co-optation by the state.
Basis of Legitimacy	Moral-spiritual; religious symbols are utilised as tools for political legitimisation.	Rational-technocratic; legitimacy is secured through pragmatic institutional considerations.
Development Ideology Narratives	Modernist narrative imbued with religious symbols (civilisation, worship, progress of the *Ummah*).	Rational modernist narrative, prioritising institutional and educational social contributions.
Response to Environmental Criticism	Symbolic neglect via spiritual narratives (pseudo-sustainability).	Pragmatic neglect, lacking a substantial critique of environmental issues (eco-silence).
Role as a Civil Society Actor	Tends to legitimise the state, thereby diminishing its critical function.	Seeks to be a critical partner of the state; maintains independence and avoids the role of mere political legitimisation.
Construction of Organisational Identity	'Partner of civilisation'; religious, affirmative of government development policies.	Rational and cautious, employing a deliberative approach oriented towards long-term social transformation.

CONCLUSION

The study has uncovered a significant legitimacy gap, in which the material ecological threats of deforestation and biodiversity loss are highly challenging state discourses on IKN as a sustainable forest city. The findings show that NU and Muhammadiyah, the two largest Islamic organisations in Indonesia and among the largest in the world, function as important 'discursive brokers' that bridge this gap by absorbing state developmentalism into religious and rational registers. We argue that while both organisations employ distinct modes of legitimisation, both effectively facilitate the marginalisation of ecological concerns in favour of accelerating national development. NU applies a mode of sacralised development resulting in pseudo-sustainability, while Muhammadiyah adopts a procedural-pragmatic mode that manifests as passive eco-silence. By absorbing the language of ecological sustainability into spiritual narratives or replacing it with institutional objectives, they—intentionally or otherwise—provide the moral and social capital necessary for the state to proceed amidst sporadic yet sharp ecological critiques.

Empirically, the study offers a systematic and comparative analysis of the ways in which Indonesia's two main Islamic groups engage with state-led development projects that are purportedly sustainable. This research maps the differences between the top-down spiritual consensus of NU and the decentralised rationalistic participation of Muhammadiyah. It gives a detailed description of the variety in Islamic political discourse. We theoretically extend the horizon of eco-critical discourse analysis by operationalising *pseudo-sustainability* and *eco-silence* as two separate analytical categories. These ideas prompt academic debate beyond the truism that religion accompanies the state, toward more tangible indicators of how environmental rhetoric is employed or overlooked in the service of developmentalist hegemony. The framework outlines what kinds of discourse and activities might leverage religious power to reframe environmental trade-offs as necessity or responsibility.

IMPLICATIONS OF THE STUDY

This study raises wider ethical questions about the degree to which religious institutions have a role in legitimising modes of state developmentalism that marginalise environmental concerns. That suggests the restricted political space of much of Indonesian civil society, where state-centred forms of developmental accommodation have pushed environmental issues and indigenous rights to a far corner. Instead, common sense may succumb to environmental care being swallowed up whole by economic nationalism, in which development triumphs over conservation. This calls for more nuanced syntheses of ecological effects, surrounding potential future projects on religious legitimation to shed light on environmental impacts as ceremonial icons versus meaningful eco-critical readings.

That is also the point of this work: to contribute to expanding the literature on faith-based environmental politics, particularly in an environment where religious narratives often feature state-led development.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The research is inherently public-facing, has a strong corpus bias, and contains no inside discussions or private opinions. Mediated materials allow for editorial framing of the content. National narratives ignore regional differences as well, especially among the affiliates of NU and Muhammadiyah. It calls for more in-depth research from the grassroots perspective, and whether or not rank-and-file members agree with or contest elite narratives, to provide a richer portrait of how religious communities enact environmental and development work. In such fashion, comparative research studies in different developing nations could also investigate whether or not patterns of pseudo-sustainability and eco-silence might be more widespread and universal.

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Teachers' Perspectives on the Feasibility of Education Reform in Rural Schools: An Exploratory Case Study of the Versatile Learning Pathway Model

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ABSTRACT

The Malaysian education system continues to face persistent structural challenges in rural and underserved areas, including limited access to educational resources, inadequate infrastructure and uneven technological readiness. While the COVID-19 pandemic intensified these challenges, it also exposed long-standing inequalities that remain relevant in the post-pandemic period. This study examines teachers' perspectives on education reform in a rural secondary school in Negeri Sembilan, Malaysia, using the Versatile Learning Pathway (VLP) model as an analytical lens to explore the feasibility of blended learning implementation. An exploratory case study design was employed, involving a survey administered to 18 purposively selected teachers. Data was analysed using descriptive statistics and a SWOT (Strengths, Weaknesses, Opportunities, Threats) framework to examine institutional readiness, perceived benefits and implementation constraints associated with VLP. The findings indicate that teachers perceive VLP as a potentially viable approach for supporting instructional flexibility and learning access. Although the findings are context-specific and not intended for statistical generalisation, the study provides practitioner-based insights into the complexities of implementing blended learning as part of rural education reform. The results underscore the importance of teacher readiness, institutional

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support and contextual planning in ensuring the feasibility of reform initiatives in rural school settings. This study contributes to the rural education reform literature by offering an institutional-level feasibility diagnosis of blended learning implementation using a SWOT framework, grounded in teachers' lived experiences rather than policy-level assumptions.

Keywords: Education reform, Malaysian education system, rural schools, teacher perspectives, Versatile Learning Pathway (VLP), blended learning, SWOT analysis

INTRODUCTION

Rural education systems in many countries continue to experience structural challenges related to access, equity and quality of teaching. In Malaysia, rural schools often face limitations in infrastructure, digital connectivity and teacher utilisation that contribute to the persistent rural-urban gap in educational outcomes (Tahir et al., 2025). While recent investments in digital infrastructure have improved access in some areas, many rural schools continue to operate under resource constraints that affect teaching and learning practices (Abdul Rahman et al., 2025).

The COVID-19 pandemic has exacerbated these challenges but has also exposed systemic weaknesses in teaching delivery and institutional readiness. Importantly, these issues have not disappeared after the pandemic but rather have highlighted the need for more flexible and context-sensitive approaches to education reform, particularly in rural settings (Alison & Mugyenyi, 2025). In this study, education reform is understood as system-level changes in teaching delivery, learning modalities and resource utilisation that aim to increase access, flexibility and effectiveness in underserved school contexts (Reyes, 2023).

Teachers play a crucial role in the success of educational reform initiatives, as they are responsible for implementing change at the classroom level. Their perceptions influence teaching strategies, classroom management and the sustainability of innovation (Finnanger, 2024). Therefore, understanding teachers' perspectives is important, especially in rural schools where contextual constraints can shape how reform is experienced and enacted (Fitrah et al., 2025).

This study focuses on Negeri Sembilan due to the concentration of rural secondary schools that face challenges related to infrastructure, teacher provision and access to digital learning resources. Rather than aiming for representation, this study examines one rural secondary school as a limited case to explore teachers' perceptions of the feasibility of reform. The Versatile Learning Pathway (VLP) model is used as an analytical lens to examine how blended learning can support educational reform in this context. In this study, blended learning is examined as a strategic approach to educational reform in rural schools, while the Versatile Learning Pathway (VLP) model is used as a practical framework to operationalise and assess the feasibility of this approach in the context of rural schools.

This study addresses the following research questions:

1. What are teachers' perceptions of the need for educational reform in the context of rural schools?
2. How do teachers view the strengths, weaknesses, opportunities, and threats associated with the VLP model?
3. What are the challenges and considerations that influence the feasibility of implementing blended learning as part of rural education reform?

LITERATURE REVIEW

Rural Education and Educational Reform

Research on rural education has consistently highlighted challenges related to limited infrastructure, access to qualified teachers, and unequal learning opportunities (Ajit et al., 2022). While some previous studies may not fully reflect recent technological developments, they provide a structural baseline for understanding ongoing constraints. More recent research suggests that despite increased connectivity, rural schools continue to face implementation challenges that require context-specific reform strategies (Bizami et al., 2023).

Blended Learning as a Reform Strategy

Blended learning has been widely discussed as a flexible teaching approach that integrates face-to-face and online learning. International studies show that blended learning can increase student engagement and broaden access when implemented with adequate institutional support (Cubacub & Jimenez, 2025; Wibowo, 2024). However, successful implementation depends on teacher readiness, infrastructure and contextual suitability (Jailani et al., 2025). Figure 1 shows the concept of blended learning as explained by Pachisia (2022). The framework describes how blended learning works between face-to-face learning and online learning.

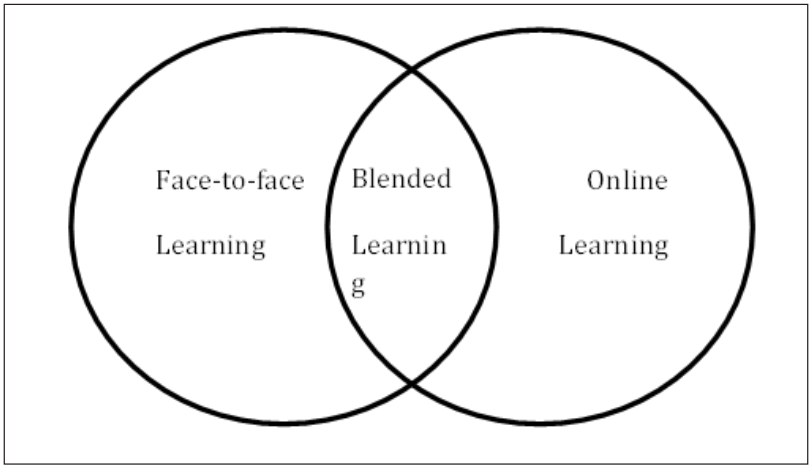

Figure 1. Blended learning (Pachisia, 2022)

Governments and educational institutions have sought to address these disparities through initiatives such as the Teacher Community Digital Learning (Komuniti Guru Digital Learning) platform, which provides online resources and support to teachers (UNICEF, 2020). However, many students and teachers continue to face challenges in effectively adopting digital learning, highlighting the need for blended learning solutions that combine online and face-to-face teaching.

The Need for Education Reform in Malaysia

The Malaysian education system is under increasing pressure to adapt to technological advances and socioeconomic differences. The pandemic has highlighted inequalities between students from different income groups, particularly B40 households, who face greater barriers to online learning than M40 and T20 households due to financial constraints in affording devices and slow internet connection for their children (Aidil et al., 2024).

Several factors underscore the need for education reform, such as addressing learning challenges, improving teacher quality, reducing socioeconomic disparities and increasing access to educational resources (Azman et al., 2024; Özdemir & Göztürk, 2023). Rural schools are particularly affected as geographical and resource constraints often prevent students from accessing quality education, further widening the achievement gap.

Versatile Learning Pathway Model

The Versatile Learning Pathway (VLP) model is a context-specific implementation framework rather than a stand-alone reform policy in this study as shown in Figure 2. The VLP model does not represent a reform policy in itself but serves as a structured framework for implementing blended learning as part of a broader educational reform effort in rural schools.

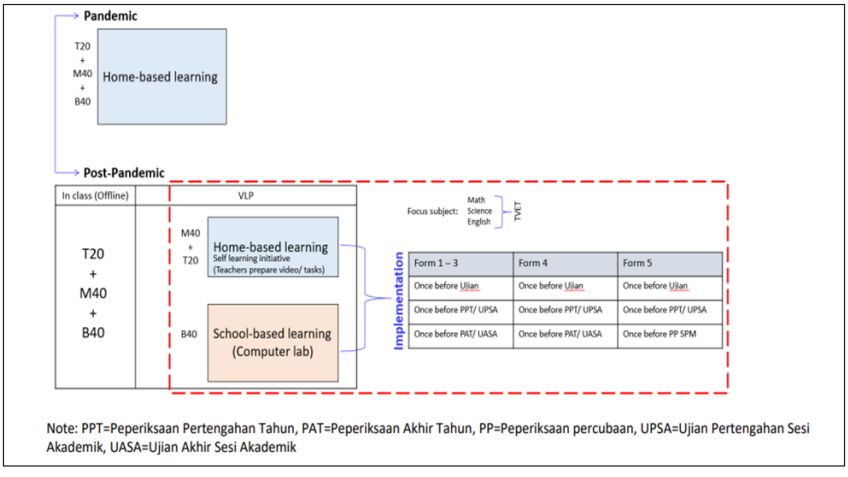

Figure 2. Versatile learning pathway model

It operationalises blended learning by allocating home-based and school-based learning pathways based on students' access to resources and learning needs, with flexibility for teacher discretion. This model aims to support equity, instructional flexibility, and feasibility in rural environments. More importantly, the conceptual structure and practical applicability of the VLP model were reviewed and validated by one rural school principal, two District Education Office (PPD) officials, and one assistant principal to ensure its contextual relevance, administrative feasibility, and alignment with current rural education policies. In this study, the VLP model is treated strictly as an implementation framework rather than a technological platform or policy intervention.

Blended Learning and the VLP Model

Blended learning, which integrates face-to-face instruction with online learning, has emerged as an effective strategy to address these challenges (Al-Mekhlafi et al., 2025; Finnanger, 2024). Studies show that blended learning enhances student engagement, supports diverse learning styles, and allows flexible access to educational resources (Ama, 2025; Aminuddin et al., 2022)

Building on this approach, the Versatile Learning Pathway (VLP) model is designed to provide a context-sensitive solution for rural Malaysian schools. The VLP model combines home-based learning for students with digital access and school-based learning for those with limited resources, ensuring equitable educational opportunities. It focuses particularly on technical and vocational education (TVET) subjects, including mathematics, science and English, aligning with Malaysia's MADANI education concept (Sualman, 2025).

The VLP model incorporates several pedagogical features: flexible scheduling, self-directed learning, personalised group instruction and blended use of digital tools. These features aim to address rural students' socio-economic challenges, reduce classroom congestion and provide targeted academic support. Expert validation has confirmed its potential for improving learning outcomes and promoting technological literacy among both students and teachers.

Strengths and Opportunities of VLP

The VLP model's strengths include promoting equitable access, flexibility in learning and technological readiness while reducing physical congestion in classrooms. It also enables teachers to focus on specific groups of students and provide personalised support, leveraging online resources for knowledge expansion. Opportunities arise in fostering collaborative learning, self-directed study habits, and long-term digital literacy, which are critical for future academic and professional success.

Weaknesses and Implementation Challenges

Despite its promise, the VLP model faces limitations such as a lack of teacher training in technology, resource constraints and increased workload for teachers.

These challenges must be addressed through professional development, adequate funding and careful planning to ensure successful implementation.

Implementation of VLP in Schools

Implementing VLP in rural schools requires a strategic, step-by-step approach. Schools can begin by assessing students' access to digital devices and internet connectivity to determine which students require school-based support versus home-based learning. Teachers should receive training in digital tools, blended learning pedagogy and classroom management for online settings.

Scheduling is critical: VLP sessions can be organised before examinations or assessments, allowing students from disadvantaged backgrounds to catch up, while students with home access can continue self-directed learning. Schools can establish computer labs or learning hubs for students who lack devices at home while also encouraging students with internet access to participate in online components from home.

To enhance engagement, VLP can integrate interactive online platforms, group discussions and project-based assignments, combining them with in-person guidance to ensure student accountability. Collaboration among teachers is also essential, allowing the sharing of lesson plans, digital resources and best practices. Continuous monitoring and feedback, both from teachers and students, help refine the program to suit local needs and improve learning outcomes.

Overall, VLP provides a pragmatic and flexible framework that accommodates diverse student needs while addressing challenges in rural education. Its implementation, if supported with proper resources, training and planning, can significantly improve learning equity, student engagement, and digital literacy in rural Malaysian schools.

METHODOLOGY

Analytical Framework: SWOT Analysis

This study adopts a SWOT analysis framework to examine teachers' perceptions of education reform implementation. Unlike technology acceptance models such as the Technology Acceptance Model (TAM), which focus on individual attitudes toward technology, SWOT analysis allows for an institutional-level diagnostic assessment of strengths, weaknesses, opportunities and threats. This makes it particularly suitable for exploring reform feasibility in resource-constrained rural school settings.

This study employed an exploratory case study design focusing on one rural secondary school in Negeri Sembilan. The case represents the institutional context in which the feasibility of implementing the VLP model as part of education reform is examined.

A total of 18 teachers participated in the study through purposive sampling. Participants were selected based on their teaching experience in a rural school context and their involvement in instructional practices affected by resource constraints.

The study aimed to gain in-depth insights rather than produce statistically generalisable findings, and purposive sampling ensured that the participants possessed the specific expertise required to provide meaningful data. The SWOT framework further enhanced the depth of information obtained, as each participant contributed detailed input across multiple dimensions, including perceived strengths, weaknesses, opportunities and threats associated with VLP implementation.

The small sample size is also consistent with similar studies examining teacher perspectives in rural contexts, which often involve between 10 and 30 participants (Alkaabi et al., 2023; Mohan & Kamrozzaman, 2025). Practical and contextual considerations, such as geographic constraints and access to rural schools, also influenced the sample size, which nevertheless represents a meaningful portion of the teaching population at the selected school. These factors ensure that the data collected is credible and provides valuable insights into the feasibility and challenges of implementing VLP in rural schools.

The survey instrument consisted of quantitative items using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) to measure teachers' perceptions in each SWOT category. Open-ended questions allowed participants to elaborate on their responses and provide additional recommendations or concerns regarding education reform and VLP implementation. The survey was conducted electronically over two weeks, ensuring accessibility and convenience for participants.

Data analysis involved quantitative summary statistics, including frequency distributions and percentages to highlight trends within each SWOT dimension. Qualitative responses were analysed thematically to identify recurring patterns, insights and practical recommendations from teachers. All analyses were conducted using SPSS Version 26. While the study acknowledges limitations related to the small, non-probability sample and a proportion of neutral responses, the methodology provides a robust framework to explore teacher perspectives and identify meaningful implications for education reform in rural schools. Percentages are used descriptively to illustrate response patterns rather than to imply statistical inference. In keeping with exploratory case study conventions, the emphasis is placed on identifying tendencies and areas of convergence or concern among teachers, rather than on magnitude or generalisation.

FINDINGS AND DISCUSSION

The study explored teachers' perspectives on the need for education reform in rural schools with particular attention to the Versatile Learning Platform (VLP) model as a blended learning framework. Although the sample comprised only 18 teachers, this aligns with the case study design, which prioritises in-depth contextual understanding over statistical generalisability. The survey responses provide exploratory insights into teachers' perceptions of educational reform within a specific rural setting. The findings are presented using a SWOT framework to

systematically link teachers' feedback to key features of the VLP model.

As shown in Table 1, teachers' responses regarding the need for education reform in rural schools were mixed. Approximately one-third of respondents (33.3%) agreed that education reform is necessary, indicating recognition of existing challenges and the potential value of introducing changes to improve educational quality and accessibility in rural contexts. In contrast, 27.8% of teachers disagreed, suggesting that some respondents perceive current educational practices as sufficient and may be sceptical about the effectiveness of reform initiatives in addressing rural education issues.

Notably, a substantial proportion of respondents (38.9%) did not provide a response to this question. The high non-response rate may reflect uncertainty, limited exposure to reform initiatives or insufficient familiarity with the concept of educational reform among teachers in rural settings. This pattern highlights the need for further qualitative exploration to better understand teachers' perspectives and underscores the exploratory nature of this case study. Rather than indicating a lack of relevance, the non-responses point to the complexity of the issue and suggest that additional contextual factors may influence teachers' engagement with education reform discussions.

Table 1
The need for education reform in rural schools

School Reform	Percent
Agree	33.3
Disagree	27.8
No response	38.9

Strengths of VLP

This section elaborates on the perceived strengths of online learning within the VLP model, with particular emphasis on three dimensions: equality of learning among students, flexibility in student mobility and the reduction of congestion in learning environments. Table 2 presents teachers' perceptions of the extent to which VLP contributes to equality in learning experiences.

As shown in Table 2, half of the respondents (50.0%) agreed or strongly agreed that the VLP model promotes equality of learning among students, indicating a generally positive perception of its potential to provide more equitable educational opportunities. The blended structure of VLP, which integrates both online and face-to-face components, may support diverse learning styles and individual needs, thereby facilitating broader access to learning resources and instructional support.

At the same time, a notable proportion of respondents (27.8%) selected a neutral response. This suggests that while VLP is perceived as having the capacity to enhance learning equality, its effectiveness may depend on contextual factors such as students' access to technology, digital literacy, and the quality of implementation. The presence of neutral responses highlights opportunities for further refinement and targeted strategies to strengthen equitable learning outcomes within VLP environments.

In contrast, a smaller proportion of teachers (22.2%) disagreed or strongly disagreed that VLP promotes equality of learning.

Table 2
Equality of learning among students

Response options	Percent	Cumulative Percent
Strongly disagree	5.6	5.6
Disagree	16.7	22.2
Neutral	27.8	50.0
Agree	44.4	94.4
Strongly agree	5.6	100.0

Table 3
Flexibility in student mobility

Response options	Percent	Cumulative Percent
Strongly disagree	5.6	5.6
Disagree	5.6	11.1
Neutral	44.4	55.6
Agree	38.9	94.4
Strongly agree	5.6	100.0

This indicates some reservations among respondents regarding the model's ability to fully address disparities, particularly in contexts where technological or infrastructural constraints persist. Overall, the findings suggest that while VLP is viewed as a promising approach for promoting equality in learning, its impact may vary across settings, reinforcing the exploratory nature of this case study.

Table 3 presents teachers' perceptions of flexibility in student mobility within the VLP model. Overall, the responses indicate a cautiously positive perception, with 44.5% of teachers agreeing or strongly agreeing that VLP enhances flexibility in student mobility. This suggests that respondents recognise the potential of VLP to support access to learning across different times and locations, which may contribute to greater adaptability in students' learning experiences.

However, a substantial proportion of respondents (44.4%) selected a neutral response. This high level of neutrality indicates uncertainty regarding the extent to which VLP effectively facilitates student mobility. Such responses may reflect limited direct experience with flexible learning arrangements, variability in implementation across schools, or insufficient clarity regarding how student mobility is operationalised within the VLP framework. The presence of neutral responses highlights the need for clearer guidelines and further exposure to blended learning practices to enable teachers to more confidently assess its impact.

In contrast, a smaller proportion of respondents (11.1%) disagreed or strongly disagreed that VLP supports flexibility in student mobility. Although limited

in number, these responses point to potential challenges, such as infrastructural constraints or unequal access to learning facilities, which may restrict the practical realisation of flexible learning arrangements in certain contexts.

Within this case study, the perceived flexibility of VLP is particularly relevant for addressing socio-economic differences among students. The blended nature of the model allows students from B40 households to access learning resources through school-based facilities, while students from M40 and T20 households may engage in home-based learning. While this flexibility is viewed positively by many respondents, the variation in responses underscores the context-dependent nature of VLP implementation and reinforces the exploratory focus of this study.

Table 4 presents teachers' perceptions of the extent to which the VLP model contributes to reducing congestion in learning environments. The responses indicate a mixed but moderately positive perception. Overall, 44.4% of respondents agreed or strongly agreed that VLP helps reduce congestion in physical classrooms, suggesting that blended learning arrangements may alleviate overcrowding by distributing learning activities across online and face-to-face settings.

At the same time, a considerable proportion of respondents expressed reservations. Approximately one-third of teachers (33.4%) disagreed or strongly disagreed that VLP effectively reduces congestion, while 22.2% selected a neutral response. These findings suggest that the perceived effectiveness of congestion reduction may vary depending on contextual factors such as class size, infrastructure availability, and the degree to which online components are integrated into routine teaching practices.

Despite these mixed perceptions, the results indicate that VLP has the potential to optimise the use of physical learning spaces without compromising instructional delivery. However, the variability in responses highlights the need for clearer implementation strategies and improved communication regarding how blended learning models can be used to manage classroom congestion effectively. Within the context of this case study, these findings underscore that while VLP is viewed as a promising approach, its impact on reducing congestion is not uniform across all settings.

Table 4
Reduction of congestion in learning environments

Response options	Percent	Cumulative Percent
Strongly disagree	16.7	16.7
Disagree	16.7	33.4
Neutral	22.2	55.6
Agree	33.3	88.9
Strongly agree	11.1	100.0

This pattern reflects the transitional nature of reform adoption in rural schools, where perceived benefits coexist with uncertainty arising from uneven access and support structures

Weaknesses of VLP

Despite the identified strengths of the VLP model, teachers also highlighted several weaknesses related to its implementation. Table 5 presents respondents' perceptions regarding the lack of training and experience in technology use among teachers as a potential limitation of VLP adoption. The findings indicate a notable level of concern, with half of the respondents (50.0%) agreeing or strongly agreeing that insufficient training and technological experience constitute a significant weakness. This suggests that teachers' readiness and confidence in using digital tools remain critical factors influencing the effectiveness of VLP implementation.

In addition, 27.8% of respondents selected a neutral response, indicating uncertainty or mixed experiences regarding access to training and familiarity with educational technologies. This neutrality may reflect variations in prior exposure to professional development opportunities or differences in individual digital competencies among teachers. Such variability underscores the uneven nature of technological preparedness within the teaching workforce.

Conversely, 22.2% of respondents disagreed or strongly disagreed that a lack of training and experience is a major weakness, suggesting that some teachers perceive existing training and technological support as adequate. These differing perceptions highlight the context-dependent nature of VLP implementation within this case study. Overall, the findings emphasise the importance of targeted professional development initiatives aimed at strengthening teachers' digital literacy and pedagogical confidence to support the effective integration of VLP in rural school settings.

Tables 6 and 7 further illustrate teachers' perceptions of structural and resource-related weaknesses affecting the implementation of the VLP model. As shown in Table 6, more than half of the respondents (55.5%) agreed or strongly agreed that the number of teachers in schools is inadequate to effectively support online and blended learning.

Table 5
Lack of training and experience in technology use among teachers

Response options	Percent	Cumulative Percent
Strongly disagree	11.1	11.1
Disagree	11.1	22.2
Neutral	27.8	50.0
Agree	27.8	77.8
Strongly agree	22.2	100.0

Table 6
Inadequacy of the number of teachers in the school

Response options	Percent	Cumulative Percent
Strongly disagree	00.0	00.0
Disagree	11.1	11.1
Neutral	33.3	44.4
Agree	22.2	66.7
Strongly agree	33.3	100.0

Table 7
Insufficient access to resources and tools

Response options	Percent	Cumulative Percent
Strongly disagree	00.0	00.0
Disagree	11.1	11.1
Neutral	22.2	33.3
Agree	38.9	72.2
Strongly agree	27.8	100.0

This perception suggests concerns regarding teachers' capacity to manage instructional demands across both online and face-to-face components. An insufficient number of teachers may result in increased workload, larger class sizes, and reduced opportunities for individualised student support, which could negatively influence the quality of learning experiences.

A substantial proportion of respondents (33.3%) selected a neutral response, indicating that while some teachers may acknowledge staffing challenges, these issues may not be uniformly experienced across all contexts within the case study. Only a small percentage of respondents (11.1%) disagreed with the statement, and none strongly disagreed, suggesting limited opposition to the view that teacher numbers may be insufficient.

Similarly, Table 7 indicates that insufficient access to resources and technological tools is perceived as a significant weakness in VLP implementation. A clear majority of respondents (66.7%) agreed or strongly agreed that limitations in access to resources and tools hinder effective teaching and learning. Such constraints may affect students' ability to engage fully with instructional content, complete learning tasks, and participate meaningfully in online or blended learning activities.

Although 22.2% of respondents expressed neutral views regarding access to resources, this may reflect variability in infrastructure availability or differing levels of reliance on digital tools across learning contexts. A smaller proportion of respondents (11.1%) disagreed, suggesting that some teachers perceive existing resources as adequate. Taken together, the

findings from Tables 6 and 7 highlight that staffing capacity and access to technological resources are critical factors influencing the effectiveness of VLP implementation. Within the context of this case study, these challenges underscore the importance of ensuring sufficient teacher support, reliable digital infrastructure, and equitable access to learning resources to maximise the potential benefits of blended learning models in rural school settings.

Opportunities for VLP

The findings indicate several perceived opportunities associated with the implementation of the VLP model through blended learning, particularly in relation to expanded access to knowledge and the potential for more targeted instructional practices. These opportunities reflect teachers' views on how technology integration may enhance learning experiences within rural school contexts.

As shown in Table 8, teachers expressed a strongly positive perception of technology's role in expanding access to knowledge. A substantial majority of respondents (77.7%) agreed or strongly agreed that technology enables greater choice of learning resources, while no respondents expressed disagreement. This suggests a clear consensus that VLP can broaden students' exposure to diverse learning materials beyond those available in traditional classroom settings. The presence of neutral responses (22.2%) indicates some uncertainty, which may relate to differences in technology usage or accessibility across contexts; however, overall perceptions point to technology readiness as a key opportunity within this case study.

In contrast, responses related to teachers' ability to focus on specific groups of students (Table 9) were more mixed.

Table 8
Technology allows for a greater choice of knowledge

Response options	Percent	Cumulative Percent
Strongly disagree	00.0	00.0
Disagree	00.0	00.0
Neutral	22.2	22.2
Agree	44.4	66.7
Strongly agree	33.3	100.0

Table 9
Focus on a group of students

Response options	Percent	Cumulative Percent
Strongly disagree	16.7	16.7
Disagree	11.1	27.8
Neutral	33.3	61.1
Agree	38.9	100.0
Strongly agree	00.0	00.0

While 38.9% of respondents agreed that VLP allows for greater focus on particular student groups, a combined 27.8% disagreed or strongly disagreed, and 33.3% selected a neutral response. This distribution suggests that although some teachers perceive potential for more targeted or personalised instruction, others remain uncertain or sceptical about the practical feasibility of achieving this within existing constraints. The absence of strong agreement further indicates that this opportunity may depend heavily on contextual factors such as class size, teacher workload, and available technological support.

Overall, the findings suggest that VLP presents clear opportunities for expanding access to knowledge through technology, while its potential to support focused instruction for specific student groups remains less uniformly perceived. Within the scope of this case study, these results highlight both the promise of blended learning models and the need for supportive conditions to fully realise their pedagogical benefits.

Table 10 presents teachers' perceptions of students' technology readiness as an opportunity within the VLP model. The distribution of responses indicates a cautious and mixed assessment. The largest proportion of respondents (38.9%) selected a neutral response, suggesting uncertainty regarding the extent to which students are adequately prepared to engage with technology-based learning. This neutrality may reflect differing levels of students' prior exposure to digital tools or the belief that technology readiness is highly dependent on contextual and infrastructural factors.

Approximately one-third of respondents (33.3%) agreed that promoting technology readiness among students represents a valuable opportunity, indicating recognition of the potential benefits of early and consistent engagement with digital tools. These respondents may view technology readiness as essential for supporting students' future academic development and adaptability to digitally mediated learning environments. In contrast, 27.8% of respondents disagreed or strongly disagreed with the statement, suggesting that some teachers question the relevance, feasibility, or effectiveness of emphasising technology readiness, particularly in contexts where access and support may be limited.

Table 10
Technology readiness for students

Response options	Percent	Cumulative Percent
Strongly disagree	5.6	5.6
Disagree	22.2	27.8
Neutral	38.9	66.7
Agree	33.3	100
Strongly agree	00.0	00.0

Despite these mixed perceptions, the findings suggest that technology readiness holds potential as an opportunity within the VLP framework when supported by appropriate infrastructure and instructional strategies. Within the scope of this case study, the varied responses underscore the importance of contextual considerations in determining how technology readiness initiatives are designed and implemented. Rather than representing a universally accepted opportunity, technology readiness appears to be an area that requires targeted support and gradual integration to align with students' needs and school capacities.

Threats and Implementation Challenges

While the VLP model presents several opportunities, the findings also reveal important threats that may hinder its effective implementation in hybrid learning environments. These threats relate primarily to classroom management, workload demands, and challenges in student engagement and monitoring, as reflected in Tables 11-13.

As shown in Table 11, maintaining discipline during VLP sessions emerged as a major concern among respondents. A substantial majority of teachers (66.7%) agreed or strongly agreed that managing student discipline in virtual or hybrid settings is challenging, with more than half (55.6%) expressing strong agreement. This indicates a high level of concern regarding behavioural management when learning activities are conducted partially or fully online. The presence of neutral responses (33.3%) suggests that experiences may vary depending on classroom context, student behaviour, or the level of structure imposed during virtual learning sessions.

Table 12 further highlights workload-related challenges associated with VLP implementation. A majority of respondents (61.1%) agreed or strongly agreed that preparing digital course content requires significant time investment, indicating concerns about increased workload and time management. While 22.2% of respondents selected a neutral response—possibly reflecting variation in digital proficiency or access to ready-made materials—the overall pattern suggests that content preparation remains a demanding task for many teachers. Only a small proportion of respondents (16.7%) disagreed, indicating limited opposition to this concern.

Difficulties in engaging and monitoring students during VLP were also identified as a notable threat (Table 13). More than half of the respondents (61.1%) agreed or strongly agreed that maintaining student engagement and monitoring progress in virtual learning environments is challenging, with 44.4% expressing strong agreement. These findings suggest that teachers perceive reduced visibility and limited real-time interaction as barriers to effective student supervision. Neutral responses (22.2%) again point to contextual variability, while a minority of respondents (16.7%) disagreed, indicating that some teachers may have developed strategies to mitigate these challenges.

Taken together, the findings from Tables 11-13 indicate that while VLP offers flexibility and expanded learning opportunities, its implementation is accompanied by significant pedagogical and operational challenges. Within the context of this case study, these threats underscore the need for structured scheduling, clear behavioural guidelines, adequate preparation time, and sustained institutional support. Addressing these issues is essential to ensure that the benefits of blended learning are not undermined by challenges related to discipline, workload, and student engagement.

Linking Findings to VLP Implementation

Overall, the survey demonstrates that teachers perceive VLP as a promising approach for rural education, with clear strengths in promoting equity, flexibility, and personalised learning. However, successful implementation relies on addressing

Table 11
Maintaining discipline during VLP

Response options	Percent	Cumulative Percent
Strongly disagree	00.0	00.0
Disagree	00.0	00.0
Neutral	33.3	33.3
Agree	11.1	44.4
Strongly agree	55.6	100.0

Table 12
Less time in preparing course content digitally

Response options	Percent	Cumulative Percent
Strongly disagree	00.0	00.0
Disagree	16.7	16.7
Neutral	22.2	38.9
Agree	27.8	66.7
Strongly agree	33.3	100.0

Table 13
Difficulty in engaging/ monitoring students during VLP

Response options	Percent	Cumulative Percent
Strongly disagree	0.0	0.0
Disagree	16.7	16.7
Neutral	22.2	38.9
Agree	16.7	55.6
Strongly agree	44.4	100.0

weaknesses and threats, including teacher readiness, resource availability, and effective classroom management strategies.

The findings suggest practical steps for schools:

- Professional development for teachers to build digital skills and confidence.
- Resource allocation, including access to devices, reliable internet, and learning platforms.
- Structured scheduling to balance home-based and school-based learning.
- Student engagement strategies, such as group work, interactive assignments, and regular feedback.
- Monitoring and support mechanisms, including mentoring or teacher collaboration, to ensure quality learning outcomes.

By aligning these findings with VLP features, the study highlights the model's potential to address key challenges in rural education, while providing actionable insights for policymakers and school administrators to ensure effective and sustainable implementation.

CONCLUSION

This study highlights teachers' perspectives on the urgent need for education reform in rural schools in Negeri Sembilan, Malaysia, with particular attention to the implementation of the Versatile Learning Pathway (VLP) model. The findings indicate that teachers recognise the potential of VLP to promote equitable access to education, support differentiated learning, and provide flexibility in student engagement, particularly in the context of rural schools with limited resources. At the same time, teachers identify challenges such as insufficient training in digital tools, lack of technological resources, and difficulties in maintaining discipline and engagement during online and blended learning.

The insights gained from this study underscore that while the VLP model offers significant advantages, its successful implementation depends on addressing practical limitations and supporting teachers with the necessary skills, resources, and guidance. Importantly, the findings suggest that blended learning through VLP can contribute meaningfully to education reform by providing rural students with opportunities that are more aligned with current technological and pedagogical advancements, helping to bridge gaps in learning outcomes and preparedness.

Implications and Recommendations

The study offers several implications for policymakers, school administrators, and educators. First, teacher capacity building is essential. Training programs focused on digital literacy and effective use of technology in blended learning environments can enhance teachers' confidence and ability to implement VLP successfully. Providing ongoing support, mentoring, and professional development opportunities will also ensure that teachers are equipped to manage challenges such as student engagement and discipline in hybrid learning contexts.

Second, resource allocation must be prioritised. Ensuring that schools,

particularly those in rural areas, have sufficient technological tools, reliable internet connectivity, and adequate staffing is critical for the effective delivery of VLP. Schools should also explore flexible scheduling, teacher assistants, and resource-sharing initiatives to manage workloads and optimise teaching efficiency.

Third, the VLP model demonstrates the potential for equitable and personalised learning. By incorporating both home-based and school-based learning opportunities, it can support students from diverse socio-economic backgrounds and provide pathways for self-directed and focused academic preparation. This approach aligns with broader education reform goals of improving learning outcomes, reducing disparities, and enhancing student readiness for future academic and professional environments.

Finally, fostering a culture of collaboration among teachers can strengthen the implementation of VLP. Sharing best practices, discussing challenges, and co-developing digital teaching resources can enhance the overall effectiveness of blended learning initiatives. Policymakers and school leaders should consider integrating such collaborative structures into teacher development programs and school planning to ensure the sustainability of education reform efforts.

In conclusion, the VLP model offers a promising framework for advancing rural education reform in Malaysia. Addressing teacher preparedness, resource adequacy, and engagement strategies is essential for maximising its benefits, ensuring equitable access to learning, and supporting a more resilient and adaptable education system.

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Uncovering the Dynamics of Innovation Adoption Among University Students: A Structured Review of Determinants and Factors

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ABSTRACT

This paper mainly discusses the concept of institutional innovation in higher education and its relevance to the further promotion of academic excellence, practice, and institutional performance. The research highlights various types of innovations, including improvements to the curriculum and the adoption of new technologies, which aim to instil a culture of constant learning and empower learners in a fast-changing world. The paper, as a case study, utilises the Malaysian higher education environment to illustrate how systematic changes have helped increase student enrolment and research output. The research is based on the main theoretical frameworks, such as TRA, TAM, and UTAUT, to clarify the factors that have a modulating influence on the process of acceptance and adoption of institutional innovations by students. Some of the fundamental variables that have been identified to influence adoption are the perceived ease of use, perceived usefulness, behavioural intention, social influence, and attitude towards usage. The results highlight the fact that the factors are key in supporting innovative culture in institutions and in improving educational practices that will place students in a better position to deal with current challenges competently in the future. The research will end by describing policy and practice that would facilitate the enhancement of institutional innovations in Malaysian public universities.

Keywords: Adoption, determinants, institutional innovation, Malaysia, sustainability

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INTRODUCTION

As part of increased educational delivery, learning experience and overall institutional effectiveness in higher education has

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resulted in the intentional development and implementation of new practices, strategies, structures and methods, which is commonly understood as institutional innovation (Hasanefendic et al., 2017; Vidicki et al., 2023). The concept of institutional innovation does not just cover governance change and overall changes in the organisation in the context of higher education, but also incorporates the implementation of digital technologies. García-Álvarez-Coque et al. (2017) develop the opinion that it consists of technological features, e.g. virtual labs, mobile apps, e-learning systems, and non-technological ones, e.g. institutional independence, policy changes, leadership style and funding processes. Overall, institutional innovation serves to mirror and bring to fruition the process of delivering better teaching and learning, reinforced organisational performance, and an overall enhanced level of institutional efficiency throughout the higher educational institutions.

The Malaysian case of higher education offers a rather interesting framework in the context of analysing these dynamics. Because of that, over the past decades, the sector has been in a continuous process of transformation in the impact of neoliberal policy orientations, growing institutional autonomy, liberalising and nationalistic priorities (Jamaludin et al., 2023; Sritharan et al., 2025). As is seen and reported by Adelina et al. (2018), Nataliia et al. (2023) and Shanti et al. (2024), these changes have placed Malaysia more in the limelight of the international market of higher education by registering high increases in its student enrolment, institutional innovation, creation of centres of excellence, and increase in research capacity.

In the meantime, it is necessary to add that higher education might not be entirely the driver of the national development, though it has a key role in human capital development, productivity of research and innovation development. Despite this, the current world studies concerning innovation adoption and technology acceptance in higher institutions of learning are still scattered compared to the current literature. Nor does much of the literature take an interest in discrete digital equipment, which would provide scant evidence as to the way learners interact with institutional innovations, which might involve governance changes, financial changes, and structural programs. This is especially clear in the case of Malaysian public universities, where innovations at the technological and policy level occur in parallel. In reaction to this weakness, this paper provides a meta-analytic survey of factors that influence the institutional innovation adoption of university students. Therefore, the article attempts to explain the way attitudes and behaviours of students are shaped, in addition to how universities can develop the enabling environment of continuous learning, pedagogical change and sustained innovation.

Although previous studies have extensively examined technology acceptance in higher education, much of the existing literature concentrates on isolated technological systems such as

e-learning platforms, mobile applications, and online learning tools. Limited scholarly attention has been devoted to institutional innovation adoption as a broader multidimensional phenomenon that simultaneously incorporates technological, organisational, governance, and policy-related transformations within universities. Furthermore, existing studies often examine these determinants independently without providing an integrated synthesis of how behavioural, institutional, and socio-cultural factors collectively shape students' innovation adoption behaviours, particularly within Malaysian public universities. Therefore, this study contributes to the literature by offering a structured synthesis of the determinants influencing institutional innovation adoption among university students through the integration of TRA, TAM, and UTAUT frameworks within the Malaysian higher education context. The study further contributes by identifying converging determinants, contextual inconsistencies, and institutional implications that may guide future policy and innovation strategies in higher education.

LITERATURE REVIEW

Temporal process through which higher education institutions launch and assimilate new organisational processes, practices, concepts, or technologies to enhance performance and results is the so-named institutional innovation adoption. It was argued by Sonja et al. (2021) that in a more knowledge-based global economy and within the current universities, innovation adoption has not only been strongly associated with their institutional effectiveness and competitiveness, but also their sustainability. This is largely also prompted by the knowledge management capacity, globalisation pressure, and the technological development and the strategic capabilities of institutions to respond to a changing environment (Ashok, 2023; Dinara et al., 2022; West, 2013). This means that in the world of higher education, the adoption of innovation does not usually take a straight or more technical path, but instead, it results from the social processes, the policy frameworks, and technological innovation interacting.

According to Qurtubi & Fauzi (2023), institutional innovation has changed in accordance with the changes in the regulatory framework and wider societal expectations, which is why the process of its adoption is necessarily context-specific and complicated. Through this, the focus has been directed to the experiences and perceptions of the institutional actors. This can be approved of by the research of Dinara et al. (2020) where innovation management through the lens of the academic staff was studied. Based on their study, they demonstrate the success of institutional projects when people actively respond to themselves. They also went ahead to show how the adoption of innovation can not only help in enhancing teaching and learning practices, but it can also prepare students for the unknown and unpredictable professional life. Arguably, compared to those that do not adapt to innovation, universities become

better equipped to meet the needs of students and stakeholders as they emerge (Fullan, 2013; Rymarzak et al., 2022).

Nevertheless, in the school context, several studies found that relevant variables that determine innovation adoption are important. The motivation determinants can be summarised as organisational support, leadership commitment, compatibility with existing practice, ease of use, perceived usefulness and the availability of sufficient resources and training (Halyna et al., 2019; Anderson et al., 2001; Hafizul et al., 2018; Ibrahim et al., 2025). All this is an indicator that adoption is tremendously reliant on the institutional conditions, as it is on the nature of the innovation itself. Social influences are not within the technical and structural factors. The way in which innovation is viewed and adopted or not is also influenced by these social determinants that may consist of peer interaction, the involvement of stakeholders and organisational culture (Fullan, 2013; Zahir et al., 2024). Another article by Garanin (2022) also highlights the importance of both public financing and human capital, arguing that long-term innovation must not only be backed by favourable policy conditions but also institutional capacity.

Existing studies demonstrate considerable theoretical convergence regarding the determinants of innovation adoption in higher education; however, important conceptual differences remain. TAM-based studies predominantly emphasise cognitive evaluations such as perceived usefulness and perceived ease of use as direct predictors of technology acceptance (Davis, 1989; Trubitsyna & Demchenko, 2020). In contrast, UTAUT-oriented studies extend beyond individual cognition by incorporating facilitating conditions, effort expectancy, and social influence as institutional and environmental determinants of behavioural intention (Venkatesh et al., 2003; Adedimeji & Adekoya, 2019). While both models consistently identify behavioural intention as a central predictor of adoption, inconsistencies emerge regarding the relative strength of social and institutional influences across different educational contexts. For example, studies conducted in collectivist learning environments, including Malaysia, report stronger effects of peer influence and institutional culture on innovation adoption behaviour compared to studies conducted in more individualistic settings (Siti et al., 2018). Furthermore, recent extensions of UTAUT incorporating trust, compatibility, enjoyment, and resource availability suggest that innovation adoption cannot be sufficiently explained through technological characteristics alone, but rather through interactions between institutional structures, socio-cultural contexts, and students' behavioural perceptions. These inconsistencies indicate the need for a broader integrative synthesis capable of connecting behavioural, technological, and institutional determinants within higher education innovation research."

As the example provided by the work of Trubitsyna and Demchenko (2020) Qurtubi & Fauzi, (2023), Hsu and Lin (2022), Vidicki et al. (2023), and Omoola et al. (2023) have shown numerous times, the adoption

performance expectancy, behavioural intention, and perceived ease of use are powerful predictors. The social characteristic of adoption is also supported by studies about the importance of experiential learning and collaborative learning settings, such as the one conducted by Pokidina et al. (2023). The results of other research working in Malaysia indicate that attitude continues to play an important role in determining innovation-related behaviours of students in certain contexts (Siti et al., 2018). These dynamics have continued to be influenced by structures of funding and institutional independence in Malaysian institutions of higher learning. Garanin (2022) ponders policy-related shifts and perceptions, which impact adequate resources, institutional credibility, and a long-term orientation towards innovation. Therefore, a study of the interaction between these broad conditions on the student attitudes and behavioural intentions is thus critical to the development of a holistic picture of institutional innovation adoption in the context of Malaysian higher learning.

Institutional Innovation Adoption: Theoretical Underpinnings

Theory of Reasoned Action (TRA)

It has come up with various theoretical frameworks that are used to explain how innovation adoption takes place within organisations and institutions. The Theory of Reasoned Action (TRA) suggested by Fishbein & Ajzen in 1975 is one such popular theory that tried to predict, explain and highlight the significance of behaviours and attitudes in the decision to adopt an innovation (Davis, 1989; Conner & Sparks, 2015).

TRA suggests that the behavioural intention of an individual is one of the key determinants of behaviour and that an individual's behavioural intention is influenced by the attitude towards the behaviour (attitude) and perceived pressure of the significant others (subjective norms) (Figure 1).

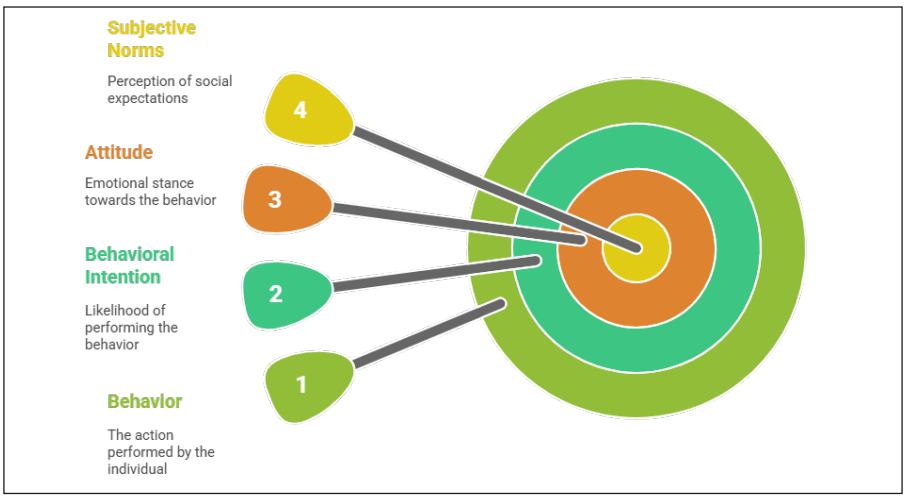

Figure 1. Theory of reasoned action

A behavioural intention refers to the personal probability of an individual carrying out a certain behaviour, whereas attitude is the emotional orientation that the individual has to the behaviour, and subjective norms are the perception that the individual has of social expectations of the behaviour, as presented by Davis (1986). Overall, this framework, as proposed by Fishbein and Ajzen (2005), posits that the three essential constructs guiding rational decision-making depend on individuals' intentions, attitudes, and social influences. Simply put, TRA is based on behavioural intention, which could be the probability of performing the behaviour and attitude, which could be the level of positive or negative evaluation of the behaviour in the same manner as subjective norms are perceptions of expectations of the important people (Kirkpatrick & Kirkpatrick, 2006; Granić, 2023).

Technology Acceptance Model (TAM)

Based on the underpinning Theory of Reasoned Action (TRA) in psychology, advances of which were first proposed by Davis (1986) (with further expansion in 1989) as the Technology Acceptance Model (TAM), has evolved into an important paradigm of understanding the determinants of human behaviour in respect to the acceptance or the rejection of technology in several situations, especially concerning educational technology.

Davis used TRA to construct TAM, which is now one of the foundations of internet technology adoption and human behaviour (Figure 2). Davis transformed the use of technology by modifying the use of TRA to emphasise attitudes and not intentions. When Davis (1986) presented his thesis on the doctoral dissertation of TAM, the description of the relationship among attitude towards a system, attitude towards using, and actual system use was postulated; that user attitude towards a system (attitude towards using) was strongly associated with the adoption or rejection of the system (actual system use).

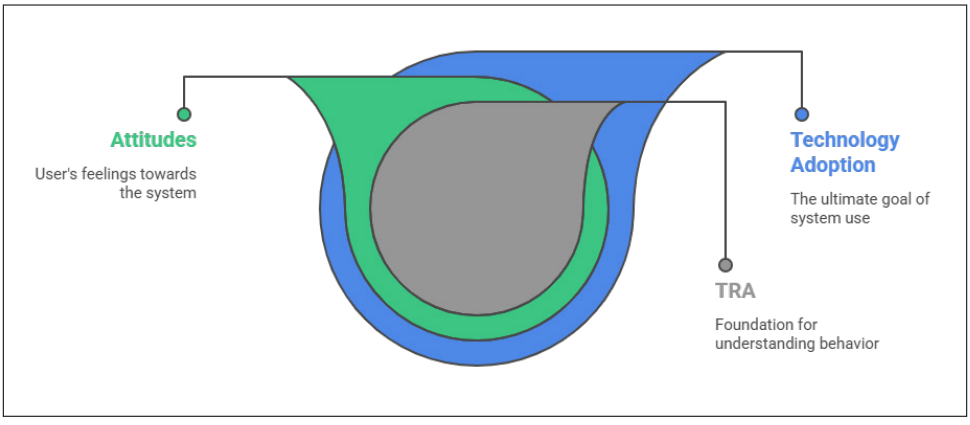

Figure 2. Technology adoption model

This user attitude, in turn, depends upon two basic beliefs, which are perceived usefulness and perceived ease of use, where perceived ease of use directly affects the perceived usefulness. Perceived usefulness is a measure of how interested an individual is that the use of the system would improve their work, and that perceived ease of use is the extent to which an individual thinks that working with the system can be an effortless process (Davis, 1986; Granić, 2023).

In the end, both ideologies are speculated to be influenced directly by the nature of the system design. By being able to realise the interdependence between these factors, researchers will be able to predict and manipulate technology acceptance better. Thus, the Technology Acceptance model outlines the usefulness perceived and ease of use as determinant factors that drive the attitude towards the use of technology and after that, actual use. In brief, it can be well argued that user motivation towards the adoption of technology is based on three major factors that incorporate: perceived ease of use (effortless experience); perceived usefulness (increase in the overall task/ project performance); and attitude towards the usage (system acceptance or rejection). TAM assumes that these beliefs affect attitude, which consequently promotes the actual technology use. This revolution of work carried out by Davis (1986) points to the importance of system design features in developing these beliefs, which form a dependable model that can be used to foresee the adoption of technology.

Unified Theory of Acceptance and Use of Technology (UTAUT)

As its name suggests, Unified Theory of Acceptance and Use of Technology (UTAUT) is a philosophical perspective that has achieved the result of consolidating theories as a way of remodelling technology acceptance (Granić, 2023). The current theoretical framework, previously established by Venkatesh et al. (2003) triggered the process of a complete revision of the existing models and theories associated with the acceptance of new technologies. The theory is an incredibly striking amalgamation and includes eight developed user acceptance models. They comprise augmented TAM (A-TAM), Innovation Diffusion Theory (IDT), Motivational Model (MM), Social Cognitive Theory (SCT), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB) and Model of Personal Computer Utilisation (MPCU) (Marikya & Papagiannidis, 2021). Other researchers like Marikyan, & Papagiannidis (2021), López (2023) and Venkatesh et al. (2023), have therefore gone a notch higher to show how the theory has been used to assess the acceptance of e-learning by students, such as postgraduate scholars, and a study on the attitudes of the students towards the adoption of online classes during the COVID-19 pandemic. The UTAUT model was further extended and modified by Abbad (2021) through the introduction of the single construct possibility that consisted of perceived cost to evaluate the use of e-learning systems among the students of developing countries.

In a more recent study by Granić, (2023), the opinion of the UTAUT models in adopting new technologies. This paper gives valuable information on variables, including social influences, effort expectancy and performance expectancy, which are the trio of constructs that foster and directly influence behaviour intention towards adoption or acceptance of innovation. It was also hypothesised that predictors of actual behaviour are behavioural intention and facilitating conditions. This could be why intention and usage, as the core determinants of the UTAUT model, have played a pivotal role in different research projects. The performance expectancy, or the perception that an innovation improves academic performance, is very similar to the national agenda of Malaysia to develop a workforce that is prepared for Industry 4.0 and has skills development that can be adopted in the future (Jamaludin et al., 2023). The expectancy of effort, as the perception of the ease of the interaction with a system, can be heard in the context where students of different digital literacy levels may either speed up or slow down the adoption process. The social influence is an important factor in the context of the Malaysian collectivist cultures; the attitudes towards the innovative practices are predominantly influenced by peer groups, lecturers, and champions of the institution (Siti et al., 2018). Similarly, what form state-led policies and resource allocations are facilitating conditions of good infrastructure, funded institutes and supportive governance reforms that in turn either facilitate or hamper the adoption of innovation (Garanin, 2022; Shanti et al., 2024).

Comparative Perspective on TRA, TAM, and UTAUT

The theories that support the study provide complementary but different perspectives on the behavioural patterns of students. According to (Fishbein & Ajzen, 1975), the front line Theory of Reasoned Action (TRA), suggesting norms about a behaviour (subjective norms) and attitudes towards a behaviour (attitudes towards a behaviour) jointly impact the degree of behaviour intention and, subsequently, state the outcome of actual behaviour, appeared to be a proposed theory that was used to explain the process through which behavioural intention is created.

Technology Acceptance Model (TAM) (Davis, 1989) builds the argument of TRA further to utilise the context, i.e. the use of technology through the introduction of perceived ease of use (PEOU) and perceived usefulness (PU), which has the capacity to mediate attitude and intention. The theory is a strong concept that dwells on the perception of people at large without looking at the wider social or institutional grounds in enhancing the predictability of technology adoption. The integration of the features of the different theories, including TRA and TAM, is captured in the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). The theory indicates the integration of effort expectancy, facilitating conditions, social influence, and performance expectancy as the direct influences on the behavioural intention and usage.

That is why institutional resources, policy changes, and peer networks, impacting students significantly in their choices to embrace institutional innovations, organisational support, and social context, specially make the UTAUT model more applicable. Based on this, we can assume that since TRA offers a general framework of behaviour, TAM narrows down the target of specific technology-related perceptions, and UTAUT offers a more general one that features cultural, infrastructural and institutional variations. Based on this, we can observe that the combination of these models will ensure a sensitive interpretive insight into the determinants that support innovation adoption among students in Malaysian universities.

Conceptual Framework for Institutional Innovation Adoption

Figure 3 is a conceptual model of how university students have adopted innovation as formulated based on the literature. The model relates key determinants such as Perceived Usefulness (PU), Social Influence (SI), Behavioural Intention (BI), Attitude Towards Usage (ATU), and Perceived Ease of Use (PEOU) that culminate in the outcome of the Institutional Innovation Adoption. As observed, PU, SI, and ATU, in conjunction, affect BI, whereby PEOU and PU directly affect ATU, which, in turn, directly predict actual adoption behaviour.

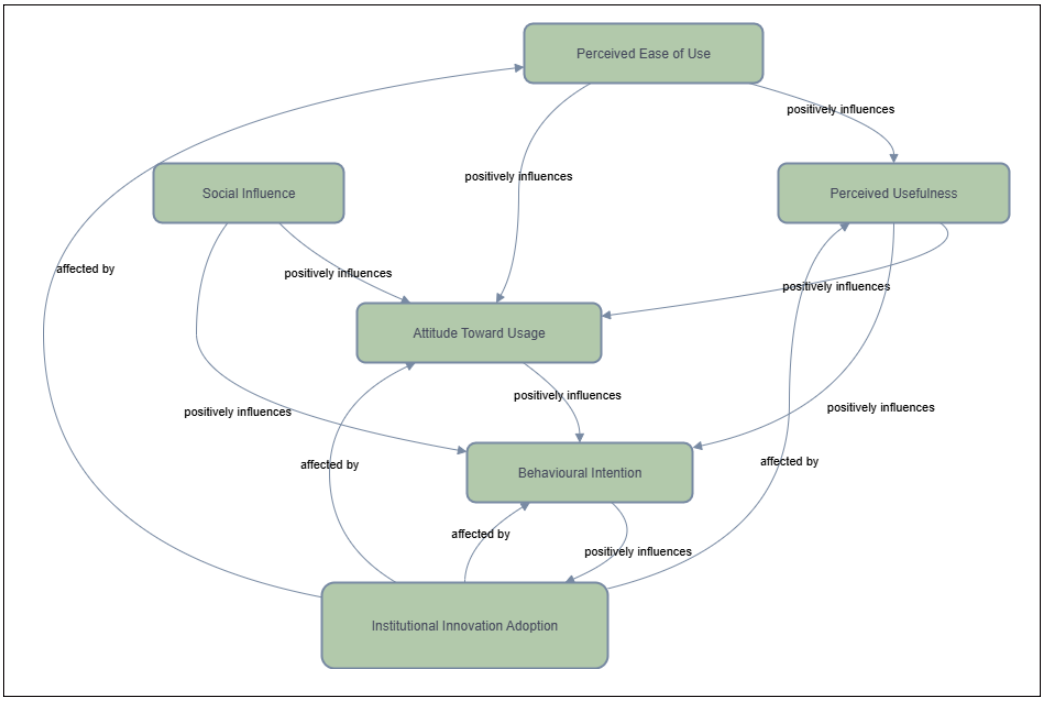

Figure 3. Conceptual framework illustrating the relationships among variables

METHODS

This study adopted a structured literature review approach to synthesise existing studies on institutional innovation adoption among university students. The structured review method was considered appropriate because the study aimed to integrate and critically analyse conceptual, theoretical, and empirical findings across diverse higher education contexts rather than conduct statistical meta-analysis.

Relevant literature was retrieved from major academic databases, including Scopus, Web of Science, Google Scholar, ScienceDirect, and SpringerLink. The search process was conducted using combinations of keywords such as 'institutional innovation adoption', 'technology acceptance', 'higher education innovation', 'university students', 'TAM', 'TRA', 'UTAUT', 'innovation culture', and 'Malaysia'. Boolean operators ('AND', 'OR') were applied to refine search outcomes.

The inclusion criteria consisted of: (1) peer-reviewed journal articles, conference papers, and scholarly book chapters; (2) studies published between 2010 and 2024; (3) studies focusing on innovation adoption within higher education settings; and (4) studies addressing behavioural, institutional, technological, or socio-cultural determinants of innovation adoption. Excluded studies included research conducted outside higher education contexts, purely technical system evaluations without behavioural analysis, duplicated studies, and publications lacking sufficient methodological or theoretical relevance.

Following the screening process, the selected studies were subjected to thematic synthesis. The analysis involved identifying recurring determinants, theoretical relationships, contextual differences, and emerging institutional patterns across the reviewed literature. Themes were subsequently categorised according to major theoretical constructs derived from TRA, TAM, and UTAUT frameworks, including perceived usefulness, perceived ease of use, social influence, behavioural intention, facilitating conditions, and attitude towards usage. This analytical process enabled the study to identify converging findings, contextual inconsistencies, and broader implications for institutional innovation adoption within Malaysian higher education.

RESULTS AND DISCUSSION

The synthesis demonstrates that innovation adoption among university students cannot be adequately explained through a single theoretical perspective. Rather, the reviewed studies collectively indicate that innovation adoption emerges through the interaction of cognitive evaluations, social environments, and institutional conditions. TAM predominantly explains how students evaluate the usefulness and ease of institutional innovations, while TRA highlights the influence of attitudes and subjective norms in shaping behavioural intention. UTAUT extends these explanations by incorporating facilitating conditions, effort expectancy, and institutional support mechanisms.

The reviewed evidence therefore suggests that institutional innovation adoption within Malaysian universities is simultaneously behavioural, technological, and socio-organisational in nature. This integrative perspective provides a more comprehensive explanation of students' adoption behaviours than isolated theoretical applications.

Determinants of Institutional Innovation Usage Among University Students

In general terms, numerous reasons stemming from the reading have been cited in an attempt to establish the progressiveness and facilitation of students to use the innovation introduced by their institutions. But published by Pokidina et al. (2023), in what can be called the second mention of this topic, educational institutions, through the joint experimental environments, pursue institutional innovation to propel growth through re-educating professions and introducing links with the industry as was the case with Oulu Game Lab. Speaking of which, a brief examination of the literature revealed that such factors as perceived ease of use, perceived usefulness, attitude towards usage, social influence, behavioural intention, effort expectancy and performance expectancy have been determined as crucial factors in the adoption of the innovative practices by students in the educational institutions (Damanpour, 1991; Rogers, 2010; Siti et al., 2018; Almohtadi & Aldarabah, 2020). The antecedents have been identified to affect the willingness of the students to embrace new technologies and practices which have been introduced by their institutions. It is paramount to argue that knowledge of these aspects can go a long way towards encouraging culture of innovativeness and development.

Perceived Ease of Use

Perceived ease of use (PEOU) is one of the main factors that determine the use of institutional innovation by students of universities. First, according to Davis (1989) perceived ease of use is the level to which an individual thinks the utilisation of a specific system or technology would not be hard (Davis, 1989; Siti, et al., 2018). In the case of university students, the same means online educational platforms, technology in education, or any novel gizmo that they were presented with in their school setting. In this connection, it is interesting to note that the probability of university students adopting innovation highly depends on whether it is a simple, incomplex, straightforward, manageable or not. That is such that innovations that are complex and very laborious to operate have lower chances of being adopted. This has been proven by several studies which have empirically proven the connection between perceived ease of use and the adoption of the innovation among students. As an example, a study by Alharbi & Drew (2014) and Alfred et al. (2022) provided a clear witness of the fact that perceived ease of use (PEOU) was a major factor in influencing the acceptance of e-learning systems among students in institutions of higher learning.

In a similar manner, research by Hsu and Lin (2022) provided examples of how the perceived ease of use was a key predictor of the intention of the students to use the mobile learning applications.

In further note-taking, this determinant that contributes to the readiness and eagerness of the students to embrace institutional innovation in Malaysia, Aithal et al. (2023), and Jamaludin et al. (2023) observed that in most cases, students will apply new technology, innovation or tools or systems depending on the level of ease. On average, the high effort expectancy may result in fear of using the technology, and students will be afraid to use this technology. This aspect has been identified as an element and priority in various technology acceptance theories, such as the Unified Theory of Acceptance and Use of Technology (UTAUT) postulated that greater impatience to use a technology can be achieved by worrying more about energy expectancy (Venkatesh et al., 2003). Similarly, perception of ease of use was presented as conclusive and made eminent by Venkatesh et al. (2012) on intentions to use e-learning systems among students. Essentially, PEEU minimises the retardation, tension and anxiety of students towards new technologies. The reason behind this is that when the students find a technology accessible, they will not experience intimidation and will not be overwhelmed by it. This decrease in anxiety ensures the ease with which we move on to the adoption of the innovations.

Perceived Usefulness

Perceived usefulness goes hand in hand with perceived ease of use in ascertaining the enthusiasm of students in higher learning institutions in the innovation adoption. As a matter of fact, the perceived usefulness aspect defines the level at which students think that a particular innovation will enhance their learning and academic performance or achievement (Davis, 1989; Siti et al., 2017; 2018). It is consistent with the findings presented in the study by Ahmed et al. (2020), as this article identified the perceptions of the usefulness of mobile learning applications as one of the key determinants of the intention to use the technologies. Fundamentally, students can achieve greater levels of satisfaction in the case of a favourable user experience, which will be defined by ease of use. The more students find a technology easy and user-friendly, the more probable they will use it and recommend their colleagues to use it. This effect is upheld by the studies that show that perceived ease of use is strongly correlated with user satisfaction (Davis et al., 1989; Ramdanil, 2024; Siti et al., 2017). These discoveries usually refer to the fact that usefulness perception of a technology is a direct correlation of what the students think and the positive results that follow. Students become far more ready to embrace technologies which result in improved learning or provide what they need to achieve their academic ambitions.

Attitude Towards Usage

General assessment of the person using a technology, both positive and negative about it (Sarah et al., 2014; Tashcheva et al., 2021; Tidd et al., 2005). Such attitudinal response is significant in the educational settings as the choice towards adoption by the students often relies on their perception and feeling towards a technology and not by the technical qualities on their own. It is always found that the intention towards the usage is reinforced by the positive attitude towards usage, and this makes the student more likely to use new technologies (Satish et al., 2024; Rymarzak et al., 2022).

Attitude is also a mediating variable between the perceived usefulness and the adoption behaviour. A more positive attitude is more likely to make students use a technology that is perceived to be helpful, even in cases when it is perceived as having a positive effect (Ashok, 2023; Venkatesh & Davis, 2012). Attitude towards usage is also formulated by previous experience. The experience with similar technologies has a positive influence, and it is likely to develop confidence and openness, which leads to future adoption, whereas negative experiences would cultivate resistance even when they could be useful. Experimental research proves that experience and satisfaction play an important role and strongly determine attitudes and future adoption choices (Hsu & Lin, 2016; Krishnashree et al., 2020; Lusianus et al., 2019). On the whole, attitude to usage is a resolute determinant in the adoption of innovation in the first and second pathways among students.

Social Influence

Social influence is the other important consideration of institutional innovation adoption among university students. The concept refers to the extent to which thoughts, feelings, and tendencies of individuals are influenced by the actual or imagined existence of other people. Social influence in the framework of innovation adoption presents itself usually in the form of peer contacts, social norms, and the need to be accepted by a group (Ajzen, 1991; Venkatesh et al., 2012). It has been demonstrated that the attitude of students towards technology is greatly influenced by the peers and instructor opinions and behaviours (Nataliia et al., 2023; Pilar et al., 2017).

Social influence not only impacts the initial adoption, but also promotes further use of technologies. Mentioned by Siti et al. (2018), students placed within communities where innovations are encouraged and often adopted are more likely to continue using and maintaining the use of a new system throughout their lives. Positive attitudes and use behaviours are supported with the help of peers who are examples and embrace technological practices, as well as the leadership of educators. Essentially, social influence is used to highlight the effect that observation, peer pressure, and social norms have over the choices made by students thus, it is a compulsive factor in not only adopting but also in the continued use of institutional innovations.

Behaviour Intention

A key factor that determines the innovation adoption by students is the behavioural intention, which is determined by several factors that are interrelated. The studies have shown that attitude, subjective norms, and perceived behavioural control are the key factors that influence behavioural intention (Ajzen, 1991; Dinara et al., 2022). All of these factors in the educational situation lead to the student assessment of innovations, their perceived social pressure, and their belief in their capability to respond to the implementation of new technologies or practices.

Personal attitudes to a technology, the perceptions and behaviours of others and an instructor, and the self-belief about its use all affect the intention of the students to utilise the technology. The attitude is positive, and the presence of supportive social environments and the perception of easy use make a significant difference in the probability of students using an innovation and opting to continue using it. On the other hand, adoption can be inhibited by negative perceptions, the absence of support or low confidence.

Knowledge of these dynamics would be beneficial to the educators and policymakers as they would know what encourages or discourages students to adopt new technologies. Understanding the interdependency of attitudes, social influence, and perceived control, the institutions can establish supportive learning environments and interventions that facilitate adoption, maintain engagement, and create a culture of key technological innovation (Christensen et al., 2015; Singha & Singha, 2024).

Beyond confirming established determinants such as perceived usefulness and perceived ease of use, the synthesis reveals that institutional innovation adoption within Malaysian universities is strongly mediated by contextual and socio-cultural conditions. In particular, the findings suggest that institutional trust, peer-driven learning cultures, governance transparency, and organisational support structures significantly shape students' willingness to adopt innovation. Unlike many technology acceptance studies conducted in purely digital environments, the reviewed literature demonstrates that innovation adoption in Malaysian higher education is embedded within broader institutional transformation processes involving policy reforms, funding structures, and institutional autonomy. This indicates that successful innovation adoption depends not only on technological functionality but also on the institutional credibility and social legitimacy surrounding innovation initiatives

Implications of the Study

It is this synthesis that determines the determinants that affect the adoption of institutional innovations by students in Malaysian universities, with implications of good consequences to practice, policy, and research. To institutional leaders and policymakers, an understanding of how the relationship between the perceived usefulness and perceived ease of use is

intertwined with attitude towards usage, social influence and intentions towards behaviour is inevitable in plotting strategies that promote successful adoption. The reviewed studies collectively indicate that successful institutional innovation adoption requires simultaneous investment in technological accessibility, institutional trust, and social learning environments. For Malaysian public universities specifically, the findings suggest that innovation strategies should move beyond infrastructure provision alone towards integrated institutional support systems. Universities should prioritise student-centred innovation design, continuous digital literacy programmes, peer-supported adoption initiatives, and transparent governance structures capable of improving institutional confidence in innovation processes. Furthermore, the strong influence of social interaction identified across the reviewed studies indicates that innovation diffusion is more sustainable when supported through collaborative learning communities, mentorship structures, and lecturer-led engagement strategies.

The interventions can be tailored to benefit educators and programme developers by including differences in student academic fields, digital literacy, and levels of experience. Social influence can be used by peer-based programs, like ambassador programmes, mentorship programs, or cross-disciplinary innovation workshops, to encourage both early adoption and continued use of institutional innovations.

To researchers, the results of their experiments indicate that the significance of both technological and non-technological aspects of innovation in the context of higher education should be considered. Future research may use longitudinal or mixed method designs to ask the questions on the interrelations of the key determinants, but comparative research along Malaysian universities may contribute to understanding how variations in funding, autonomy and organisational culture can explain adoption behaviours.

All these implications highlight the importance of ensuring institutional policies are in line with the needs of students and the realities they face in the context. By so doing, it is possible to develop an enduring culture of innovation at universities to not only support the uptake of new technologies and practices but also augment the effectiveness of organisations, the learning experience, and students with the skills and capacities required to thrive in a rapidly evolving learning environment.

CONCLUSION AND RECOMMENDATIONS

In summary, therefore, this paper has demonstrated the importance of the Malaysian public universities to continue innovating to become a more effective and competitive university. New technologies, new ways of doing things, and new structures not only enable the learning process but also equip the students to tackle the dynamic international environment (Sodiq et al., 2023).

The study indicates that there are several critical factors which propel our loyalties to innovation, and they include: the perceived ease of use, perceived usefulness, attitude towards use of this, social influence and the behavioural intention. Such models as TRA, TAM, and UTAUT allow us to take good insights and emphasise how personal perceptions, influences of other people, and future benefits can drag us into embracing institutional innovations.

It is extremely important to create an atmosphere that facilitates the development of innovative ideas, both on the university level and nationally. That is why campuses must implement measures that will bring us into the plane and continue to apply new practices. The "Innovation Ambassadors Program" is one of such innovative initiatives, according to which we select and train student leaders across the various faculties and make them disseminate the message about innovation, share their knowledge, and demonstrate how to use the new technology correctly (Ramdanil, 2024). Obtaining certificates, additional credits or honours can give impetus to more people to join, creating peer-to-peer networks that will promote good ways of adoption.

The following are therefore shortlisted as recommendations:

> Empirical: Import whatever we believe to be useful and usable into the digital commodity we consume; ensure the technology is sound, we can indeed be trained and that the regulations are transparent; engage lecturers and students' representatives as innovation ambassadors; and make whatever is happening to match whatever we learn, what stage we are at, and our technological competence.
>
> Conceptual: Having Innovation ambassadors and cross-disciplinary labs established in this way, we can collaborate and align the freedom the institution has and the money we acquire with what we ultimately consume.

Overall, these actions provide us with viable solutions to enhance the implementation of new ideas in universities, improve our education, and long-term innovation culture in the Malaysian public universities.

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Measuring Empowering Leadership in Indonesia: A Rasch-based Validation Study

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ABSTRACT

This study aimed to adapt and validate an Indonesian version of the Perceived Empowering Leadership (PEL-I) scale to measure employees' perceptions of empowering leadership. A total of 316 employees from various types of organisations in Indonesia participated in the study and completed the PEL-I scale using a five-point Likert format. Data were analysed using the Rasch measurement model with Winsteps software to examine the scale's psychometric properties. The results indicated high measurement quality, with person reliability of 0.94 and item reliability of 0.95. The analysis supported a unidimensional measurement structure, with 50.9% of the raw variance explained by the measures, and demonstrated good model fit, as indicated by an outfit mean square value of 1.05 and a significant chi-square statistic. Differential item functioning analysis identified potential item bias in one item across gender, educational level, and organisational type. These findings provide empirical support for the validity and reliability of the Indonesian PEL scale. The adapted instrument offers a valuable tool for assessing empowering leadership in organisational settings and can serve as a baseline measure for leadership development and future research in the Indonesian context.

Keywords: Empowering leadership, Rasch model, scale adaptation, Indonesia, leadership development

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INTRODUCTION

In recent years, a growing body of research has focused on leadership behaviour. Leadership plays a crucial role in determining an organisation's success (Lazim et al., 2022). It is a process of influencing others to achieve common goals and improve organisational performance (Arifin & Hermawan, 2022).

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The adoption of empowering leadership is vital in human resource practices because it can significantly improve employee performance by providing opportunities to enhance employees' capabilities. In addition, empowering leadership emphasises employee development (Lin et al., 2020). When employees are guided by empowering leaders, they are better able to build interpersonal relationships (Alotaibi et al., 2020). This, in turn, can lead to higher affective commitment to their work (Cesário & Chambel, 2017). Affective commitment develops when employees feel appreciated, liked, and trusted, which ultimately fosters a sense of responsibility toward the organisation. Therefore, when employees receive favourable treatment, they are more inclined to reciprocate and contribute positively to the organisation (Mahmoud, 2021). Empowering leadership has significant positive effects on employees' innovative performance (Cui & Yu, 2021), including fostering affective commitment, self-efficacy, and innovative behaviour (Amin et al., 2021). Furthermore, empowering leadership can enhance employees' motivation (Lee & Ding, 2020) and has been shown to boost intrinsic motivation (Syahrul, 2020). This effect is mediated by psychological empowerment (Syahrul, 2020). Empowering leadership also strengthens employees' sense of ownership and responsibility for their tasks, leading to greater organisational compliance and more prosocial behaviour (Lee et al., 2018).

Today, many organisations are undergoing structural changes by moving away from outdated management styles and adopting empowering leadership practices, which have the potential to enhance productivity and promote employees' psychological well-being (Suleman et al., 2021). Empowering leadership draws on several leadership approaches, including participative leadership, transformational/charismatic leadership, ethical leadership, self-leadership, leader–member exchange (LMX), shared leadership, and path–goal theory (Cheong et al., 2019). Empowering leadership is described as a leader's behaviour aimed at overcoming barriers in the workplace (Na-Nan & Arunyaphum, 2021). According to Arnold (as cited in Bharadwaja & Tripathi, 2021), empowering leadership is characterized by leaders who support and empower employees through mentoring, granting autonomy in decision-making, offering training opportunities, encouraging self-determined goals, providing emotional support, and sharing information. Recent research has highlighted the relative novelty of studies on empowering leadership in organisational contexts. The relationship between empowering leadership and human resource management practices is important for enhancing employee performance and achieving organisational objectives. Notably, empowering leadership has demonstrated effectiveness across cultural settings, including Indonesia (Noor & Saputra, 2022). Developing an Indonesian version of an empowering leadership measure is an essential first step before designing subsequent interventions; therefore, establishing the instrument's psychometric properties is crucial.

LITERATURE REVIEW

Empowering leadership has predominantly been conceptualized and validated within Western, individualistic contexts, where autonomy, self-direction, and individual initiative are highly valued. However, leadership research in non-Western and collectivistic cultures suggests that these assumptions may not fully capture how leadership is experienced and evaluated. In collectivist cultures, leadership effectiveness is often rooted in relational orientation and concern for collective well-being rather than individual autonomy alone (House et al., 2004). Alternative leadership frameworks, such as servant leadership, authentic leadership, and paternalistic leadership, may be especially relevant in this context. Servant leadership emphasises humility, service, and prioritisation of followers' collective needs, aligning closely with values of harmony (Eva et al., 2019; Greenleaf, 1977). Authentic leadership highlights ethical conduct and relational transparency, which may be particularly salient in cultures where leaders are expected to act as moral role models (Walumbwa et al., 2008). Paternalistic leadership, characterised by a combination of authority, benevolence, and moral integrity, has been shown to be especially relevant in Asian and high power-distance cultures. In such contexts, empowerment may be expressed not through explicit delegation of authority but through personal concern, guidance, and moral stewardship. Together, these perspectives provide a richer theoretical foundation for examining empowering leadership in Indonesia and clarify how empowerment may operate through relational and moral mechanisms rather than through individual autonomy alone. Empowering leadership captures not only the delegation of authority but also the leader's behaviours that foster meaning, competence, and participative involvement.

Measurement of empowering leadership

Several studies have attempted to develop instruments for measuring empowering leadership. Arnold et al. (2000) created the Empowering Leadership Questionnaire (ELQ) and identified five dimensions of empowering leadership: leading by example, participative decision-making, coaching, informing, and showing individual concern. In contrast, Amundsen and Martinsen (2014) developed the Empowering Leadership Scale (ELS) and argued that the two core dimensions of empowering leadership are autonomy support and development support. Despite the development of various measurement tools, there is still no consensus on a universally accepted definition of empowering leadership behaviour (Amundsen & Martinsen, 2014).

In their review, Cheong et al. (2018) explained the measures commonly used in empowering leadership research and noted that the scale by Arnold et al. (2000) is the most frequently employed. This is supported by Lee et al. (2018), who stated that the scale developed by Arnold and Drasgow (2000) is widely recognized as a primary reference in the empowering leadership literature. Selecting an appropriate measure is

especially important with respect to the level of analysis. Prior studies (Elsetouhi et al., 2018; Gao et al., 2011) have operationalised empowering leadership using three key behaviours: coaching, participative decision-making, and informing, which are considered critical attributes of empowering leadership (Srivastava et al., 2006).

The empowering leadership dimensions proposed by Gao et al. (2011) are considered useful for capturing a context that encourages employee voice by strengthening trust between leaders and employees. To ensure valid measurement, Gao et al. (2011) employed three dimensions from the ELQ (Arnold et al., 2000): participative decision-making, coaching, and informing. These three dimensions demonstrated strong internal consistency (α = .92, .94, and .89, respectively). Participative decision-making reflects leaders' efforts to solicit and consider employees' values, opinions, and suggestions. Informing refers to leaders ensuring that employees understand relevant conditions in their work environment. Coaching involves face-to-face communication and a reciprocal process of influence during supervision. In terms of validity, the scale demonstrated adequate discriminant validity. Similarly, Elsetouhi et al. (2018) used the same three dimensions, arguing that they are particularly important for work empowerment in organisations. Their measure comprised 23 items: 11 items assessing coaching, 6 items assessing participative decision-making, and 6 items assessing informing. Reliability was high for all three subscales (coaching α = .958; participative decision-making α = .912; informing α = .948).

Table 1 presents several studies that have tested or validated different measures of empowering leadership. Seven studies explicitly focused on individuals, two

Table 1
Measures of empowering leadership

Author(s)	Publication Year	Construct	Level of Analysis
Ahearne et al.	2005	Single composite score	Individual
Amundsen & Martinsen	2014	Second-order term (two-factor model)	Individual
Arnold et al.	2000	Second-order term	Individual & Team
Kirkman & Rosen	1997	Single composite score	Team
Konczak et al.	2000	Second-order term (six-factor model)	Individual
Vecchio et al.	2010	Single composite score	Individual
Yun et al.	2006	Single composite score	Individual & Team
Zhang & Bartol	2010	Second-order term	Individual
Wortler et al.	2022	Five-factor model	Individual
Na-Nan et al.	2020	Five-factor model	Individual
Srivastava et al.	2006	Single second-order factor solution	Team

Source: authors' own work

focused on teams, and two examined both individuals and teams. Although these measures share some conceptual overlap, they differ in dimensions, items, and source references. By presenting these measures, the researchers aim to identify an instrument that aligns with the level of analysis specified by the theory, model, and hypotheses. Table 1 summarizes key components: (1) author(s), as the primary study identifier; (2) publication year, indicating when the study was conducted; (3) construct, clarifying what the instrument measures; and (4) level of analysis, which are essential for ensuring that construct measurement and data-analysis techniques align with the stated level of analysis so that conclusions are not misleading or artifactual (Yammarino et al., 2005).

Arnold and Drasgow (2000) focused on both individual- and group-level processes, which fits the Indonesian research context given its collectivist culture that emphasises harmonious and interdependent relationships (Durgel et al., 2013). In collectivist societies, individuals are integrated into strong in-groups that provide mutual support across the life course, including in organisational settings (Hofstede, 2011). Accordingly, a key cultural consideration is the relationship between individuals and groups, specifically, how members depend on and support one another within the group. In contrast, Kirkman and Rosen (1997) emphasised external leader behaviours, focusing primarily on the leader's actions. To the best of the authors' knowledge, this measurement approach has not been applied in Indonesia. In the present study, the researchers selected the ELS consistent with the classification in Gao et al. (2011), drawing on Arnold and Drasgow (2000).

This study and Gao et al. (2011) share similarities in measuring empowering leadership through the coaching, informing, and participative decision-making dimensions. The participant profiles are also comparable, as both studies surveyed employees in large companies. However, the present study included employees from three types of large organisations commonly preferred in Indonesia (i.e., government agencies, private companies, and state-owned enterprises), whereas Gao et al. (2011) examined a single company. The present study also aligns with Elsetoihi et al. (2018), who used the ELQ developed by Arnold et al. (2000) and focused on the coaching, informing, and participative decision-making dimensions. Both studies employed employee samples; however, Elsetouhi et al. (2018) examined frontline employees at a large travel agency in Egypt who had long tenures. Across the Indonesian adaptation and other versions of the ELQ, a key similarity is that employees indicate how frequently statements describing empowering leadership behaviours apply to their leader. A key difference is the language used.

Most ELQ validations have relied on confirmatory factor analysis (CFA). However, CFA has been criticised for discriminant validity issues, sample-dependent difficulty, and the assumption that all respondents share the same measurement

error. The main objective of this study is to adapt and validate the ELQ for the Indonesian cultural context. Accordingly, this study applies Item Response Theory (IRT). This research is important because, to date, no instrument has been specifically adapted to measure or assess empowering leadership in Indonesian organisational contexts. The ELQ may also serve as a basis for selection and for developing empowering leadership capabilities. Indonesian culture differs from that of other ASEAN countries, even where collectivist orientations may be shared. Cultural differences may also emerge across organisational or company contexts.

The Rasch Model

The Rasch model is a probabilistic measurement approach within IRT that transforms ordinal data into interval-level measures (Bond & Fox, 2015). This principle assumes that item parameters are estimated independently of the sample and that person parameters are estimated independently of the items used, if model assumptions are met. In the Rasch framework, both item difficulty and person ability are located on a common logit scale, allowing meaningful comparisons between individuals and items. The probability of a particular response is determined by the interaction between a person's latent trait level and the difficulty of the item.

One advantage of the Rasch model is its ability to handle missing data by estimating person ability and item difficulty from the available response patterns. Rather than treating missing responses as zero or excluding cases entirely, the model uses systematic response patterns to generate parameter estimates. This approach preserves measurement precision and can produce more accurate estimates than methods that treat missing data as incorrect or as a fixed value. In Rasch analysis, cases with missing responses can still be included in the estimation process (Sumintono & Widhiarso, 2013). Rasch modelling also provides standard error of measurement estimates for the instrument, which can improve the accuracy of subsequent calculations. Instrument-level analyses were conducted using Winsteps software (Linacre, 2011), version 3.73. When data fit the Rasch model, mean-square fit statistics are expected to be close to 1.0, while Z-standardised values are expected to be near 0.0. Boone et al. (2014) recommend reviewing items that do not meet specific fit criteria, including Point–Measure Correlation (x): $0.40 < x < 0.85$, Outfit Mean Square (y): $0.50 < y < 1.50$, and Outfit Z-Standard (z): $-2.0 < z < +2.0$. Items failing to meet these criteria may be considered misfitting, suggesting they do not adequately measure the intended construct. If all criteria cannot be satisfied, priority should be given to the outfit mean-square statistic (Sumintono & Widhiarso, 2013). The Rasch model has been shown to support objective measurement by producing estimates that are less influenced by sample characteristics, rater effects, or instrument characteristics (Sumintono & Widhiarso, 2013). In addition, it enables

detailed evaluation of item functioning, response-category performance, and unidimensionality, thereby strengthening evidence for the validity and reliability of the measurement instrument.

METHODS

In this study, a multi-stage process was employed to develop a measurement instrument using the Rasch model. The first stage involved verifying the assumptions of unidimensionality and local independence of measurement. The second stage involved evaluating the fit of individual items to the model, with items exhibiting poor fit being excluded from the analysis. The analysis was repeated until all remaining items demonstrated good fit to the model. In the third stage, if the number of retained items still exceeded the target number, items were selected based on predefined criteria. Finally, the evaluation process involved iterative analyses that were repeated until an optimal instrument composition was achieved, meeting all required criteria.

Participants

This research involved 316 participants who voluntarily took part in the study. Participants were classified into three categories based on their organisational affiliation: government, private, and state-owned enterprises. Before participation, informed consent was obtained from all participants to ensure their willingness to take part in the study and to grant permission for data publication.

Indonesian Version of the Perceived Empowering Leadership Questionnaire

The ELQ (Elsetouhi et al., 2018; Gao et al., 2011) was adapted into an Indonesian version (PEL-I) in accordance with the International Test Commission standards (2016). The questionnaire consisted of 23 items, distributed across three dimensions: coaching (11 items), informing (6 items), and participative decision-making (6 items). Item translation into Indonesian was conducted by two bilingual translators with expertise in psychology and organisational behaviour. The translated versions were reviewed and synthesised into a single preliminary version. A back-translation was then performed by an independent bilingual translator who was blind to the original instrument to verify semantic equivalence. Discrepancies between the original and back-translated versions were discussed and resolved. A discussion panel consisting of three experts from academic, practitioner, and psychometric backgrounds was convened to ensure that the questionnaire content aligned with its intended objectives and to finalise the PEL-I version. Validation results were obtained through completion of a rating scale in an evaluation form based on Sperber (2004), focusing on levels of comparability and similarity. Additionally, a pilot study (readability test) was conducted with 12 employees from diverse organisational backgrounds to confirm the readiness of the scale for further testing.

RESULTS AND DISCUSSION

The testing of the ELS involved 326 subjects. After data cleaning, 10 outliers were identified. As a result, the dataset available for analysis included 316 subjects.

Table 2 shows that items on the ELS have an average item logit value of 0.00 and a standard deviation of 0.39 logits. The person reliability value (0.94) and item reliability value (0.95) indicate strong internal consistency of the instrument. The interaction between persons and items is also strong, as evidenced by a high Cronbach's alpha coefficient of 0.96. This suggests that the items effectively measure empowering leadership. The outfit mean-square value for persons and items is 1.05, supported by a significant chi-square value, indicating a good fit of the data to the model (Boone et al., 2014).

Dimensionality

The dimensionality analysis aimed to determine whether the scale was unidimensional. The ELS demonstrated good unidimensionality, with a raw variance explained of 50.9%, exceeding the recommended threshold of 40% (Fisher, 2007). The minimum requirement of 20% for unidimensionality was also met. Furthermore, the unexplained variance did not exceed 15%, indicating that the instrument demonstrated a satisfactory level of item independence (Bond & Fox, 2015).

Table 2
Statistical Summary of Persons and Items for the Empowering Leadership Scale

	Persons		**Items**
N	316		23
Measures (logit)			
Mean	1.08		0.00
Standard deviation (SD)	1.67		0.39
Standard error (SE)	0.09		0.08
Outfit Mean Square			
Mean	1.05		1.05
SD	0.88		0.28
Separation	3.87		4.30
Reliability	0.94		0.95
Cronbach's alpha		0.96	
Chi-square		14,177.53*	
Unidimensionality (raw variance)		50.9%	
Unexplained variance		5.2%	

Note. *p < 0.01
Source: Table created by the authors

Table 3
Categories of response choices on the empowering leadership scale

Response Category	Frequency	Percent	Average Measure	Outfit MNSQ	Step
1 (Strongly disagree)	274	4	-1.46	2.17	NONE
2 (Disagree)	810	11	-0.71	0.96	-2.29
3 (Neutral)	1,709	24	+0.23	0.91	-0.91
4 (Agree)	3,134	43	+1.32	0.79	+0.20
5 (Strongly agree)	1,341	18	+3.23	1.12	+3.00

Source: Summary of category structure based on the authors' analysis

Although empowering leadership is theoretically described through three dimensions, these are conceptualised as interrelated facets of a single higher-order construct. Therefore, a unidimensional Rasch model was considered appropriate under the assumption of essential unidimensionality, justifying the use of a unidimensional solution to estimate overall empowering leadership.

Rating scale analysis

Table 3 shows that the observed average measure increases consistently across response categories, from −1.46 to 3.23. This pattern indicates that many respondents selected higher rating categories. The outfit mean-square (MNSQ) values are considered acceptable when they fall within the range of 0.5–1.5. However, the value for response category 1 (Strongly disagree) exceeds this range (2.17), suggesting that this category may require consideration for potential simplification of the response options.

Item fit statistics

As shown in Table 4, item 23, which represents the participative decision-making dimension, does not meet the requirements for acceptable item fit. This is indicated by its point-measure correlation value of −0.16 and an outfit mean-square value of 6.60 (Boone et al., 2014).

Differential item functioning analysis

Bias detection of items based on gender, education level, and organisation type for the ELS is presented in Table 5. The analysis results indicate that Item 23 deserves further consideration within the Indonesian organisational context. The Rasch analysis showed that this item demonstrated misfit and differential functioning across gender, education level, and organisation type, indicating inconsistency in how it was interpreted by respondents. Item 23, *"Leaders make decisions solely based on their own opinion,"* may reflect assumptions about individual autonomy that are less aligned with Indonesian organisational norms, which tend to emphasise hierarchical relationships and collective decision-making. Empowering leadership behaviours may be interpreted differently in collectivist cultures compared to the individualistic contexts in which the scale was originally developed.

Table 4
Psychometric attributes of the empowering leadership scale

Dimension	Item	Logit	ME	Infit	Outfit	Measure
1	1	0.32	0.08	0.90	0.93	0.74
	2	-0.19	0.08	0.86	0.91	0.74
	3	-0.22	0.08	0.76	0.71	0.79
	4	-0.22	0.08	0.94	0.95	0.72
	5	0.22	0.08	0.76	0.76	0.78
	6	0.40	0.08	0.90	0.93	0.73
	7	0.13	0.08	0.79	0.83	0.79
	8	0.01	0.08	0.90	0.85	0.77
	9	-0.35	0.09	0.87	0.81	0.76
	10	-0.25	0.08	0.71	0.68	0.79
	11	0.15	0.08	0.83	0.78	0.80
2	12	-0.35	0.09	0.85	0.81	0.75
	13	-0.44	0.09	0.88	0.73	0.77
	14	0.05	0.08	0.60	0.57	0.84
	15	-0.10	0.08	0.78	0.72	0.80
	16	-0.40	0.09	0.71	0.64	0.79
	17	0.03	0.08	0.74	0.70	0.79
3	18	-0.30	0.09	0.77	0.76	0.80
	19	-0.21	0.08	0.78	0.72	0.79
	20	0.16	0.08	0.92	0.94	0.72
	21	-0.25	0.08	0.92	0.89	0.74
	22	0.41	0.08	0.99	1.03	0.70
	23	1.39	0.08	4.25	6.60	-0.16

Note. 1 = Coaching; 2 = Informing; 3 = Participative Decision-making; ME = measurement error

In collectivist settings, leadership is often embedded in norms of hierarchy, harmony, and relational obligation, which can shape how empowerment is perceived. For instance, items emphasising independent opinion may be understood not as empowering but as a leader's withdrawal of responsibility, particularly when subordinates expect direction as a form of care and competence. These findings are consistent with the results presented in Table 3. Empowering leadership entails a relational dynamic between leaders and subordinates, wherein employees perceive the leader's capacity to mentor, share information, and involve them in the decision-making process. However, Item 23 may fail to accurately capture this cultural context, potentially leading to measurement bias. In this setting, empowerment is often experienced indirectly through inclusion in collective interests rather than through explicit individual discretion. Given the combined empirical evidence and contextual considerations, revising or removing Item 23 appears more appropriate than minor rewording.

Table 5
Differential item functioning in the perceived empowering leadership scale

Item	Probability		
	Gender	Education Level	Organisation Type
1	0.5230	0.9178	0.3478
2	0.5230	0.6513	0.7038
3	0.1205	0.3902	0.8022
4	0.7167	0.8073	0.9544
5	0.6282	0.8556	0.9815
6	1.0000	0.3296	0.3775
7	0.4692	0.3905	0.9604
8	6578	0.4560	0.4814
9	0.0708	0.7400	0.8864
10	0.2048	0.4960	0.9658
11	0.4410	0.2646	0.6342
12	0.4789	0.8777	0.9614
13	0.4789	0.7388	0.6871
14	0.5915	0.7404	0.6466
15	1.0000	0.7291	0.5225
16	0.4797	0.9225	0.6050
17	0.4028	0.8906	0.3198
18	1.0000	0.8645	0.7743
19	1.0000	0.9771	0.0507
20	0.5270	0.5229	0.3272
21	0.1023	0.2419	0.4566
22	0.2044	0.0137	0.9481
23	0.0032	0.0006	0.0004

Source: Authors' own work

CONCLUSION

Many companies and organisations are currently implementing empowering leadership, as they recognise its potential to enhance organisational productivity and employee psychological well-being. Empowering leadership is characterised by a range of leadership behaviours aimed at overcoming work-related obstacles. These behaviours include supporting employees, empowering employees through mentoring, granting decision autonomy, providing training, focusing on self-determined goals, offering emotional support, and sharing information. The findings of this study indicate that the items used to measure perceived empowering leadership among employees were reliable and valid, although some modifications to the items were necessary. Likewise, the five response options can be employed, although consideration may be given to simplifying them to four options.

Implications of the Study

The findings of this study have several practical implications for the use of the PEL-I in Indonesia. *First*, the instrument can be used to improve job satisfaction by identifying empowering leadership behaviours related to autonomy support, meaningful work involvement, and recognition, which are critical predictors of employee satisfaction.

Second, in the context of leadership development, the PEL-I can be used as a diagnostic tool to identify specific strengths and areas for improvement in empowering leadership behaviours. By identifying strengths and weaknesses, organisations can develop more effective programs to enhance leadership skills. For example, leaders scoring lower on autonomy support may benefit from targeted training modules focusing on delegation skills.

Third, in terms of enhancing team performance, the PEL-I can help organisations identify how leadership behaviours affect team outcomes. This enables organisations to take appropriate steps to improve team performance. For instance, organisations may design team-building activities that promote open dialogue, psychological safety, and shared goal setting when weaknesses are identified in empowering leadership practices.

Fourth, with respect to decision-making, the use of the PEL-I enables organisations to make more informed decisions regarding leadership development and human resource utilisation, thereby improving efficiency and effectiveness in resource allocation. Overall, in the Indonesian context, the use of the PEL-I can help organisations improve leadership quality and performance and increase competitiveness in the global market.

Limitations and Recommendations for Future Research

This study has several limitations. First, self-reported measures are susceptible to common method bias (Podsakoff et al., 2003; 2012), which may affect the accuracy of the findings. To mitigate this issue, procedural remedies were implemented during data collection, including ensuring respondent anonymity, emphasising the absence of right or wrong answers, and clarifying the academic purpose of the study. Second, this study employed a cross-sectional design, which limits its ability to establish causal relationships. Third, the data analysis did not undergo cross-validation. Therefore, future studies are encouraged to validate the PEL-I scale using Rasch model analysis and to examine its relationships with other variables across different populations or organisational contexts. Future research is also encouraged to adopt longitudinal or multi-wave designs to capture temporal dynamics and provide stronger causal evidence. Moreover, incorporating multi-source data, such as supervisor ratings, may help reduce common method bias. To support the use of the PEL-I as a decision-making tool for leadership development, further studies should employ intervention-based designs to evaluate its sensitivity to developmental change. Lastly, future

research may build on the findings of this study to develop and evaluate psychological interventions aimed at enhancing leaders' capabilities.

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Review Article

A Systematic Literature Review on Corpus-based Studies in Malaysian Media Discourse

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ABSTRACT

Media discourse plays a vital role in shaping public perceptions, constructing ideologies, and influencing societal narratives. However, the study of media discourse in the Malaysian context has been relatively limited, particularly through a corpus-based lens. This review systematically identifies the research trends in Malaysian media discourse using a corpus-based approach. The included papers were extracted from two databases, namely Scopus and Web of Science (WoS), with 23 articles selected from 122 papers published between 2019 and 2024 based on specific exclusion and inclusion criteria. First, the significant findings show that there was underutilisation of advanced corpus tools and general corpora. Second, there was limited theoretical engagement within CDA frameworks. Third, the thematic analysis revealed a lack of focus on socioeconomic themes despite their societal relevance in Malaysia. These findings highlight ongoing gaps in Malaysian media discourse and corpus-based studies. Generally, this review provides insights for linguists and researchers to understand the diverse portrayal of Malaysian media from multiple perspectives while identifying key gaps and directions for future research. To address these gaps, future studies are recommended to explore underrepresented socioeconomic issues and incorporate more diverse corpus designs and advanced analytical tools in Malaysian media discourse.

Keywords: Corpus approach, Malaysia, media discourse, systematic review, thematic analysis

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INTRODUCTION

Mass media refers to a medium that carries mass communication to a large audience. Mass media constitutes "any communication channel used to simultaneously reach a large number of people, including radio, TV, newspapers, magazines, billboards, films, recordings, books, and the Internet… [as well as] the new category smart mass media which include smartphones, smart TVs, and tablets" (Wimmer & Dominick, 2012, p.2). The way issues are framed in news articles, TV news, and political talk shows can affect how people understand them. Media messages would be picked by the audience, which will eventually influence their opinions (Entman, 1993).

The connection between language and media is undeniable, as language is used to convey messages within the media. Discourse-level analysis plays a crucial role in identifying distinctive features and linguistic practices within news language. Examining the media environment enables researchers to analyse data and gain a better understanding of the patterns, which deepens people's knowledge of both media practices and discourse strategies (Cotter, 2001). Media discourse has evolved beyond the analysis of media texts. It also includes broader social practices that involve interdisciplinary linguistic perspectives. Therefore, linguists are increasingly interested in contributing to media studies by applying discourse-analytical methods to understand how language meaning is shaped by context (Hua, 2022).

One of the main concerns in critical linguistics is media discourse (Fairclough, 1995). Fairclough (1995) argues that the media can be influenced by powerful societal institutions. As a result, the media constructs "representations of reality" instead of "reality". He emphasises that the importance of media analysis in analysing how media content is "read" by different audiences is just as vital as analysing the content itself. Various linguistic approaches, including critical discourse analysis (CDA), corpus-assisted discourse studies (CADS), appraisal analysis, and stance analysis, have been widely explored to examine how media texts can unveil underlying ideological meanings and linguistic patterns. Combining corpus and discourse approaches has also been proven to be an effective method for analysing news texts (Baker & McEnery, 2005; Xin & Gao, 2019; Zhao & Zhang, 2019).

With the emergence of digital media, newspapers have become the primary medium for disseminating information. In the Malaysian context, media operations have long been shaped by structural constraints such as censorship laws and political ownership. As Kwan and Ying (2023) point out, the government's extensive influence has led to limitations on how information is framed, which can distort public opinion. In the same vein, Gomez et al. (2018) highlight how ties between traditional media outlets and political actors raise questions about the credibility of news coverage. These structural realities emphasise the importance of analysing

Malaysian media discourse, especially through corpus-based approaches, as they allow researchers to systematically uncover patterns of representation, ideological framing, or media bias that may arise in large bodies of text.

Many studies have examined the diverse portrayal of Malaysian media discourse, reflecting a strong interest among scholars in understanding how language shapes public narratives. In recent years, corpus-based approaches have become increasingly significant, offering empirical and replicable methodology for analysing large amounts of media texts. Despite the increase in corpus-based research within Malaysian media discourse, there is still a lack of systematic reviews that compile findings, methodologies, and research trends in this area. To the researcher's knowledge, no prior systematic literature review has specifically examined corpus-based studies in Malaysian media discourse. Therefore, this paper aims to review 23 studies that employ corpus-based approaches focusing on Malaysian media discourse for the last six years (2019-2024). The specific research questions are: 1) What are the research trends in Malaysian media discourse studies that employ a corpus-based approach in the last six years (2019 - 2024)? 2) What are the potential gaps and under-researched areas in the existing body of literature? The findings of this review may benefit corpus linguists, discourse analysts, and Malaysian media scholars by offering more knowledge on research trends, methodological developments, and areas that need further investigation in corpus-based studies, specifically within the Malaysian media context.

METHODOLOGY

PRISMA, or Preferred Reporting Items for Systematic Reviews and Meta-Analyses, was first introduced in 2009, aiming to evaluate and synthesise studies systematically and transparently through a standard reporting guideline. The PRISMA 2020 guidelines, which represent a modification from the original 2009 version, comprise a 27-item checklist intended for systematic reviews assessing the impact of health interventions, regardless of the study designs involved (Page et al., 2021). However, the designed checklist items are also applicable to systematic reviews examining other domains, including social and educational fields. Notably, PRISMA has also been adopted in language and linguistics research (Bailey et al., 2020; Farrús, 2023; Masullo et al., 2023). In general, the PRISMA framework (Moher et al., 2009) highlights several steps in selecting papers: 1) identifying sources of information, 2) selecting studies, 3) conducting data collection, 4) determining eligibility criteria, and 5) selecting relevant data items.

Determining the right research questions helps researchers in selecting articles, extracting, and reporting data (Xiao & Watson, 2019). The formulation of research questions for this study was based on PICo (Lockwood et al., 2015). PICo is a widely used mnemonic to help researchers develop

research questions for systematic review. PICo is based on three main elements: P (Population or Problem), I (Interest), and Co (Context). Thus, this paper aims to examine 23 past studies to learn about emerging research trends, preferred topics, and theoretical/methodological approaches in corpus-based studies (Interest) in Malaysian media discourse (Population), published from 2019 until 2024 (Context).

Due to the subject-specific nature of databases and their tendency to index only a portion of the literature, it is recommended to search more than one database when conducting SLR studies (Papaioannou, 2010). Therefore, in the present study, Scopus and Web of Science (WoS) were selected for the review process. These databases are both comprehensive and robust, covering a wide range of disciplines and fields. WoS, owned by Clarivate, is the world's oldest research database and served as the sole source of bibliographic data for 40 years until Scopus was launched by Elsevier in 2004 (Baas, 2020). WoS comprises several citation indexes that include 254 subject areas and cover 34000 journals from the arts and humanities, sciences, and social sciences (Birkle et al., 2020). Conversely, Scopus is a user-friendly, multidisciplinary database spanning life sciences, humanities, engineering, and business, indexing nearly 42000 journals. Scopus is recognised for publishing high-quality research publications, with journals needing to meet rigorous quality standards to maintain high academic standards for researchers worldwide.

The Systematic Review Process

Identification

The systematic review process for identifying relevant articles consisted of three stages. The first stage is the identification of keywords, followed by the process of searching for synonyms, related terms, and variations using dictionaries and online thesauruses, asking experts' opinions, and referring to past studies. Based on this process, search strings on Scopus and Web of Science (WoS) databases were developed in April 2025 (Table 1) after all the keywords were determined. These keywords were processed using search functions such as field code functions, phrase searching, wildcards, truncation, and Boolean operators. Based on the searching process, a total of 122 potential articles were identified from both databases.

Screening

The first stage of the screening process was to remove duplicate articles. While 27 duplicated articles were eliminated, a total of 52 articles were excluded based on several inclusion and exclusion criteria determined by the researchers in the second stage. The first criterion was the type of literature, focusing on journals (research articles) containing empirical data. Therefore, other types of articles, such as systematic review articles, review articles, meta-analyses articles, meta-synthesis articles, book series, book chapters, and conference proceedings, were excluded.

It should be noted that the review only includes articles published in English, which may have contributed to a relatively small pool of selected data. Although accepting only English articles helps ensure consistency in the selection and analysis process, it may limit the findings' representativeness within Malaysia's multilingual media landscape. Therefore, relevant studies published in Malay or other languages that could offer different thematic foci, media representations, or methodological perspectives are not fully represented in this review. Future reviews could benefit from including multilingual studies to gain a broader understanding of corpus-based research in Malaysian media. Additionally, the chosen timeline for the review was between 2019 and 2024, considering that the number of published papers during this period was sufficient to provide a representative review. Thus, articles published before 2019 were not included (Table 2). This process resulted in 43 articles remaining for evaluation in the next stage.

Table 1
Search string used in the selected database

Database	String
Scopus	TITLE-ABS-KEY (("media discourse*" OR "news discourse*" OR "news coverage*" OR "media report*" OR "news report*" OR "media representation*" OR "media text*" OR "media narrative*" OR "journalistic discourse*" OR "press discourse*" OR "media portrayal*" OR "media framing*" OR "news content*" OR "media language*") AND ("corpus-based" OR "corpus linguistics*" OR "corpus-driven" OR "corpus-assisted" OR "discourse analysis" OR "critical discourse analysis" OR "linguistic analysis" OR corpus*) AND (malaysia OR malaysian))
WoS	TS= (("media discourse*" OR "news discourse*" OR "news coverage*" OR "media report*" OR "news report*" OR "media representation*" OR "media text*" OR "media narrative*" OR "journalistic discourse*" OR "press discourse*" OR "media portrayal*" OR "media framing*" OR "news content*" OR "media language*") AND ("corpus-based" OR "corpus linguistics*" OR "corpus-driven" OR "corpus-assisted" OR "discourse analysis" OR "critical discourse analysis" OR "linguistic analysis" OR corpus*) AND (malaysia OR malaysian))

Table 2
The inclusion and exclusion criteria

Criterion	Inclusion	Exclusion
Literature Type	Journal (articles with empirical data)	Review articles, book series, book, chapter in book, conference proceedings, etc.
Language	English	Non-English
Timeline	2019-2024	2018 and earlier

Eligibility

A total of 43 articles were prepared for analysis during the eligibility process. During this stage, the titles, abstracts, and main contents of all articles were carefully examined to ensure that they met the inclusion criteria and were suitable for the review. The articles were manually screened to confirm the actual use of corpus-based approaches and corpus analytical tools. Consequently, 20 articles were excluded because they had inaccessible full texts, were not based on empirical data, or did not focus on Malaysian media outlets. Furthermore, studies that employed purely qualitative discourse analysis without the use of corpus compilation, corpus software, or quantitative corpus techniques were also excluded from the review. Finally, a total of 23 remaining articles were ready for analysis. The flowchart of the study selection process is presented based on Moher et al.'s (2009) reporting items for systematic reviews and meta-analyses (PRISMA) in Figure 1.

This study employed a two-step analysis as suggested by Ahmed and Matthes (2017).

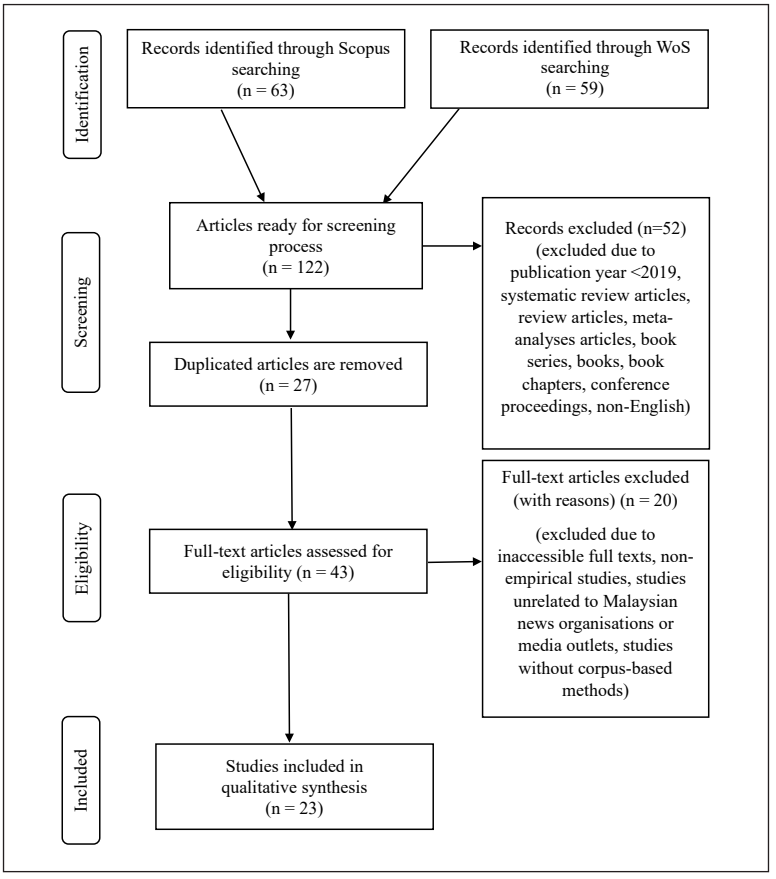

Figure 1. Flowchart of the study selection process (adapted from Moher et al., 2009)

The first step was a detailed quantitative analysis to code and categorise key characteristics of the selected studies, understand the research trends, and make comparisons. The studies were coded into the subsequent subtopics: 1) year of publication, 2) corpus involved, 3) corpus size, 4) instrument/tool used, and 5) theoretical/methodological approaches. The second step was the qualitative analysis to identify significant themes from the reviewed literature. Each study was grouped based on its primary thematic focus and organised under the same thematic categories.

RESULTS

The main objectives of this systematic review are i) to find out the research trends in Malaysian media discourse studies that employ the corpus-based approach in the last six years (2019 - 2024) and ii) to identify the potential gaps and under-researched areas in the existing body of literature.

To achieve the first objective, the analysis of the research trend from 2019 until 2024 was presented in Table 3. It summarises the author and publication year, type of corpus, instrument/tool used, and the theoretical/methodological perspective employed in each study selected.

Published Studies Trend

Figure 2 shows the number of published studies using the corpus approach from 2019 to 2024. The average number of publications over the six years remains relatively low, with an overall mean of 3.83. The figure shows a fluctuating trend of research studies as the number of studies, which was consistent with 4 studies in 2019 and 2020, began to decline, with just 2 studies in 2021. Nevertheless, the number returned to 4 again both in 2022 and 2023. Fortunately, in 2024, the number of published studies increased slightly to 5 papers. The pattern suggests that though corpus-based study is gaining more attention among researchers, this field of study has been scarcely examined. Consequently, it highlights a significant opportunity for this field to be further explored in the future.

Corpus Used

Figure 3 illustrates the distribution of corpus types used in the reviewed studies. Most studies (83%) used a target corpus, typically compiling news reports sourced from Malaysian newspapers for their analysis. On the contrary, only 17% of the studies (Abas & Kaur, 2019; Abdul Malik et al., 2022; 2023; Wang & Liang, 2024) adopted a mixed corpus approach, incorporating a target corpus and a reference corpus. Notably, in the studies where a reference corpus was used, the British National Corpus (BNC) served as the comparative baseline, thus suggesting that these authors were interested in comparing British English and the English language used in the Malaysian newspapers.

In addition, Figure 4 shows the percentage of the corpus used based on fields in the selected literature. It is clearly stated that most authors employed news reports from the health field (35%).

Table 3
Descriptive overview of reviewed studies

No.	Author	Corpus	Corpus size	Theories/ Methods	Instruments/ Tools
1	**Chang and Abdul Rahim (2021)**	News reports on Covid-19 during MCO 1.0 (1st - 30th April 2020)	1299 articles (971283 words)	Corpus Linguistics, Semantic prosody (Louw, 2000)	AntConc version 3.5.9
2	**Asad et al. (2019)**	News reports on social actors' performances (3rd May - 9th May 2018)	21 articles (8395 words)	Fairclough's (1995) Critical Discourse Analysis, Halliday's Systematic Functional Linguistics (SFL)	Excel spreadsheet
3	**Wang and Liang (2024)**	British National Corpus (BNC), news reports from Malay-, English-, and Chinese-language newspapers (16th October 2022 - 16th October 2023)	192 articles (138647 reports)	Corpus-Assisted Discourse Analysis (CADS)	AntConc 4.2.4
4	**Ong and Abdul Rahim (2019)**	News articles on GST from GST Malaysia Info Website	10 articles (3172 words)	Corpus Linguistics, Fairclough's (1995) Critical Discourse Analysis	AntConc 3.4.4
5	**Ismail et al. (2020a)**	Orang Asli corpus (February 2003 - February 2019)	68000 words	Corpus-Assisted Critical Discourse Analysis (CACDA)	WordSmith Tools 6.0
6	**Wu et al. (2022)**	Hard news and opinion pieces on world's economy, politics, culture etc. about China (January 2012 - December 2021)	137475 articles (65 million words)	Sentiment Analysis, Corpus Linguistics, Discourse Analysis	WordSmith Tools 8.0
7	**Yoong and Lee (2023)**	News reports (dated May - October 2018)	84 articles	Critical Discourse Analysis and Jeffries's (2010) Critical Stylistics model	Search queries

Table 3 (*continued*)

No.	Author	Corpus	Corpus size	Theories/ Methods	Instruments/ Tools
8	**Mohd Nor et al. (2021)**	Corpus of Malaysian Online News Articles of Mental Health (1st January 2020 - 31st December 2020)	585 articles (320509 words)	Corpus Linguistics, Discourse Analysis	AntConc 3.5.8
9	**Mohd Nor and Zulcafli (2020)**	News reports on Covid-19 (1st - 31st March 2020)	1018 articles	Corpus Linguistics, Discourse Analysis	AntConc 3.5.8
10	**Ismail et al. (2020b)**	Malaysian Sports News (MSN) Corpus (1st - 30th November 2013 and 1st - 31st March 2014)	7640 articles (approx. 3000000 words)	Corpus-Assisted Discourse Analysis (CADS)	WordSmith Tools 6.0
11	**Roslani and Jamal (2024)**	News articles of Nur Sajat (23rd February 2021 - 23rd February 2022)	29 articles	van Leeuwen's Representation of Social Actors (2008) of Critical Discourse Analysis	Search queries
12	**Abas et al. (2023)**	Malaysian Corpus of Vaccination (M-CorVax) (March 2020 - June 2021)	1514 articles	Corpus-Assisted Discourse Analysis (CADS) with Discourse-Historical Approach (DHA)	#LancsBox v.6.x.
13	**Murugaiah et al. (2024)**	News reports on people with mental illness (PwMI)	24 articles	van Dijk's (1980) Theory of Semantic Macrostructures, van Dijk's (1998) Ideological Square model of Critical Discourse Analysis	Search queries
14	**Abdul Malik et al. (2022)**	British National Corpus (BNC) 2014, COVID-19 Vaccine Related News Reports in Malaysian English Newspapers Corpus (CocVac-MEN Corpus)	538 articles (178675 words)	Corpus Linguistics	#LancsBox 5.0.

Table 3 (*continued*)

No.	Author	Corpus	Corpus size	Theories/ Methods	Instruments/ Tools
15	**Abdul Malik et al. (2023)**	British National Corpus (BNC) 2014, COVID-19 Vaccine Related News Reports in Malaysian English Newspapers Corpus (CocVac-MEN Corpus)	538 articles (178675 words)	Corpus Linguistics	#LancsBox 5.0
16	**Joharry et al. (2023)**	News reports 30 days before and 30 days after Sabah election day on 26 September 2020	996 articles (390868 words)	Corpus-Assisted Discourse Analysis (CADS)	#LancsBox6.0
17	**Abas and Kaur (2019)**	British National Corpus (BNC), news reports from sports section	1311 articles (485862 words)	Corpus Linguistics, Discourse Analysis	Not mentioned
18	**Mohd Ali et al. (2024)**	Newspaper reports on mental illness among Malaysians (January 2017 - December 2021)	43 articles	Reisigl and Wodak's (2009) discursive strategies of Critical Discourse Analysis	Search queries
19	**Khalid et al. (2020)**	News reports concerned with the news program of direct hiring (SMO)	29 articles	Discourse-Historical Approach (DHA) framework of Critical Discourse Analysis (Reisigl & Wodak 2001)	NVivo 12 Pro
20	**Selvaraj and Sandaran (2024)**	News reports on aging or aging population (May 2022 - May 2023)	83 articles	Discourse Analysis	Search queries
21	**Asad (2022)**	News reports on social actors i.e. Dr Mahathir, Najib Razak, Pakatan Harapan (PH), and Barisan Nasional (BN) (17th - 18th August 2018)	8 articles (5721 words)	Fairclough's (1995) model of CDA, Halliday's (1985) Systemic Functional Linguistics (SFL)	Excel spreadsheet

Table 3 (*continued*)

No.	Author	Corpus	Corpus size	Theories/ Methods	Instruments/ Tools
22	**Taufek et al. (2022)**	News reports on climate change (2015 - 2021)	922 articles (804289 words)	Corpus Linguistics, Discourse Analysis	AntConc 4.0.5
23	**Hajimia et al. (2019)**	News reports on social and environmen-tal issues (March - October 2016)	30 articles (10500 words)	Corpus-assisted Corpus Analysis (CACA)	AntConc

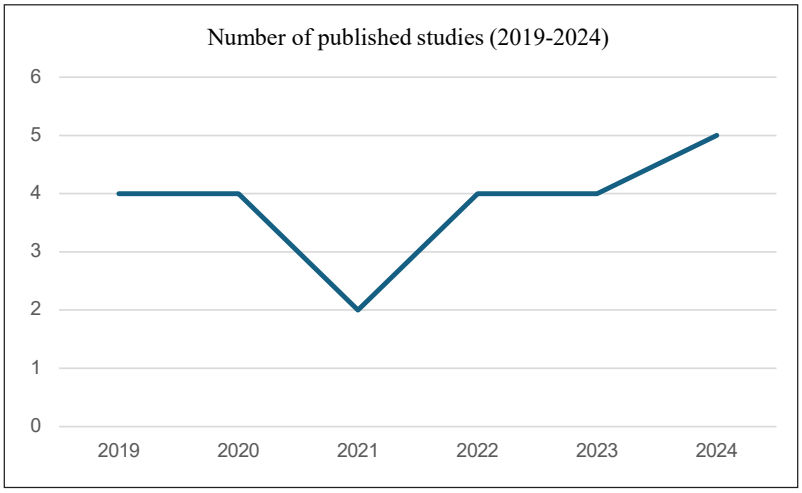

Figure 2. Trend of corpus-based studies in Malaysian media discourse (2019 - 2024)

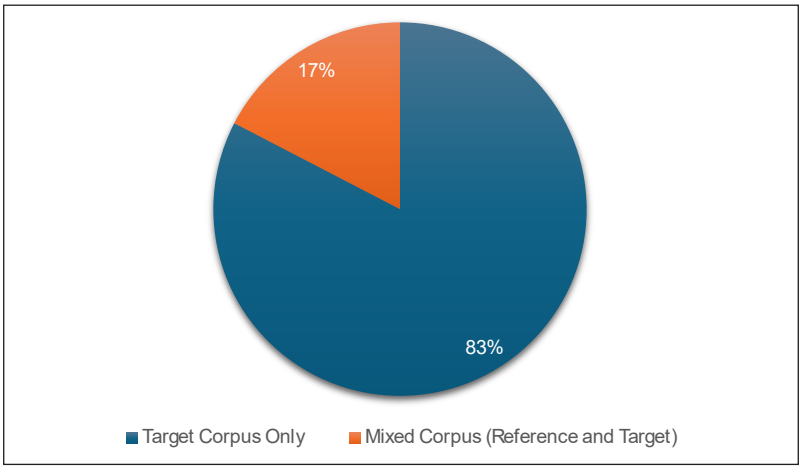

Figure 3. The percentages of corpus types in the selected literature

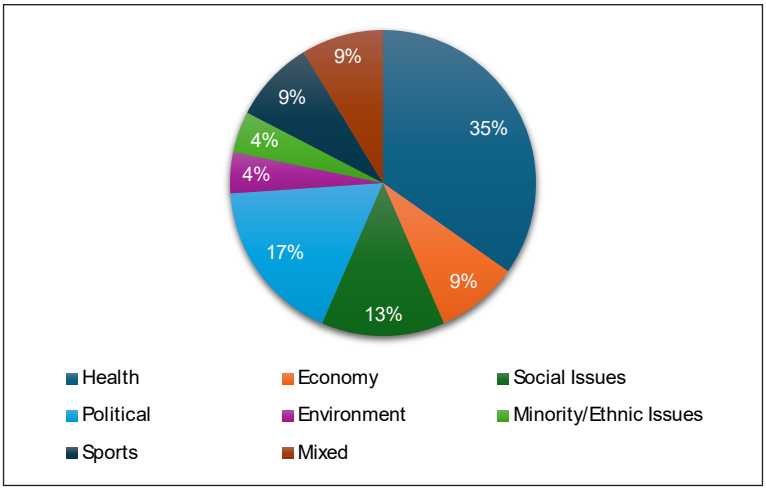

Figure 4. The percentages of the corpus used based on the fields in the selected literature

For example, Abdul Malik et al. (2022) and Abas et al. (2023) built their corpus from newspaper reports called CocVac-MEN Corpus and Malaysian Corpus of Vaccination (m-CorVax), respectively. Likewise, Mohd Nor et al. (2021) and Murugaiah et al. (2024) examined news articles concerning mental health issues, thus contributing to health as the most frequently studied topic in corpus-based media discourse. In the meantime, the second-highest corpus field is from political discourse, such as Asad (2022), who examined political social actors, and Joharry et al. (2023), who investigated the 2020 Sabah state election. Social issues covered 13% of all studies, where topics such as transgender (Roslani & Jamal, 2024), ageing (Selvaraj & Sandaran, 2024), and migrant women (Yoong & Lee, 2023) were explored. In contrast, economy, minority/social issues, and mixed fields shared a similar percentage with 9%, whereas the lowest percentage, which is 4%, is shared by two other fields: environment and sports.

Instruments/Tools Used

As illustrated in Figure 5, the most frequently used instrument in corpus-based studies of Malaysian media discourse between 2019 and 2024 was AntConc with 30% (n=7), followed by search queries with 22% of the studies (n=5). Next, #LancsBox was used in 17% (n=4) while WordSmith Tools featured in 13% of the studies (n=3). Additionally, 8.7% (n=2) of the studies used a Microsoft Excel spreadsheet for manual data processing. A single study (4.3%) employed NVivo 12Pro, whereas another study (4.3%) did not specify the specific instrument or tools used.

To illustrate, studies that employed AntConc (e.g., Chang & Abdul Rahim, 2021; Wang & Liang, 2024) and #LancsBox tool (Abdul Malik et al., 2022; Joharry et al., 2023) mostly involved small to medium corpus data, while studies that used WordSmith Tools (e.g., Ismail et al., 2020b; Wu et al., 2022) analysed larger datasets.

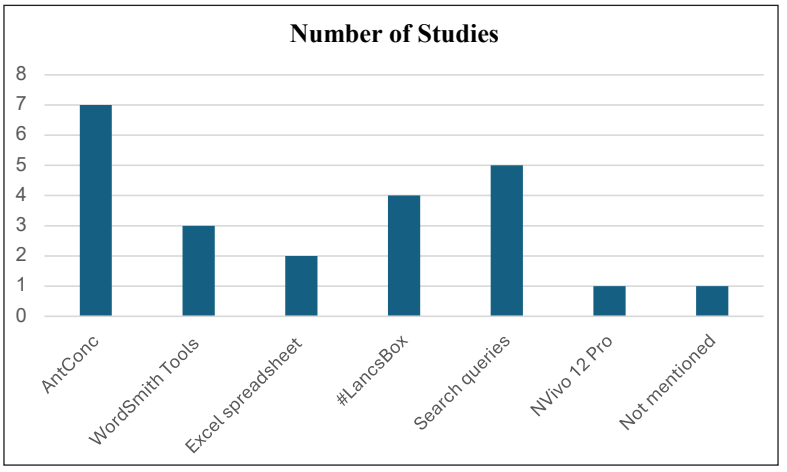

Figure 5. The instruments or tools used by authors in the selected literature

Meanwhile, Asad et al. (2019) and Asad (2022) utilised Excel spreadsheet software to manage and analyse news reports that had been downloaded manually, considering the small corpus sizes with only 21 in 2019 and 8 in 2022. Given the limited amount of data, the authors opted for manual processing and basic analysis for data compilation. On the other hand, Khalid et al. (2020) employed NVivo 12 Pro as a preliminary analysis for their qualitative study. They used the software's word frequency function to generate a word cloud. The use of this software enabled the researchers to obtain and illustrate broad findings within the data.

On the contrary, Selvaraj and Sandaran (2024), Mohd Ali et al. (2024), Murugaiah et al. (2024), and Roslani and Jamal (2024) relied on search queries to manually retrieve articles from online newspaper databases using keywords related to their studies. These studies were primarily qualitative and involved small datasets. The authors prioritised keyword-based data collection suited for their interpretive frameworks. Interestingly, a study by Abas and Kaur (2019) did not specifically mention the analytical instrument they used, despite reporting concordance and collocation analysis as methods for determining the concept of theologizing in football news discourses.

Theoretical/Methodological Approaches

Figure 6 illustrates the theoretical and methodological approaches adopted in Malaysian media discourse studies from 2019 to 2024. The bar graph indicates that while some studies relied on specific theoretical frameworks, others focused on methodological tools to guide their data analysis. It is clearly shown that most studies (35%) employed Critical Discourse Analysis (CDA) (Khalid et al., 2020; Murugaiah et al., 2024; Mohd Ali et al., 2024; Roslani & Jamal, 2024).

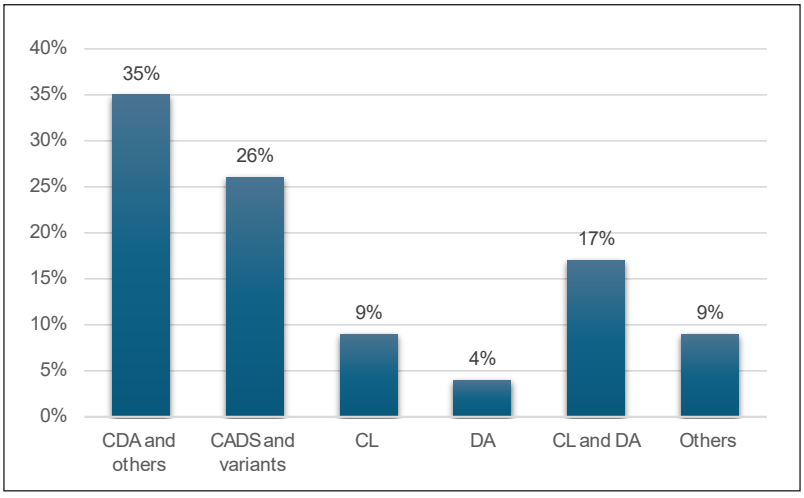

Figure 6. The theoretical and methodological approaches used in the reviewed studies

Some studies used CDA and paired it with other theories, such as Asad et al. (2019) and Asad (2022), who examined political social actors' performances in Malaysian elections using CDA and Halliday's Systematic Functional Linguistics (SFL). Another study conducted by Yoong and Lee (2023) combined CDA with Jeffries's (2010) Critical Stylistics model to unveil how a Malaysian newspaper represents Chinese migrant women, while Ong and Abdul Rahim (2019) used Corpus Linguistics (CL) as a method to facilitate preliminary analysis before the data was analysed using the CDA approach.

In addition, 26% of the studies employed Corpus-Assisted Discourse Analysis (CADS) and its variants. For instance, Wang and Liang (2024) employed the CADS approach using Fairclough's (1989) model to examine how Malaysian media portrayed Chinese modernity through language choices, syntactic structures, metaphors, and narrative strategies. Several studies also utilised CADS, such as Ismail et al. (2020b), who discussed the emotional portrayal of male and female athletes in sports news discourse by analysing keywords, collocations, and evaluative language. Abas et al. (2023) employed corpus analysis and Wodak's Discourse-Historical Approach (DHA) to investigate media coverage of vaccination-related news. Similarly, Joharry et al. (2023) explored news reporting strategies used before, during, and after the Sabah state election by comparing significant keywords and collocates. Other variants of CADS were also evident in the review. For instance, Corpus-Assisted Critical Discourse Analysis (CACDA) was employed by Ismail et al. (2020a) to examine Malaysian media representation of Orang Asli, revealing how language patterns signified ideologies of power and powerlessness. Another variation was Corpus-assisted Corpus Analysis (CACA) employed by Hajimia et al. (2019) to examine the distributional patterns of

discourse markers in selected newspaper articles.

Rather than employing a specific theoretical framework, some studies adopted a data-driven corpus linguistic approach. For example, Abdul Malik et al. (2022, 2023) employed the CL method to examine how COVID-19 vaccination in news reports was framed, amounting to 9% of all studies. In addition, several studies (17%) combined CL with Discourse Analysis (DA) to further understand language patterns in selected news articles. Abas and Kaur (2019) analysed the linguistic connection between 'faith' and religion in football coverage, while Mohd Nor et al. (2021) and Mohd Nor and Zulcafli (2020) explored the media portrayal of mental health issues and Covid-19 in Malaysian newspapers. Similarly, a study by Taufek et al. (2022) also adopted CL and DA to conduct a thematic analysis of climate change discourse in Malaysian news reports.

Few studies (9%) fall under "Others", with less commonly used methodological approaches. Some of these studies combined CL or DA with additional analytical approaches to offer more insights into media discourse. For example, Chang and Abdul Rahim (2021) integrated CL with semantic prosody to analyse media representation of Covid-19 in Malaysian media, while Wu et al. (2022) employed sentiment analysis with CL and DA to explore the representation of China in Malaysian news. In contrast, Selvaraj and Sandaran (2024) relied solely on DA to reveal dominant discourses related to ageing.

Thematic Analysis

The second research objective for this study is to explore potential gaps and under-researched areas in the existing body of literature. To fulfil the objective, this study carried out a thematic analysis of Malaysian media discourse, which employed a corpus-based approach. The data from the thematic analysis revealed several themes, which are illustrated in Table 4. Table 4 shows the identified themes from the analysed studies with the aim of achieving the second research objective.

Table 4 shows that a diverse range of topics were explored, reflecting the interdisciplinary nature of Malaysian media discourse research. Accordingly, nine themes were identified, with 8 out of 23 studies focused on media discourse of public policy and national campaigns. For example, Ong and Abdul Rahim (2019) examined news articles to investigate the implementation of goods and services tax (GST) in several mainstream newspapers. Using CL and Fairclough's model of CDA, the study unveiled the discourse of anti-profiteering law enforcement, where mainstream newspapers significantly portrayed the success of GST through positive representation of the authorities and negative representation of perpetrators and offenders. The study revealed discursive strategies of *us* vs *them* in the reports, which shifted consumers' anger towards unethical traders, thus shaping the public's trust in the authorities' credibility.

Table 4
Overview of the qualitative thematic screening

No.	Themes	Author(s)/Year
1	Public Policy and National Campaigns	Chang & Abdul Rahim (2021)
		Ong & Abdul Rahim (2019)
		Mohd Nor & Zulcafli (2020)
		Abas et al. (2023)
		Abdul Malik et al. (2022)
		Abdul Malik et al. (2023)
		Joharry et al. (2023)
		Khalid et al. (2020)
2	Political actors and ideological stance	Asad et al. (2019)
		Asad (2022)
3	Marginalised and vulnerable groups	Ismail et al. (2020a)
		Yoong & Lee (2023)
		Mohd Ali et al. (2024)
		Selvaraj & Sandaran (2024)
4	Linguistic features and stylistic patterns	Hajimia et al. (2019)
5	Environmental discourse and public engagement	Taufek et al. (2022)
6	Cultural and ideological framing	Abas & Kaur (2019)
7	International relations and cross-cultural interactions	Wang & Liang (2024) Wu et al. (2022)
8	Health and well-being in society	Mohd Nor et al. (2021)
		Murugaiah et al. (2024)
9	Gender and identity	Ismail et al. (2020b)
		Roslani & Jamal (2024)

Similarly, Mohd Nor and Zulcafli (2020) studied verbs and noun collocates in a mainstream newspaper coverage of COVID-19. Their findings demonstrated how lexical items such as verbs (e.g., *spread, fight*) and nouns (e.g., *cases, outbreak*) collocate underscored the gravity of Covid-19. Furthermore, concordance analysis of the study also highlighted how the media discursively constructed the government's proactive stance in mitigating and curbing the pandemic, thereby encouraging public engagement in the efforts. Khalid et al. (2020), on the other hand, explored media representation of the Online Maid System (SMO) as a direct hiring system in recruiting foreign domestic helpers. The study unveiled that mainstream and alternative newspapers showed contradictory representations. While the former depicted SMO as efficient and convenient, the latter doubted the system. The issue was largely framed from an economic and procedural perspective, but limited attention was given to the effects of the system on foreign domestic workers.

Both newspapers underscored the difference in ideological positions, particularly in the coverage of public policies and campaigns. Only 3 out of 8 studies incorporated both mainstream and alternative newspapers. This suggests that future research on media discourse could benefit from analysing both media types, as both may offer different interpretations in understanding public policy narratives in Malaysia.

While public policy and national campaigns emerged as the most researched themes, other areas received comparatively less attention. Only 4 studies focused on the representation of marginalised and vulnerable groups. While Yoong and Lee (2023) highlighted the media's role in shaping perceptions of foreign nationals, especially the migration of mainland Chinese women, the remaining 3 studies concentrated on vulnerable groups within the Malaysian context. Ismail et al. (2020a), for example, explored media representations of Orang Asli by analysing language patterns to uncover underlying ideologies of power and powerlessness between indigenous communities and authoritative figures. Another study by Selvaraj and Sandaran (2024) unveiled dominant discourses surrounding ageing population, aiming to contribute towards effective policies and initiatives for their well-being. On the contrary, Mohd Ali et al. (2024) examined the type of linguistic devices in representing mentally ill people, revealing a tendency towards negative portrayal that associates them with perpetrators. Despite these contributions, several under-researched areas remained, particularly from socio-economic perspectives that are deeply intertwined within Malaysian society. It is crucial to bring to attention that issues such as income disparity, the marginalisation of communities, and the urban-rural divides have not been extensively explored in Malaysian corpus-based studies.

Several themes also received limited scholarly attention over the past six years, typically represented by one or two studies each. For instance, only two notable studies were conducted between 2019 and 2022 on political actors. Asad et al. (2019) examined the representation of social actors during Malaysia's general elections, while another study in 2022 focused specifically on the ideological portrayal of Dr. Mahathir Mohamad. Though these studies analysed news coverage from both mainstream and alternative newspapers, the review suggests that there is a limited focus on the political actor selection and media sources. Furthermore, studies on health and well-being remained limited in scope, as Mohd Nor et al. (2021) and Murugaiah et al. (2024) focused exclusively on mental health and mental illness. Similarly, research on international relations and cross-cultural interactions was primarily centred on China. For example, Wang and Liang (2024) investigated Malaysian media perspectives on Chinese modernisation, while Wu et al. (2022) explored sentiments towards China in Malaysian media. In the area of gender and identity, Ismail et al. (2020b) addressed the issue of masculinity, emotions, and gender through sports reporting, whereas Roslani and Jamal (2024) critically

analysed media representation of a local transgender woman.

Finally, the same lack of focus was observed in studies related to linguistic features and stylistic patterns, environmental discourse, and cultural and ideological framing, as there was only one study on each area based on the analysed thematic analysis. Although the reviewed studies explore a diverse range of topics in Malaysian media discourse, the limited number of studies within each indicates that many areas remain fragmented and underexplored.

DISCUSSION

Based on the distribution data of published studies, research in Malaysian media discourse using a corpus-based approach has not shown a consistent upward trend from 2019 to 2024. Instead, the number of studies fluctuated over the years. However, the slight increase in studies from 2023 to 2024 indicated a positive interest in this area. This review was exclusively based on newspaper reports. While newspapers play an integral role in framing the world around us (Copeland, 2003), they are often suppressed by social powers such as political institutions or interest groups that have the authority to control what events are covered in news reporting. News reports analysis enables scholars to unveil linguistic features, ideological framing, and the shaping of public opinion through selective reporting. Since this review focuses mainly on news reports, which are often archived, searchable, and relatively easy to compile and process, studies involving other media and multimodal formats may be overlooked. It is crucial to highlight that other types of media, such as social media platforms and television broadcasts, also contribute to the public's perceptions. While these forms of media were not covered in the reviewed studies, previous work on other media, such as radio discourse (Chukwunalu et al., 2022; Valentine et al., 2018), demonstrates that the combination of spoken language and textual information impacts public interpretation in unique ways. Therefore, broader corpus-based studies that involve audiovisual elements, including multimodal, spoken, and digital media as data sources, could expand a deeper understanding of how media discourse evolves.

Additionally, Malaysian media discourse relies primarily on specialised corpora, which enables researchers to focus on specific areas within media, such as health news or social issues, and thereby allows for the comprehension of linguistic patterns in a particular domain or field. The use of specialised corpora remains inadequately explored (Sadjirin et al., 2018). Specialised corpora enable researchers to have greater control over topic selection and time frames and are highly context-specific while allowing studies to be tailored closely to Malaysian settings. Researchers are therefore encouraged to build their corpora (Baker, 2006) because a properly designed, specialised small corpus can offer relevant, significant findings regarding "specialised lexis and structures" (O'Keefe et al., 2007, p. 198) compared to a large corpus, which is not personalised

to fulfil researchers' requirements (Nesi, 2012). However, the current distribution reveals a clear corpus design gap in the limited use of general corpora. According to Leech (2002), a general corpus serves as a valuable reference, covering both written and spoken language over time. The use of large reference corpora in exploring media texts, particularly in CDA studies, reduces personal bias or intuition in how language is constructed. It serves as a linguistic baseline in determining typical language patterns when comparing specific texts (O'Halloran, 2010). Thus, researchers can differentiate between linguistic features that are distinctive in general Malaysian English and those that are ideologically marked or specific to media discourse, such as in news reporting.

Furthermore, AntConc and #LancsBox were the most frequent tools applied in most studies. Both offer similar core corpus functions such as keyword analysis, word frequency, collocations, and concordance analysis. They are accessible, user-friendly, and free, making them particularly attractive to researchers working with small datasets and constrained timelines. In comparison, WordSmith Tools was employed in studies with larger datasets, such as Ismail et al. (2020a), who analysed sixteen years' worth of news reports. Despite the usefulness of these tools, several methodological gaps emerge. A few studies relied on Excel spreadsheets and manual keyword searches. Though these tools are sufficient for narrowly focused and qualitative analyses, they may compromise the replicability, scalability, and analytical rigour that are expected in corpus-based research. Noticeably, none of the reviewed studies used advanced corpus analysis tools such as Sketch Engine and CQPweb, which offer enhanced capabilities, large-scale, and robust corpus analysis (Gomide, 2020; Hardie, 2012; Kilgariff et al., 2014). Underutilisation of these tools may reflect methodological challenges within the Malaysian context, including a lack of technical training, restricted exposure to advanced corpus platforms, and limited accessibility. Sketch Engine, for instance, is often associated with sophisticated linguistic analysis and advanced users due to its extensive analytical features (Jabeen & Rashid, 2025). Therefore, limited engagement with advanced platforms as such may hinder the development of large-scale and methodologically diverse Malaysian media discourse studies.

Meanwhile, it can be inferred that CDA is the dominant theoretical approach across most of the reviewed studies. Most studies applied CDA broadly using Fairclough's 3D Model (Ong & Abdul Rahim, 2019; Wang & Liang, 2024). This preference may stem from foundational work by Chouliaraki and Fairclough (1999), who argue that media institutions that appear neutral and objective have the power to shape, mediate, and reinforce societal views and attitudes. In recent years, CADS has also emerged as a prominent and significant tool for linguistic research (Baker, 2015; Samaie & Malmir, 2017), reflecting a deeper understanding of how language functions in media by

combining quantitative and qualitative data. However, the review indicates a theoretical gap as CADS in Malaysian media discourse is scattered and insufficient, with a lack of engagement on specific tools within the CDA framework (e.g., social actors' analysis, transitivity). Only a handful of studies incorporated semantic analysis or semantic prosody despite their potential in uncovering evaluative meanings in news discourse.

Moreover, from the perspectives of corpus fields and thematic analysis, the findings reveal several thematic gaps in the reviewed studies. The review covered a range of subjects, including health, politics, and economics, but sports and environmental discourse remain underexplored. The thematic analysis also demonstrates that though the studies cover a variety of issues, the distribution of research focus remains uneven. Most studies concentrated on public policy and national campaigns, whereas fewer studies emphasised critical societal issues such as matters of migration, ageing population, and the representation of Orang Asli communities. However, socioeconomic issues that are closely intertwined within Malaysia (e.g., Ariffin et al., 2022; Abdul Latip & Othman, 2021), such as poverty, income inequality, and urbanisation, are understudied from a linguistic perspective. As manifested in other broader studies in media and communication studies, "issues to do with economic, class or related social inequalities (other than specific conceptualisation of gender, race, and sexual orientation) do not feature prominently" (Preston, 2016, p.38). Given the media's role in facilitating public discourse, marginalised communities affected by economic challenges remain underexplored, highlighting a critical gap for corpus studies in the future.

Recommendations

This review highlights several gaps in the existing studies. First, although the focus of this review is on newspaper reports, it is crucial to note that other media forms, such as social media, TV broadcasts, and multimodal content, contribute significantly to media discourse. Several scholars (Cushion & Richard, 2013; Tiffen et al., 2014) argue that different forms of media vary in how they produce and disseminate news content. For example, social media tends to be unedited and less standardised compared to other language forms, such as news and novels (Brandtler, 2020), while multimodal discourse requires an interdisciplinary perspective where language is a vital mode that works alongside images to create meaning (Kress, 2012).

Secondly, utilising a general corpus in corpus study as a reference corpus helps identify linguistic features in news discourse. General corpora, such as the British National Corpus (BNC), which is designed to represent a wide range of modern British English, are very large and thus appear as a useful resource and a 'benchmark' in determining typical language when compared with a specialised corpus (McEnery, 2006).

Third, future studies could adopt advanced corpus tools such as Sketch Engine and CQPweb, which offer a wide range of sophisticated analytical functions for in-depth exploration of language patterns in media studies. The selection of appropriate tools should align with the study's aims, the features required, and the nature of the data being analysed. At the same time, these tools should also maintain a level of usability and flexibility, thus allowing researchers to manage, query, and visualise their data in ways that suit their specific analytical needs (Gomide, 2020). Since most studies rely on tools such as AntConc, WordSmith Tools, and #LancsBox, future studies should focus on optimising search strategies and making full use of the tools' functionalities. This includes using precise and linguistically informed search queries and exploiting tools' functions such as collocations and dispersion plots for a deeper understanding of discursive patterns.

Fourth, future research should adopt a more integrated CDA approach within CADS frameworks such as socio-cognitive approaches (van Dijk, 1991), social actor representation (van Leeuwen, 2008), and discourse-historical approach (Reisigl & Wodak, 2016) that could also significantly enrich the interpretive depth and critical interpretation of media texts. This review also promotes CADS as a methodological approach to uncover evaluative meanings in media discourse. Due to criticisms of CDA, where data collection is subjected to the researcher's interpretation and its demanding and time-consuming process, Baker (2006) suggested the integration of a corpus-assisted approach. CADS minimises such flaws, as adding corpus linguistics helps complement the qualitative focus of CDA (Fairclough, 2013). It offers a bottom-up approach to process large data and offer reliable findings based on statistics (Baker, 2006). Nevertheless, qualitative analysis is still necessary to understand the context of the data. Therefore, combining both statistical data from corpus linguistics with the interpretative analysis of CDA helps to balance out the strengths and limitations of each approach.

Finally, given that the media landscape in Malaysia is economically and structurally influenced by political parties, it is pertinent to examine media representation from both mainstream and alternative newspapers. Studying both types of media can provide a more inclusive and comprehensive understanding of media discourse in Malaysia. Although the analysis of thematic trends explores several themes, topics involving marginalised communities and socio-economic inequalities require further exploration. Malaysia is a multiracial and socio-economically diversified country, where newspapers serve not only as sources of information but also as instruments for promoting political ideologies (Mat Yakim et al. 2019). Such issues are deeply embedded in Malaysia's national development plans and policies, yet they remain underrepresented in linguistic and media analyses. Therefore, future research should prioritise these themes to uncover how the media shapes public perceptions and influences policy responses concerning socio-economic challenges in Malaysia.

CONCLUSION

The main purpose of this study is to systematically review past research on Malaysian media discourse using a corpus-based approach from recent years (2019-2024). This review highlights several gaps within corpus-based research in Malaysian media discourse. Most studies relied on specialised corpora built from Malaysian newspaper reports, in alignment with the studies' research aims and objectives. Tools such as AntConc, search queries, and #LancsBox were commonly used and selected based on the nature of the study and data availability. In terms of methodological framework, Corpus-Assisted Discourse Analysis (CADS) and Critical Discourse Analysis (CDA) remain dominant in uncovering discursive patterns and ideologies in the media. Furthermore, over a third of the studies were mainly on public policy and national campaigns. In contrast, fewer studies examined critical societal concerns, such as the representation of marginalised groups, mental health, ageing populations, and indigenous communities like the Orang Asli. Socioeconomic issues, which are central to Malaysia's development, were found to be limited in corpus-based research. Malaysia has a unique sociocultural and political context. Greater scholarly attention towards issues such as poverty, inequality, social exclusion, and vulnerable communities warrants serious consideration as they continue to be addressed in national development agendas and public policy initiatives. Thus, future studies should delve into the discursive portrayal of socioeconomic issues in Malaysian media and explore how such matters are represented to the public. Understanding the localised portrayals of these globally relevant issues can reveal how Malaysian media construct national narratives, shape public understanding, and reflect broader societal concerns.

In general, the findings of this review may guide future researchers in operationalising corpus-based approaches in studying Malaysian media discourse. Underrepresented themes, diverse corpus designs, and the integration of advanced corpus tools could be further examined and explored in future studies. Such efforts may contribute significantly to a more extensive, methodologically robust, and meaningful investigation of Malaysian media discourse.

Nevertheless, this review is subject to several limitations. Firstly, due to time constraints, this study was limited to only two databases, namely Scopus and Web of Science (WoS). Gusenbauer and Haddaway (2020) suggest various databases to ensure comprehensive coverage in systematic reviews. While Scopus and WoS are widely recognised for indexing high-impact, peer-reviewed journals, the exclusion of other databases may have led to the omission of relevant studies. Secondly, the scope of this review was narrowed to studies published between 2019 and 2024. Scoping to reviewed studies from recent years may have excluded earlier studies, which could bring analytical and theoretical depth to the analysis. Thirdly, this review focused only on English articles.

As articles in the Malay language were excluded from selection, this could skew crucial thematic findings, especially in socioeconomic themes in Malaysia. Lastly, since news reports play an influential role in shaping opinions among the audience, the reviewed studies focused on newspaper discourse. Consequently, other media forms, such as social media platforms and television broadcasts, were not reviewed in this study. Thus, the findings cannot be generalised to a wider Malaysian media discourse landscape.

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From Intent to Impact: Analysing Circular Economy and Sustainable Marketing Trends in the UAE

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ABSTRACT

This study undertakes the challenge of proposing and empirically investigating a comprehensive model of the circular economy and sustainability marketing within the Gulf region, utilising the UAE as a representative case of the GCC countries. To achieve this objective, factors influencing consumer intention were identified through an extensive review of marketing literature and tested with the data collected from consumers of circular economy products in the UAE. The Theory of Planned Behaviour was considered appropriate and further extended by incorporating two additional variables pertinent to the circular economy and sustainability marketing: convenience and environmental impact. Subsequently, the proposed comprehensive model was empirically tested through data collection from 450 consumers in the UAE using a convenience sampling technique. Complex statistical analyses, encompassing descriptive analysis, exploratory factor analysis, confirmatory factor analysis, structural model testing, and nested modelling, were conducted. The most interesting finding was the significant positive impact of environmental impact on the purchase intention of circular economy products. The remaining hypotheses did not emerge with significant outcomes. These findings are expected to aid policymakers in the Gulf region, particularly in the UAE, in formulating strategies that are not only aligned with the principles of the circular economy and sustainability

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marketing but also foster positive consumer behaviour. The novelty of this research is underscored by the fact that these concepts are infrequently studied in marketing, and the nested modelling resulted in some unexplored causal linkages, which could add value to the existing body of knowledge.

Keywords: Circular economy, consumer purchase intention, structural equation modelling, sustainability marketing, theory of planned behaviour, UAE

INTRODUCTION

Contemporary society, characterised as post-modern, grapples with formidable global issues and challenges stemming from human and social activities that exert pressure on the environment (O'Leary & Tsui, 2023). Consequently, there is a pressing call to re-evaluate the economic blueprint and societal organisation in a world still entrenched in conventional technologies and regulatory frameworks governing supply chains within institutional and microeconomic structures (Tamasiga et al., 2022). To attain global sustainability standards and foster a circular economy, policy initiatives are indispensable for developing innovative strategies that promote environmental sustainability and green economic practices. However, achieving a sustainable transition requires a multifaceted, long-term process that establishes social-technical systems to facilitate a shift towards more sustainable production models for consumers within the circular economy framework (Sohal et al., 2022). Therefore, it is crucial to explore the evolution of the circular economy from both a consumer's perspective and the ecosystem's standpoint, recognising the interdependence of these dimensions in the circular economy transformation. In contrast, the prevailing mainstream economy operates on a linear structure, perceiving natural materials as mere commodities that undergo assessment based on their environmental impact before being sold to consumers, with minimal consideration given to the post-use disposal of these goods (i.e., waste or unwanted materials) (Llorente-González & Vence, 2020; Wackernagel & Rees, 1997). In contrast, the circular economy initiative prioritises the extraction of value from unwanted materials and pollutants through recycling and reuse, thereby mitigating environmental pollution and minimising reliance on landfills, with the ultimate objective of regenerating resources that are not subject to depletion (Aiguobarueghian et al., 2024; Gupta et al., 2022; Jan, 2022; Karim et al., 2025; Yang et al., 2023).

Drawing on the consumer perspective, the concept of a circular economy aims to emulate the natural processes of the biosphere, guided by the principles of biomimicry, to address sustainability challenges (Jan, 2022; 2023; Karim et al., 2025; Puntillo, 2023; Verga & Khan, 2022). In natural ecosystems, materials follow an unbroken circular flow, characterised by sustainable designs that are not compromised by consumer use. However, the circular economy seeks to replace the traditional consumer supply chain with a network that

incorporates recycled materials throughout the production system, thereby transforming consumer goods into higher-value products that serve as inputs for other specified products (Jan, 2022; 2023; Srivastava et al., 1999). These principles emphasise recycling and upcycling (Karim et al., 2025; Park & Lin, 2020) and aim to enable consumers to collaboratively plan and manage resources for a sustainable future (Hecht et al., 2014; Somlai, 2022). By doing so, a circular economy can facilitate transformative reforms that integrate emerging innovations with human activities in the environment (Aiguobarueghian et al., 2024; Pla-Julián & Guevara, 2019).

Gulf countries, particularly the United Arab Emirates (UAE), are renowned for their high levels of consumption, with the UAE leading the list. In 2021, the UAE reported a per capita consumption rate exceeding USD 21,675 per person. This alarmingly high consumption rate, however, exacts a significant toll on the environment, leading to its degradation. Marketing is often blamed for this high consumption rate, as it typically encourages frequent purchasing, usage, and upgrades. Nonetheless, this perspective overlooks the recent shift towards "Sustainability Marketing." The concepts of the "Circular Economy" and "Sustainability Marketing" offer potential solutions to this environmental decline by emphasising exploration, investigation, and education, particularly within the Gulf region. These concepts, which focus on fulfilling present needs without compromising the ability of future generations to meet their own needs through closed-loop systems, aim to eliminate waste and conserve resources through reuse, repair, refurbishment, and recycling. Interestingly, these marketing philosophies resonate with Islamic principles of moderation and avoiding wasteful spending, suggesting that they could serve as potent driving forces to further the adoption of the circular economy and sustainability marketing in the region.

The transition towards a circular economy has gained global policy attention, highlighting the need for businesses to engage in this transformative process (Aiguobarueghian et al., 2024; Jan, 2021; Kern et al., 2020; Zhu et al., 2022). Nevertheless, several challenges need to be addressed, taking into consideration the roles of society and consumers. In a circular economy, consumers become integral links in the supply chain, and their participation extends beyond product purchases to compliance with planned obsolescence rules (Frei et al., 2020; Hofstetter et al., 2021; Moreno et al., 2016). The consumer perspective holds particular significance in developing nations, where a large population contributes to environmental impacts, making their active engagement crucial for the success of circular economy initiatives (Gonella, 2025; Govindan & Hasanagic, 2018).

LITERATURE REVIEW

The concept of the circular economy has garnered significant attention in both academic and practitioner circles. However, there remains limited comprehension of its meaning, particularly from a marketing

standpoint (Jan, 2021; 2022; 2023). The circular economy encompasses biological and technical cycles, which involve various actors and activities (Kanda et al., 2021; Karim et al., 2025; Lüdeke-Freund et al., 2019). The biological cycle focuses on the perspectives of consumers and users, while the technical cycle involves service providers, product manufacturers, and other stakeholders, all operating within the framework of the circular economy principle. This principle emphasises the sustainable management of natural resources and the continuous circulation of products in both cycles.

Sustainability marketing plays a pivotal role within the framework of the circular economy by actively promoting consumption behaviours that are environmentally responsible and advocating for the adoption of sustainable products and services. This approach involves the deliberate and strategic integration of environmental and social considerations into marketing practices, with the aim of satisfying consumer needs and desires while minimising negative impacts on the environment and society. By embracing the fundamental principles of the circular economy, namely reducing, reusing, recycling, and recovering materials, sustainability marketing aligns itself with the overarching objective of achieving long-term resource preservation and waste reduction (Kotler et al., 2020). It recognises the significance of consumer attitudes, values, and subjective norms in influencing choices towards sustainable consumption (Roh et al., 2022). Through effective communication strategies and targeted messaging, sustainability marketing empowers businesses to educate and engage consumers, catalysing a transformative shift towards more sustainable lifestyles and bolstering the circular economy paradigm (Overman, 2016). By employing these multifaceted approaches, sustainability marketing creates a conducive environment for fostering sustainable consumption behaviours, facilitating the transition towards a more environmentally conscious and circular society.

Academic research characterises the circular economy as an economic system that fundamentally challenges the traditional "obsolescence concept" by prioritising the reduction, reuse, recycling, and recovery of materials throughout the production and consumption processes (RamHormozi, 2019). This comprehensive perspective operates on multiple levels: the micro level, encompassing individual products, companies, and consumers; the meso level, involving environmental industry parks; and the macro level, addressing cities, regions, and nations. All these levels collectively aim to achieve sustainable development, enhance environmental quality, foster economic prosperity, ensure social equality, and promote responsible consumer behaviour (Camacho-Otero et al., 2018; Kirchherr et al., 2017)

To achieve circularity, businesses should prioritise activities such as circular resource recovery, resource sharing, sustainable supply chains, product life extension, and product-as-a-service approaches (Chen, 2020).

Encouraging sufficiency and extending the value of resources have been suggested as circular business strategies to foster purchase intention (Camacho-Otero et al., 2018). Considering these considerations, this study examines the consumer perspective through the lens of the Theory of Planned Behaviour (TPB) model, focusing on five key factors: attitude, subjective norms, perceived behavioural control, convenience, and environmental impact (Ajzen, 1991; Jan, 2021; 2022; 2023). By applying this model, the study seeks to enhance the understanding of consumers' attitudes towards circular products and their willingness to engage in circular consumption practices, thus contributing to the advancement of sustainability marketing research.

This study introduces attitude as a key component within the Theory of Planned Behaviour (TPB) framework, considering it to be of paramount importance. Ajzen (1991) defines attitude as individuals' positive or negative evaluations of the intended behaviour. Within behavioural studies, the attitude has been consistently identified as a crucial predictor of purchasing intentions, particularly towards green products (Gonella et al., 2024; Jakubowska et al., 2024; Sreen et al., 2018). Prior research has explored the association between attitudes and purchase intentions in the context of green products, providing support for a significant relationship (Gonella et al., 2024; Kusuma & Handayani, 2018; Kumar et al., 2021). However, in the context of the circular economy, limited attention has been given to examining attitudes. Hence, this study formulates the hypothesis as follows:

> H1: From a circular economy perspective, attitude will exert a positive influence on purchase intention.

The subsequent exogenous factor in the Theory of Planned Behaviour (TPB) to be considered is subjective norms. Subjective norms refer to the perceived social influence and pressure, as well as individuals' beliefs and norms derived from peers or groups when making purchasing decisions for a specific product (Jakubowska et al., 2024; Sreen et al., 2018). It represents an individual's perception of what others would think about their engagement in a particular behaviour (Ajzen, 1991). Like individual attitudes, subjective norms also positively influence a person's intention to perform or not perform a specific action towards a particular object. Family members, friends, and societal influences play a significant role in shaping subjective norms (Ajzen, 1991). Previous research has consistently highlighted subjective norms as a robust predictor of purchase intention, including in the context of green products (Haro, 2016; Jakubowska et al., 2024; Ling et al., 2024; Sreen et al., 2018). In the present study, subjective norms have been included as an exogenous variable within the model, influencing the purchase intention of circular products, and are conceptualised as a unidimensional factor. However, in the context of the circular economy and comparative analysis, subjective norms and purchase intention have received relatively

limited attention. Therefore, the following hypothesis is proposed:

H2: From a circular economy perspective, subjective norms will exert a positive impact on purchase intention.

Furthermore, perceived behavioural control is a critical component within the TPB framework, significantly influencing consumer purchase intention. This construct evaluates the degree to which consumers perceive the ease or difficulty of executing a specific behaviour in a circular environment (Jan, 2022). According to Ajzen (1991), both individual intention and actual behaviour are directly impacted by the perceived ease or difficulty associated with performing a particular task. A consumer's purchase intention is shaped by their assessment of the ease and challenges involved in making a purchase. Numerous scholars (Bruijns et al., 2022; Jakubowska et al., 2024) have identified a positive correlation between perceived behavioural control and purchase intention. For instance, Kumar et al. (2022) found a strong positive association between perceived behavioural control and purchase intention in the context of eco-friendly apparel. Similarly, Vafaei-Zadeh et al. (2022) demonstrated that perceived behavioural control positively affects the intention among Generation Y and Generation Z (Jakubowska et al., 2024). In this study, perceived behavioural control is considered an exogenous variable, conceptualised as unidimensional, and is anticipated to positively influence the purchase intention of circular products. Therefore, the following hypothesis is proposed:

H3: From a circular economy perspective, perceived behavioural control will have a positive impact on purchase intention.

The current study integrates two factors, namely (i) convenience and (ii) environmental impact, in alignment with empirical recommendations from previous literature, to evaluate their positive influence on consumer purchase intention of circular products (Jan, 2021; 2022; Karim et al., 2025; Sreen et al., 2018; Ogiemwonyi, 2022). Firstly, convenience pertains to consumers' perception of the time and effort required to obtain a circular product, distinct from the ease or difficulty of acquisition (Saha et al., 2022; Shashi et al., 2024), and has emerged as a competitive dimension within the circular economy perspective (Jan, 2022). Constraints on time and effort that consumers face regarding a specific product may impose external limitations influencing their purchase intention. Given the pivotal role of consumer convenience in shaping purchase intention (Roy et al., 2018; Shashi et al., 2024), it is unsurprising that retailers strive to enhance their services to offer greater convenience. Previous research has argued that convenience impacts service offerings within the circular economy (Saha et al., 2022; Shashi et al., 2024), and consumer convenience has consistently demonstrated a significant predictive effect on purchase intention (Saha et al., 2022; Shashi et al., 2024). Several prior studies

(Jan, 2022; Saha et al., 2022; Shashi et al., 2024) have incorporated convenience as a prominent factor in investigating the TPB framework concerning purchasing intention. Therefore, it is crucial to emphasise the influence of convenience within the context of the circular economy, particularly from the consumer perspective. Consequently, the following hypothesis is proposed:

> H4: From a circular economy perspective, convenience will have a positive impact on purchase intention.

According to Zhuang et al. (2021), individuals' environmental impact positively influences their purchase intention for green products. Within the framework of the circular economy, the significance of environmental impact in driving purchase intention is rooted in the production and consumption of sustainable products that exert minimal adverse effects on the environment (Dangelico et al., 2024; Le et al., 2025; Zhuang et al., 2021). Environmental impact can be understood from two perspectives. Firstly, it encompasses the consumer perspective, wherein consumers consider the environmental consequences before intending to purchase a product. Secondly, it encompasses the producer perspective, wherein producers or manufacturers comply with environmental protection and sustainability guidelines by embracing green and environmentally friendly practices (Dangelico et al., 2024; Jan, 2022; Jo & Kwon, 2021; Le et al., 2025). The current study focusses on the consumer perspective within the circular economy, aligning with the scope of examining how consumers' awareness of the positive and/or negative impacts of a product significantly influences their purchase intention (Dangelico et al., 2024; Jan, 2021, 2022; Ogiemwonyi et al., 2022). This finding is corroborated by Dangelico et al. (2024) and Ruangkanjanases et al. (2020), who identified a significant influence of environmental variables on consumers' intentions. Therefore, if products are produced following the principles of the circular economy, consumer purchase intention may be positively influenced. This is further substantiated by a recent study by Dangelico et al. (2024) and Kumar et al. (2022), which revealed a correlation between pro-environmental purchase intention and environmental impact within the TPB framework. Numerous studies have demonstrated a robust relationship between environmental impact and purchase intention using the core variables of the TPB model (Gul & Ahmed, 2024; Johnston et al., 2023; Kumar et al., 2022; Zhang et al., 2019). Additionally, research has shown that environmental impact directly influences attitudes, subjective norms, and perceived behavioural control, which subsequently affect consumer decisions regarding circular products and their purchase intention for green products (Gul & Ahmed, 2024; Zhang et al., 2019). It is, therefore, crucial to understand the impact of environmental impact on purchase intention within the setting of the circular economy, particularly from the consumer perspective.

Consequently, the following hypothesis is proposed:

> H5: From a circular economy perspective, environmental impact will have a positive impact on purchase intention.

Notwithstanding the ever-expanding research corpus on sustainability marketing, there persists a scarcity of studies that incorporate the circular economy paradigm within the Gulf region, particularly those that delve into consumer behavioural patterns and preferences. This strategic approach will not only bolster the timeliness and relevance of the current research but it will also pave a distinct path for the subsequent methodological framework, ensuring a targeted and purposeful exploration of the subject matter.

Theoretical Framework

The present study uses the Theory of Planned Behaviour (TPB) as the underlying theory because it is considered the most appropriate theory in understanding human behaviours. Crucial variables, like attitude, subjective norm, and perceived behavioural control, have been researched over the last few decades to understand people's intention and their subsequent behaviour towards various endeavours. However, from a sustainability marketing perspective and specifically from a circular economy perspective, more variables should be added and tested in the existing TPB to offer a more robust and comprehensive model in the settings of the circular economy. The current research undertakes this challenge and adds two critical factors, as extracted from the extant literature, related to the circular economy. These variables are convenience and environmental impact. These new variables have already been tested in other countries with significant differences compared to the Gulf (see for example, Jan 2021; 2022; 2023). The proposed model of this study is presented in Figure 1.

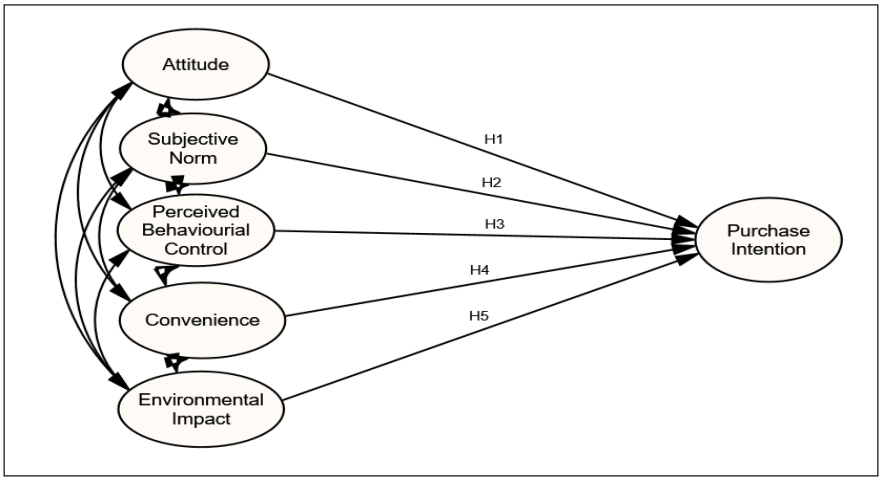

Figure 1. Proposed model (Jan, 2021; 2022; 2023)

METHODOLOGY

Sampling and Data Collection

For the present study, data were collected from those customers who reside in the UAE. A structured self-administered questionnaire was utilised for this purpose. Keeping in mind the scope, appropriateness, and limitations of the study, a non-probability convenience sampling method was considered appropriate. It is due to the wide spread of the population of the study and due to the nature of the sample. A total of six hundred (600) questionnaires were distributed, out of which four hundred and fifty (450) questionnaires were used for data analysis, yielding a response rate of 75%. The sample size of four hundred and fifty is considered suitable for proceeding with data analysis, based on the recommendation of various scholars (see e.g., Hair et al., 2013). The respondents were approached by the appointed enumerators in various places (e.g., shopping malls and universities), and then they were asked to scan a QR or use a link to the questionnaire and fill it out using their smart devices. This method of data collection signifies the researchers' attempt to appreciate the circular and green approach and to establish a culture of collection via soft copies compared to hard copies. During the data collection process, respondents were requested to think of those factors that will influence their behaviour of buying circular products like reusable straws, edible straws, reusable water bottles, paper and/or reusable shopping bags, etc.

As the study relies on self-reported data collected at a single point in time, the possibility of common method bias (CMB) was considered. To address this concern, both procedural and statistical remedies were employed. Procedurally, respondent anonymity was assured, question wording was kept neutral and unambiguous, and scale items were distributed such that items measuring independent and dependent variables were visually separated to reduce consistency bias. Statistically, EFA was undertaken to ensure that all the items and variables load, as envisaged. Data cleaning followed a systematic protocol, which included a Completeness Check, Responses with >20% missing data were excluded, Attention Check Items, in which two attention-check items were embedded in the questionnaire. Respondents who failed both checks were excluded. Further, Outlier Detection was incorporated, in which Multivariate outliers were identified using Mahalanobis distance ($p < 0.001$).

SPSS and AMOS software were used to analyse the collected data. After screening and cleaning of the data collected, which is a usual and imperative process before full-fledged data analysis, descriptive analysis was undertaken. This was followed by reliability tests, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), hypothesis testing, and full structural model testing. Usually, SPSS is used for data analysis before the researcher employs structural equation modelling (SEM). In this case, the two-stage SEM started with CFA, using AMOS software. Drawing upon the established methodology, the subsequent findings delve into the postulated

relationships within the consumer landscape of the UAE, providing valuable perspectives on the feasibility and practicality of circular economy products. The results are presented in the next sections.

Instrument Development and Validation

The survey instrument employed in this study encompassed two primary sections. The initial section, labelled Part 1, aimed to elicit information regarding the characteristics of the participants. The subsequent section, denoted as Part 2, sought to gather data pertaining to the various variables under investigation, namely attitude, subjective norms, perceived behavioural control, convenience, environmental impact, and their association with purchase intention, as illustrated in Figure 1. All the questionnaire items were derived from previous research (Ajzen, 1991; Jan, 2023) and were slightly modified to align with the specific context of the present study. Further, the adapted questions, even though taken from previously established research studies, went through content validation by acquiring experts' comments on the questionnaire. A total of 5 field, linguistic, and statistics experts were chosen for this purpose. After validation, the items in the questionnaire were fine-tuned to suit the scope of the present study. A five-point Likert scale, ranging from "1," indicating a strong agreement, to "5," signifying strong disagreement, was employed across the instrument to gauge the extent of agreement or disagreement with the items pertaining to the variables. The instrument of the study, along with the codes, is provided in the appendix.

FINDINGS

Respondents' Profile

Data related to many important demographic variables were collected from the respondents. For example, data related to age, highest educational level, marital status, and income were considered the most appropriate for this study. Most of the cases were from the age bracket of 27 and above, with a 42.7% contribution in the total usable responses. Another important variable was education. Interestingly, about 43.3% (or 195) of respondents reported having completed a postgraduate degree. This shows that our survey was replied to by mostly highly educated consumers. The majority of the respondents with a postgraduate degree were not intentionally planned, but as mentioned earlier, the data was collected from universities, and that could be the reason that most of the filled questionnaires were from those with postgraduate degrees. Moreover, according to Miao et al. (2020) and the UAE Ministry of Education, the UAE boasts one of the highest tertiary education attainment rates in the region, with a growing share of the population completing higher education, particularly in urban centres such as Abu Dhabi and Dubai. The reason that this segment resulted in a high response is due to their greater awareness of sustainability issues and their tendency to be early adopters of digital and circular economy solutions, aligning well with the objectives of this study. In a similar manner, most of the respondents (288 or 64%) were married. Lastly, most of the respondents (129 or 28.7%)

are from a reasonably high-income level. In this case, they were from the income bracket of Dhs 7000 – 9999. A detailed breakdown of respondents' profiles is provided in Table 1.

Table 1
Respondents' profile

Items	UAE (n= 450)
	Frequency (%)
Age	
18 - 21	68 (15.1%)
22 - 24	96 (21.3%)
25 – 27	94 (20.9%)
27 and above	192 (42.7%)
Status	
Single	154 (34.2%)
Married	288 (64.0%)
Divorced	8 (1.8%)
Education	
Undergraduate	98 (21.8%)
Postgraduate	195 (43.4%)
Doctoral PhD	37 (8.2%)
Others	120 (26.7%)
Income	
Dhs 1000 and Below	54 (12.0%)
Dhs 1001 – 3999	77 (17.1%)
Dhs 4000 – 6999	110 (24.4%)
Dhs 7000 – 9999	129 (28.7%)
Dhs 10000 and Above	80 (17.8%)

Reliability Tests

Reliability and validity tests are considered an extremely important part of data analysis. It reflects the stability and consistency of the instrument used for data collection. In the present study, Cronbach's alpha is used to establish the reliability and validity of the questionnaire. The threshold recommended for social sciences is 0.70 or above (Nunnally, 1975). In this research, Cronbach's alpha was 0.955, attesting to the reliability and validity of the instrument (Table 2).

Table 2
Reliability test result

Cronbach's Alpha	Cronbach's Alpha ased on Standardised Items	No. of Items
.955	.955	27

Exploratory Factor Analysis

The subsequent stage in the data analysis process deemed appropriate was to undertake exploratory factor analysis (hereafter, EFA). This is to ensure the number of factors underlying the data. As highlighted earlier, the Theory of Planned Behaviour (TPB) has been extended to incorporate variables related to the circular economy and sustainability marketing. It was, therefore, considered suitable to see if the data also results in the same number of extended factors. The initial stage of EFA is to test Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity. Both the results were acceptable at 0.938 for KMO, and the p-value was significant at <0.001, indicating an acceptable correlation between the variables. EFA resulted in six clean factors, as envisaged, with a cumulative variance of 72.216%. The criteria of eigenvalue value 1.0 and above were considered. All the items are loaded on their respective factors, which also signifies the discriminant validity of the instrument. The result of EFA is presented in Table 3.

Table 3
Exploratory factor analysis

Variables	Rotated Component Matrix					
	Component					
	Factor 1 Convenience	Factor 2 Attitude	Factor 3 Purchase Intention	Factor 4 Perceived Behavioural Control	Factor 5 Environmental Impact	Factor 6 Subjective Norm
CON2	0.800					
CON6	0.778					
CON3	0.776					
CON1	0.763					
CON5	0.747					
CON4	0.737					
ATT3		0.655				
ATT4		0.642				
ATT2		0.613				
ATT1		0.577				
PI3			0.837			
PI1			0.810			
PI2			0.774			
PI4			0.717			
PI5			0.572			
PBC4				0.826		
PBC2				0.741		
PBC1				0.727		
PBC3				0.697		
ENV1					0.811	
ENV3					0.801	
ENV2					0.782	
ENV4					0.776	
SN2						0.781
SN4						0.763
SN1						0.723
SN3						0.719
Initial Eigenvalues	16.575	2.766	2.311	1.996	1.649	1.423
% of Variance	18.623	12.518	11.925	11.925	11.158	10.562
Cumulative Variance	18.623	31.141	43.067	54.224	64.786	72.216

Confirmatory Factor Analysis

The next stage in the data analysis was to confirm the extracted factors using Confirmatory Factor Analysis (hereafter, CFA). AMOS software was used to perform CFA using Maximum Likelihood Estimation. The fitness of the measurement model was observed using goodness-of-fit indices suggested by scholars (Hair et al., 2013). The common indices used to test the fitness of the measurement model are chi-square ($\chi 2$), normed chi-square ($\chi 2/df$), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). All the accepted thresholds were kept in mind to proceed with further data analysis. The results of CFA are provided in Figure 2, and as can be seen, the measurement model results in an acceptable fit, indicating to proceed with testing a full-fledged structural model.

In addition to Cronbach's alpha (all constructs exceeded $\alpha > 0.70$), Composite Reliability (CR) and Average Variance Extracted (AVE) were computed for each construct during the Confirmatory Factor Analysis (CFA) phase. All constructs demonstrated CR > 0.70 (indicating good internal consistency) and AVE > 0.50 (indicating adequate convergent validity).

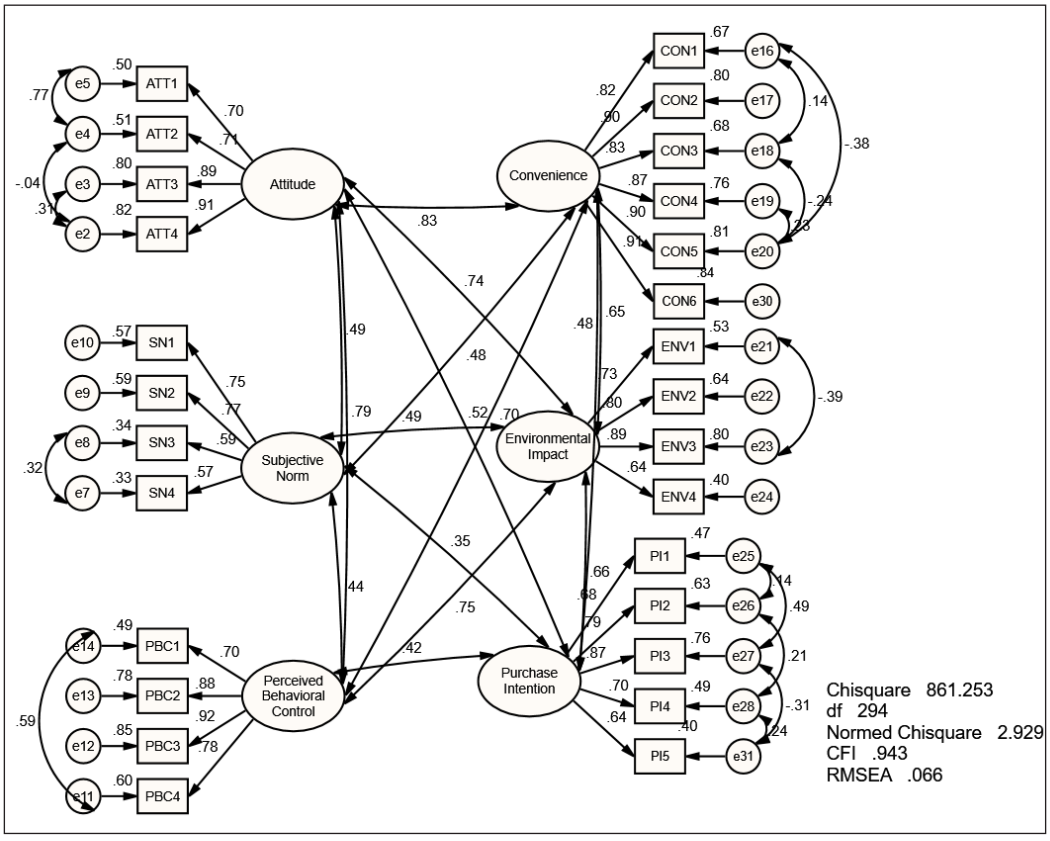

Figure 2. Result of confirmatory factor analysis (CFA)

Structural Analysis and Hypotheses Testing

Since the two-stage SEM approach was adopted in this study, where the measurement model is fitted before full-fledged structural model fitness, the next step in the current data analysis was to fit the final structural model and test the hypotheses. For the fitness of the final structural model, the normed chi-square (χ^2/df), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) were considered, as suggested by Hair et al. (2013). Figure 3 depicts the result of the final structural model, where it can be clearly seen that the χ^2/df, CFI, and RMSEA emerged with an acceptable outcome. In this case, χ^2/df = 2.929 (acceptable at <5.0), CFI = 0.943 (acceptable at >0.9), and RMSEA = 0.066 (acceptable at <0.08), attesting to a good fit of the structural model.

The hypotheses are also tested in this stage. The results revealed that only one out of the total five hypotheses can be supported. The supported causal link with both practical and statistical significance was between environmental impact and purchase intention. The other two hypotheses with a positive impact were the causal link between attitude and purchase intention and between convenience and purchase intention. However, these two were not statistically significant but resulted in some positive influence, as proposed.

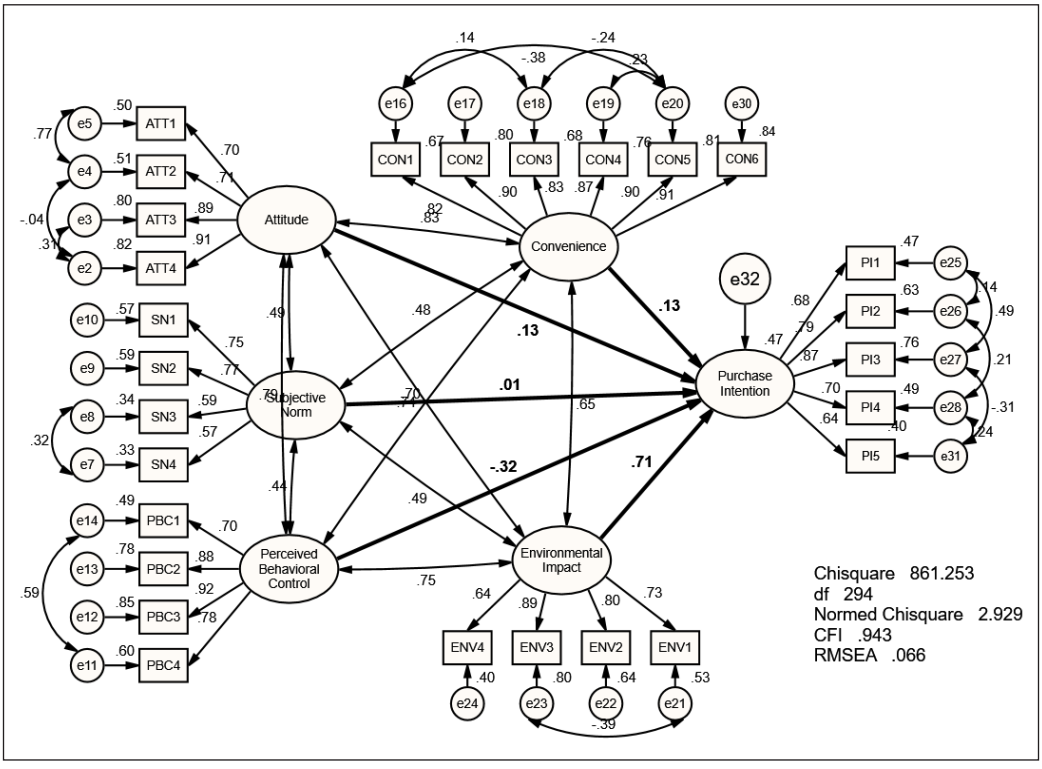

Figure 3. Final structural model

Surprisingly, perceived behavioural control resulted in a strong negative impact on purchase intention, which contradicts previous studies that support a positive influence of perceived behavioural control on purchase intention (see e.g., Jan, 2021; 2022). This study's finding of a negative impact of perceived behavioural control on purchase intention contradicts the established positive association found in prior research. Future research may explore cultural or contextual factors unique to the UAE that could explain this discrepancy. Detailed results of the hypotheses are provided in Table 4.

Table 4 presents the structural path coefficients, standard errors, critical ratios, and p-values for each hypothesised relationship. Among the five predictors of purchase intention, Environmental Impact exerted the strongest and most significant positive effect ($\beta = 0.713$, $p < 0.001$), suggesting a large and meaningful effect in the context of the Theory of Planned Behaviour (TPB). This finding highlights the critical role of environmental impact in shaping consumers' behavioural intentions towards circular products in the UAE.

In contrast, Perceived Behavioural Control showed a negative and statistically significant influence on purchase intention ($\beta = -0.315$, $p < 0.001$). While this direction contradicts previous research, it demonstrates a moderate-to-strong inverse relationship, meriting further contextual analysis.

The relationships of Attitude ($\beta = 0.131$, $p = 0.279$), Subjective Norm ($\beta = 0.008$, $p = 0.885$), and Convenience ($\beta = 0.130$, $p = 0.145$) with purchase intention were statistically non-significant, indicating weak effects that may not be practically meaningful in this specific study context.

Nested Model

A novel attempt of the present study was to find other promising models and causal linkages in the proposed model of the study, technically called Nested Modelling. An interesting model was found with some new, previously unexplored, and important linkages among variables. The nested model can be found in Figure 4. In this attempt, three unique causal linkages were empirically tested. These linkages

Table 4
Result of hypotheses testing

Structural Path	Std. Reg Weight	Estimate	S.E.	C.R.	P
Attitude → Purchase Intention	0.131	0.122	0.113	1.082	0.279
Subjective Norm → Purchase Intention	0.008	0.006	0.042	0.145	0.885
Perceived Behavioural Control → Purchase Intention	-0.315	-0.219	0.063	-3.464	***
Convenience → Purchase Intention	0.130	0.091	0.062	1.458	0.145
Environmental Impact → Purchase Intention	0.713	0.64	0.093	6.863	***

are between "attitude and environmental impact", between "perceived behavioural control and environmental impact", and between "convenience and environmental impact".

First, this nested model was tested for its fitness, and as can be seen in the provided results, the model emerged with very strong fitness. In this case, $\chi 2/df = 2.988$ (acceptable at <5.0), CFI = 0.941 (acceptable at >0.9), and RMSEA = 0.067 (acceptable at <0.08). New and acceptable causal linkages of this new model were between "attitude and environmental impact", and between "perceived behavioural control and environmental impact". The results obtained confirmed both the statistical and practical significance of these linkages.

In the case of the impact of attitude on environmental impact, a value of 0.391 (acceptable at >0.20) and a value of 0.0001 (acceptable at <0.05) clearly attest to both practical and statistical significance, respectively. Similarly, the influence of perceived behavioural control on environmental impact resulted in a value of 0.413 (acceptable at >0.20) and a value of 0.0001 (acceptable at <0.05), which also confirms practical and statistical significance. The nested model is presented in Figure 4.

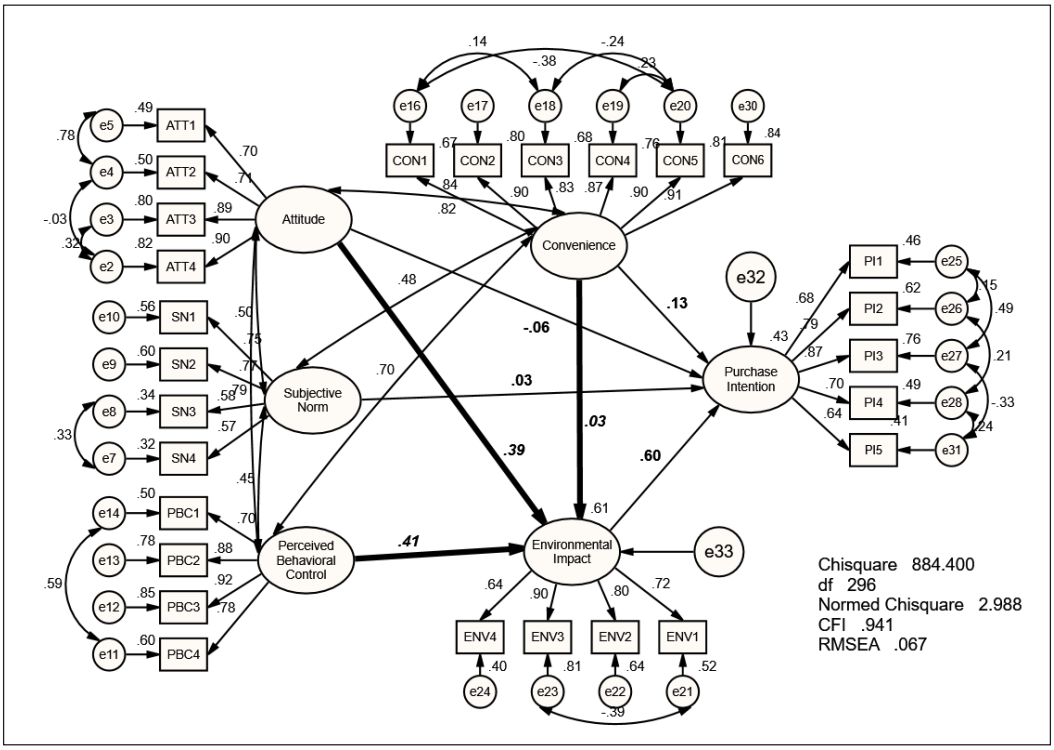

Figure 4. Nested model

DISCUSSION AND CONCLUSIONS

This study contributes to the literature by extending the Theory of Planned Behaviour (TPB) through the integration of two contextually relevant variables—convenience and environmental impact—within the framework of consumer purchase intention towards circular products. While TPB is well-established, limited research has tested its extension in emerging market contexts, particularly in Gulf countries like the UAE.

By empirically validating environmental impact as the strongest predictor of circular purchase intention, this study advances theoretical understanding by demonstrating that environmentally conscious behaviour is deeply embedded in consumer ethics in the UAE, potentially influenced by Islamic values of sustainability and moderation. Additionally, the inclusion of convenience—although not statistically significant in this study—acknowledges infrastructural and logistical barriers in circular consumption that are especially relevant in emerging economies. These theoretical extensions provide a foundation for refining behavioural models in the context of sustainable consumption across similar cultural and economic landscapes.

The findings derived from the final structural model reveal a noteworthy pattern among consumers in the United Arab Emirates (UAE), with a pronounced emphasis on the environmental impact of the products they choose to purchase, surpassing the influence of other factors. This implies that consumers in the UAE exhibit a higher likelihood of selecting products that have minimal or no adverse effects on the environment. Furthermore, while the remaining variables in this study did not yield significant outcomes, it is worth noting the positive influence observed in terms of "attitude" and "convenience". This signifies that consumers in the UAE who possess a favourable attitude towards circular economy products are more inclined to positively shape their purchase intention. Similarly, the presence of circular economy offerings and sustainable products that are conveniently accessible to consumers in the UAE significantly enhances the likelihood of their purchase.

Interestingly, the finding that perceived behavioural control (PBC) has a negative and significant impact on purchase intention contradicts much of the extant literature, which generally reports a positive association between the two (e.g., Ajzen, 1991; Kumar et al., 2022). This unexpected outcome could be contextually explained by unique socio-cultural dynamics within the UAE. One possible reason is the relatively high level of consumer dependence on external validation and institutional guidance in making novel or unfamiliar purchases—particularly those related to sustainability and the circular economy. In such contexts, even if individuals perceive control or ability over their actions, it may not translate to actual purchase intentions due to uncertainty, social hesitation, or lack of trust in emerging eco-products. Moreover, in high-income, high-service environments like the UAE, consumers may

outsource decisions to experts, rely on brand trust, or expect seamless convenience. Thus, high perceived control might paradoxically reduce purchase intention by increasing the perceived burden of decision-making. Additionally, cultural tendencies towards risk aversion and status-driven consumption may also weaken the influence of PBC on intention. Future studies should further explore this inverse relationship by incorporating variables such as uncertainty avoidance, cultural value orientation, and trust in institutional information sources. Furthermore, conducting longitudinal and/or experimental studies to track actual purchase behaviour, repeat purchase, and habitual sustainable consumption could be a promising attempt.

Moreover, the results obtained from the nested model emerged with fascinating findings that should not be overlooked. Specifically, consumers in the UAE demonstrate a strong positive attitude towards environmental impact, which, in turn, exerts a significant influence on their purchase intention for circular economy and sustainable products. Additionally, consumers in the UAE possess high levels of control over their purchasing intention, particularly when the products have environmental impacts.

Overall, these findings underscore the significance of environmental consciousness and the role it plays in shaping consumer behaviour and purchase decisions in the UAE. They emphasise the need for businesses and policymakers to align their strategies with the principles of the circular economy, offering sustainable and environmentally friendly products while ensuring convenience and fostering positive attitudes among consumers. By capitalising on these factors, stakeholders can promote a more sustainable and environmentally responsible consumption pattern in the UAE.

Policymakers should also keep in mind that in the context of the UAE, environmental impact resulted in a significant impact on consumer buying intention, which eventually translates into actual purchase (aka actual behaviour). Therefore, more emphasis should be given to planning, producing, and marketing those products that have a lower to nil adverse effects on the environment.

It is of importance to note that the positive influence of environmental impact on purchase intention corroborates previous findings (see e.g., Dangelico et al., 2024; Le et al., 2025; Zhuang et al., 2021); however, the unexpected negative impact of perceived behavioural control warrants further investigation and may suggest a unique consumer behaviour pattern within the UAE market. It is important to note that previous studies have found no significant impact of perceived behavioural control on purchase intention in various settings (see e.g., Aslan, 2023; Dangelico et al., 2024). Perhaps future researchers can adopt the framework of the present study and further explore and investigate it in different settings and industries. A qualitative approach, like in-depth interviews, would also be promising to see the reasons behind some of the unsupported variables of this study and

the strongly supported and unique variable, which is environmental impact. Moreover, the emphasis on environmental impact and convenience in consumer purchase intention suggests that infrastructure policies promoting accessible and eco-friendly product offerings may foster a more sustainable consumer behaviour in the UAE. We recommend that future studies formally test religiosity or Islamic ethical orientation as moderating variables to enhance the cultural specificity of the TPB model in Muslim-majority contexts.

The Way Forward

The findings of this study offer several actionable insights for UAE-based marketers and policymakers. First, the strong influence of environmental impact on consumer purchase intention suggests a clear opportunity for firms to adopt and emphasise eco-labelling, green certifications, and transparent disclosures of environmental benefits on product packaging. Policymakers may also consider developing Standardised sustainability ratings or environmental indices to guide consumer choices.

Second, although convenience was not statistically significant, it remains a key practical consideration. Retailers and supply chain managers should strive to improve the availability, accessibility, and visibility of circular products, such as through prominent shelf placement, user-friendly return or recycling processes, and integration into mainstream retail platforms or e-commerce apps.

Third, public campaigns and digital awareness initiatives targeting behavioural change through education, testimonials, and gamified sustainability rewards could further influence environmentally responsible behaviour, especially among younger consumers. These findings may also inform urban planning and waste management policy by promoting localised recycling infrastructures and community-based circular initiatives.

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APPENDIX

Table S1
Codes and items used in the study

Codes	Study Variables and Items
	Attitude
ATT1	I believe that the use of environmentally sustainable products (circular economy products) will help in reducing pollution and also help in improving the environment.
ATT2	I believe that the use of environmentally sustainable products (circular economy products) will help in reducing the wasteful use of natural resources.
ATT3	I believe that the use of environmentally sustainable products (circular economy products) will help in conserving natural resources.
ATT4	I feel good about myself when I use environmentally sustainable products (circular economy products).
ATT5	I look forward to using circular economy products.
	Subjective Norm
SN1	I am influenced by your family members to use circular economy products.
SN2	I am influenced by my friends to use circular economy products.
SN3	I am influenced by my social circle to use circular economy products.
SN4	I am influenced by the government to use circular economy products.
SN5	My society expects me to engage in environmentally sustainable product usage behaviour.
SN6	Using circular economy products is a social trend.
	Perceived Behavioural Control
PBC1	Using circular economy products are entirely within my control.
PBC2	I have the resources to buy circular economy products.
PBC3	I have the knowledge to use circular economy products.
PBC4	I have the ability to buy circular economy products.
PBC5	Whether to buy or not to buy circular economy products is up to me.
	Convenience
CON1	I think there is not much difference between circular economy products and conventional products.
CON2	I think it is easy to find circular economy products.
CON3	I think the use of circular economy products is not complicated.
CON4	I think circular economy products are conveniently available
CON5	I believe purchasing circular economy products saves me time and effort.
CON6	I find it convenient to access information about circular economy products when I need it.
	Environmental Impact
ENV1	Using environmentally sustainable products (circular economy products) is a primary means to reduce pollution.
ENV2	Using environmentally sustainable products (circular economy products) is a substantial approach to reducing wasteful use of natural resources.
ENV3	Using environmentally sustainable products (circular economy products) is one great approach to conserving natural resources.
ENV4	It is very important to promote consumers' attention to environmental issues.

Table S1 (*continued*)

Codes	Study Variables and Items
	Attitude
	Purchase Intention
PI1	I would like to use environmentally sustainable products (circular economy products).
PI2	I would buy environmentally sustainable products (circular economy products) if I happen to see them in a store.
PI3	I would actively seek out environmentally sustainable products (circular economy products) in a store to purchase it.
PI4	I would patronize the use of environmentally sustainable products (circular economy products).
PI5	I would recommend the use of environmentally sustainable products (circular economy products).

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Mapping Pre-service Teachers' Experiences in Integrating Design Thinking and ChatGPT: An Analysis of 21st-Century Learning Tools Development

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ABSTRACT

Despite growing interest in Design Thinking and artificial intelligence (AI) in education, empirical research examining how pre-service teachers integrate these approaches into instructional design remains limited. Teacher training programs often lack structured guidance for such integration, creating a gap in preparing educators for 21st-century classrooms. Addressing this gap, this study explores the experiences of Pre-service Teacher Professional Education (PPG Prajabatan) students in Indonesia as they integrate the Design Thinking method with the AI tool ChatGPT to develop 21st-century learning tools. Employing a qualitative exploratory approach, the study utilised the Gioia method, selected for its systematic rigour in developing grounded theoretical insights through progressive abstraction from raw data to theoretical concepts. Data were collected through semi-structured interviews with 20 participants. The findings reveal three key conceptual contributions: (1) the pedagogical roles of ChatGPT as a cognitive support tool facilitating ideation, content generation, and iterative feedback; (2) a process model for Design Thinking-AI integration encompassing the empathise, define, ideate, prototype, and test phases; and (3) the emergence of reflective digital literacy as a critical competency for pre-service teachers. While Design Thinking enabled prospective teachers to gain a deep understanding of students' needs through diagnostic assessments, ChatGPT supported the formulation of learning objectives and the design of teaching materials. The study acknowledges limitations inherent to qualitative research, including the contextual specificity of findings to the Indonesian PPG program and the interpretive nature of thematic analysis.

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Ultimately, it contributes to the design of innovative and adaptive teacher training strategies for the digital age.

Keywords: Design Thinking, ChatGPT, teacher education, pre-service teacher, instructional design, Gioia method, digital literacy, Indonesia

INTRODUCTION

The rapid development of technology has driven the transformation of education, especially in preparing students to face the challenges of the 21st Century. Teachers, as key actors in education, need to master strategies that support technology-based learning and innovation. One approach that has gained significant attention is the integration of Design Thinking with artificial intelligence (AI), such as ChatGPT, which can support the development of learning tools that are relevant to the needs of today's learners. However, the implementation of this strategy is not without challenges, particularly for pre-service teachers undergoing training (Anderson, 2020; Baidoo-Anu & Ansah, 2023; Brown & Green, 2019; Kasneci et al., 2023; Zhai et al., 2021).

Specifically, pre-service teachers professional education face several key challenges when integrating Design Thinking with AI tools: (1) technical proficiency barriers, including limited experience with AI tools and their pedagogical applications; (2) critical evaluation skills, particularly difficulty in assessing AI-generated content for accuracy, bias, and contextual appropriateness; (3) pedagogical integration challenges in meaningfully connecting AI capabilities with Design Thinking stages; (4) ethical awareness concerns regarding academic integrity, data privacy, and responsible AI use; and (5) contextual adaptation difficulties in adapting AI outputs to local curriculum standards and diverse learner needs (Celik et al., 2022; Ng et al., 2021; Yan et al., 2024).

Design Thinking has long been recognised as an effective method for solving complex problems through five main stages: empathise, define, ideate, prototype, and test (Liedtka, 2015; Scheer et al., 2012). In educational contexts, this approach enables pre-service teachers to gain a deep understanding of students' needs, define instructional problems, and develop creative solutions based on data and classroom realities (Cross, 2023; Razzouk & Shute, 2012). The empathise stage helps prospective teachers recognise diverse learning styles, while the prototype stage allows for iterative testing of learning tools prior to full implementation.

Meanwhile, ChatGPT, as one of the innovations in generative artificial intelligence, offers various features that support the learning process, such as providing instant feedback, helping to design teaching materials, and analysing student data to inform pedagogical decisions (Holstein et al., 2020; E. Mollick & L. Mollick, 2023). Research indicates that

such tools can enhance teacher efficiency, personalise learning, and enrich student engagement (Lo, 2023; Luckin et al., 2016; Yan et al., 2024; Zhai et al., 2021). However, effective implementation requires high digital literacy, critical evaluation of AI outputs, and strong ethical awareness (Holstein et al., 2020; Ng et al., 2021).

Despite the growing interest in both Design Thinking and AI in education, empirical studies examining how pre-service teachers practically integrate these two approaches in instructional design remain limited (Celik et al., 2022; Chiu et al., 2023; Yan et al., 2024). This creates a gap in teacher education literature, particularly regarding the preparation of 21st-century learning tools. While institutional frameworks increasingly encourage innovation, structured guidance for such integration is often lacking in teacher training programs (Kasneci et al., 2023; Mishra & Koehler, 2006; Ng et al., 2021).

The urgency of addressing this issue is further supported by global calls to transform teacher competencies. Mishra and Koehler (2006) emphasised that meaningful technology integration requires a balance of technological, pedagogical, and content knowledge (TPACK). Vygotsky (1978) argued that learning is mediated by tools and social interaction tools, which today include AI technologies. Without clear scaffolding and practical engagement, prospective teachers risk remaining passive consumers rather than critical, reflective practitioners.

Understanding how pre-service teachers make instructional decisions when integrating Design Thinking and AI is crucial for effective teacher preparation. The decision-making process involves multiple cognitive and practical considerations: selecting appropriate AI tools for specific pedagogical purposes, evaluating AI-generated content for accuracy and contextual relevance, adapting materials to meet diverse learner needs, and reflecting on the effectiveness of technology-enhanced instruction. This study maps these decision-making processes by examining how participants navigate each stage of Design Thinking while leveraging ChatGPT capabilities. Such process-oriented qualitative insights contribute to a more nuanced understanding of AI integration in teacher education, moving beyond simple adoption studies to explore the complex interplay between pedagogical reasoning and technological affordances (Celik et al., 2022; Chiu et al., 2023).

In the Indonesian context, this issue becomes particularly pressing within the Teacher Professional Education (PPG) program, which expects pre-service teachers to design instructional materials that are inclusive, contextual, and innovative. However, the actual practice of integrating AI within a design thinking framework remains underexplored. Zhao and Frank (2003) highlight that technology adoption is influenced not only by teacher readiness but also by environmental and institutional support. Investigating how pre-service teachers navigate this integration is thus essential to strengthening teacher preparation policy and practice.

To address this gap, the present study aims to explore how pre-service teachers,

specifically those in the PPG Prajabatan program, experience the integration of Design Thinking and ChatGPT in the development of 21st-century learning tools. The research seeks to document the opportunities, challenges, and decision-making processes that shape their instructional design, to contribute practical insights to future teacher training models.

The study addresses the following research question: How do pre-service teachers experience and perceive the integration of Design Thinking and ChatGPT in developing learning tools that meet 21st-century educational needs? Details regarding the methodology, including the Gioia method, participant selection, and data analysis procedures, are presented in the Methodology section.

LITERATURE REVIEW

The present study is grounded in the intersection of two central domains in education: the Design Thinking framework and the application of generative Artificial Intelligence (AI), particularly ChatGPT, in instructional development. A synthesis of existing literature is used to establish the key constructs that underpin this research and guide the analysis of pre-service teachers' experiences.

The Design Thinking model, widely used in educational innovation and user-centred design, comprises five iterative stages: empathise, define, ideate, prototype, and test (Liedtka, 2015; Razzouk & Shute, 2012; Scheer et al., 2012). In educational contexts, this approach fosters reflective practice, learner-centred planning, and iterative refinement of learning tools (Cross, 2023; Scheer et al., 2012). For example, the empathise stage involves identifying student needs through diagnostic assessments, while the prototype and test stages facilitate experimental development and evaluation of instructional materials.

Simultaneously, generative AI tools, especially large language models like ChatGPT, have shown increasing relevance in supporting teacher planning, differentiation, content generation, and formative assessment (Holstein et al., 2020; E. Mollick & L. Mollick, 2023; Zhai et al., 2021). Recent studies suggest that these tools may enhance teacher creativity, reduce cognitive load, and enable adaptive instruction when used within reflective frameworks (Alqahtani et al., 2023; Chan & Hu, 2023; Dwivedi et al., 2023). However, effective pedagogical integration of ChatGPT requires more than technological proficiency; it demands ethical awareness and critical evaluation skills.

This technological development aligns with the TPACK framework (Mishra & Koehler, 2006), emphasising the blend of technological, pedagogical, and content knowledge in effective digital teaching. It also connects with Vygotsky's (1978) sociocultural learning theory, which positions tools, including AI, as mediators of meaningful learning. Without deliberate scaffolding, teachers risk surface use of AI, rather than reflective and context-sensitive application.

These theoretical perspectives—Design Thinking, AI in education, TPACK, and Vygotsky's sociocultural theory—form an integrated conceptual framework for understanding pre-service teachers' experiences. TPACK provides the knowledge framework, identifying the three types of knowledge (technological, pedagogical, and content) that teachers must integrate for effective technology use. Design Thinking provides the process methodology, offering a structured approach through which this integration can occur in practice. Vygotsky's concept of tools as cognitive mediators positions AI as a modern pedagogical tool that can extend teachers' capabilities when used within their Zone of Proximal Development. Together, these frameworks suggest that effective AI integration requires: (a) balanced knowledge across TPACK domains, (b) a systematic design process for creating contextually appropriate materials, and (c) scaffolded engagement with AI tools that support teachers' progression from novice to reflective practitioners. This integrated framework guides both the design of this study and the interpretation of findings.

Building upon this theoretical foundation, the study delineates five core constructs that guide the analysis of pre-service teachers' experiences. The first construct, understanding student needs (empathise), relates to how pre-service teachers recognise and interpret learners' challenges and expectations in the classroom. The second construct, identifying learning goals and problems (define), focuses on their ability to articulate clear instructional objectives while diagnosing key issues in the learning process. The third construct, generating instructional ideas and content (ideate), highlights the creative process through which teachers develop innovative learning strategies and materials. The fourth construct, developing and iterating materials (prototype), concerns the design, testing, and refinement of instructional tools or media. Lastly, the fifth construct, evaluating and refining learning tools (test), emphasises the process of assessing effectiveness, collecting feedback, and making continuous improvements to ensure that the developed materials meet learners' needs and learning objectives effectively.

These constructs, drawn from the Design Thinking framework, inform the design of the semi-structured interview guide and the Gioia coding structure. This conceptual model bridges literature, instrumentation, and data analysis, ensuring alignment with the study's aims: to explore how pre-service teachers integrate Design Thinking and ChatGPT in developing 21st-century learning tools.

METHODOLOGY

This study employed a qualitative exploratory design to investigate how pre-service teachers experience the integration of Design Thinking and ChatGPT in developing 21st-century learning tools. Given the complex and contextual nature of the phenomenon, an interpretive paradigm was adopted, with the Gioia method serving as the primary analytic strategy (Corley & Gioia, 2011;

Gioia et al., 2013). This approach facilitates inductive theory development grounded in participants' lived experiences.

The Gioia method is a systematic qualitative approach designed to bring rigour to inductive research while preserving the richness of participant perspectives (Gioia et al., 2013). This method was selected for the present study because it offers a structured process for moving from raw qualitative data to theoretical insights through three progressive levels of abstraction. First, first-order concepts capture participants' own language and perspectives (in vivo codes), preserving their authentic voices. Second, second-order themes represent the researcher's theoretical interpretations of patterns across first-order concepts, involving analytical abstraction. Third, aggregate dimensions synthesise second-order themes into broader theoretical constructs that can inform theory development. This three-tier structure ensures transparency in how theoretical insights emerge from empirical data, making it particularly suitable for exploring complex, understudied phenomena such as AI integration in teacher education. In this study, we applied the Gioia method by: (1) conducting verbatim transcription of all 20 interviews within 48 hours of recording, (2) identifying first-order concepts using participants' exact words through line-by-line coding, (3) grouping these into theoretically meaningful second-order themes through constant comparison, and (4) synthesising themes into aggregate dimensions aligned with Design Thinking stages.

The research model is based on the five stages of Design Thinking (empathise, define, ideate, prototype, and test), which serve as analytical constructs derived from the literature (Liedtka, 2015; Razzouk & Shute, 2012; Scheer et al., 2012). These constructs guided both the development of the semi-structured interview guide and the structure of the data analysis. The alignment of these constructs with the instrumentation ensures theoretical coherence and conceptual rigour throughout the study.

Participants

The study involved 20 pre-service teachers enrolled in the Teacher Professional Education (PPG Prajabatan) program at a state university in Indonesia. From approximately 150 active program participants across multiple cohorts, a purposive sampling strategy was applied, guided by predefined inclusion criteria: (1) participants had demonstrated experience using ChatGPT in lesson design; (2) participants had applied the Design Thinking process during instructional development; and (3) participants were willing to engage in a 45–60 minute semi-structured interview. This sampling approach ensured that only participants with both theoretical exposure and practical application of AI and Design Thinking were included. While the sample size of 20 is consistent with qualitative standards aiming for depth over breadth (Creswell & Poth, 2018), diversity in background (gender, subject matter, cohort, and school placement) was deliberately sought to increase information-rich variation (Patton, 2015).

Ethical Considerations

This study adhered to ethical research standards and received approval from the institutional Research Ethics Committee (Approval Reference: [IRB: 5.2.4/UN32.14/PB/2026]). Before data collection, all participants were provided with detailed information about the study's purpose, procedures, potential risks and benefits, and their rights as research subjects. Written informed consent was obtained from each participant, emphasising the voluntary nature of participation and their right to withdraw at any time without consequence. To ensure anonymity, all identifying information was removed from transcripts, and pseudonyms (P1–P20) were used throughout the analysis and reporting. Interview recordings and transcripts were stored securely with access limited to the research team. Participants were assured that their responses would not affect their academic standing. Data will be retained for five years after publication and then securely destroyed.

Instrumentation and Data Collection

The primary research instrument was a semi-structured interview guide consisting of 15 core questions organised around the five Design Thinking stages. For the empathise stage, questions included: "How did you identify your students' learning needs?" and "What methods did you use to understand student characteristics?" For the define stage: "How did you formulate learning objectives based on student data?" and "What instructional problems did you identify?" For the ideate stage: "How did you use ChatGPT to generate learning ideas?" and "How did you evaluate AI-generated content?" For the prototype stage: "How did you develop and refine your learning materials?" and "What feedback did you receive during testing?" For the test stage: "How did you implement and evaluate your learning tools?" and "What adjustments did you make based on student responses?" Additional probing questions were used to explore responses in depth. The interview protocol also included an observation checklist to note participant demeanour and contextual factors, and a document review guide for examining participants' learning materials and ChatGPT interaction logs when available.

Data were collected through semi-structured interviews conducted both online (via video conferencing) and face-to-face. The interview process was guided by a structured framework derived from the five stages of Design Thinking. During the empathise stage, questions focused on identifying student needs and the ways assessments were utilised. In the define stage, interviews explored how participants formulated learning objectives and identified instructional problems. The ideate stage emphasised the generation of creative ideas, particularly examining ChatGPT's role. In the prototype stage, participants described developing and testing materials. Finally, the test stage addressed practical application, evaluation, and revision of developed tools.

Each interview lasted 45–60 minutes and was audio-recorded with participant consent. All recordings were transcribed

verbatim within 48 hours. Participants were invited to review transcript summaries for member-checking and accuracy (Merriam & Tisdell, 2016).

Data Analysis

Data from semi-structured interviews were analysed using the Gioia methodology following systematic procedures (Gioia et al., 2013). The analysis unfolded through four iterative stages. In Stage 1 (First-Order Coding), we identified concepts by coding participants' statements using their own words. For example, when P8 stated, 'I began by interviewing my students about their learning habits,' this was coded as 'student interview on learning habits.' In Stage 2 (Second-Order Theming), we grouped first-order codes into broader conceptual categories. For instance, codes like 'student interview,' 'questionnaire administration,' and 'classroom observation' were grouped under the theme 'Understanding student needs.' In Stage 3 (Aggregate Dimensioning), we synthesised themes into aggregate dimensions aligned with Design Thinking stages—codes related to understanding students mapped to 'Empathise,' problem identification to 'Define,' and so forth. In Stage 4 (Cross-Case Comparison), we examined variations among participants based on subject area and teaching context through within-case and across-case matrices (Miles et al., 2014).

The classification in Tables 1-3 reflects both commonalities and divergences across the sample. For example, although multiple participants reported using diagnostic assessments, their methods varied—from Google Forms surveys to informal conversations—based on school context. This variation was preserved to maintain representational accuracy.

The analytic process was supported by NVivo 12 software and followed established qualitative coding protocols. This included researcher triangulation (two coders independently coded 30% of the transcripts, achieving an inter-rater reliability of 0.87), memoing, and member checking. Reflexivity journals were maintained throughout to monitor potential researcher bias (Guba & Lincoln, 1989; Merriam & Tisdell, 2016).

RESULTS

The research findings are organised according to the five stages of the Design Thinking framework: Empathise, Define, Ideate, Prototype, and Test. The Gioia coding structure is summarised in Table 1, research data with all 20 participants is presented in Table 2, and structural analysis is shown in Table 3.

Table 1 presents the first-order concepts identified from participant interviews, mapped to their corresponding Design Thinking stages and aggregate dimensions. The coding process followed Gioia's methodology guidelines for systematic inductive analysis.

Table 1
Thematic coding summary from interview transcript analysis

First-order Concepts	Design Thinking Stage	Aggregate Dimensions
Analysing student needs through interviews	Empathise	Understanding students
Using questionnaires for learning styles	Empathise	Differentiated Learning
Identifying student characteristics	Empathise	Understanding Student Context
Determining learning objectives	Define	Learning Design
Using diagnostic assessments	Define	Understanding students
Creating steps for learning activities	Ideate	Learning Plan Development
Using technology for assessments	Ideate	Innovation in Learning
Developing creative ideas from assessments	Ideate	Creativity in Design
Collaboration with mentor teachers	Prototype	Collaboration in Education
Evaluating teaching materials	Test	Improving Quality of Learning
Trial and revision of teaching materials	Test	Improving Quality of Learning

Table 2 provides a comprehensive overview of all 20 participants' data, showing first-order concepts derived from their interview responses, the Design Thinking stages these concepts relate to, aggregate dimensions, the specific methods and instruments each participant used for student assessment, and the stages of device testing they underwent. The 'Participant' column uses pseudonyms (P1-P20) to maintain anonymity. The variation in methods reflects participants' adaptation to their specific teaching contexts.

Table 3 presents the structural relationships in the Gioia analysis, showing how first-order concepts (participant language) were abstracted into second-order themes (researcher interpretations) and then synthesised into aggregate dimensions (theoretical constructs). This progression from data to theory demonstrates the analytical rigour of the Gioia methodology and illustrates the theoretical framework emerging from participants' experiences.

Table 2
Research data - Participant coding summary

Participant	First-order Concepts	Second-order Themes	Aggregate Dimensions	Methods and Instruments	Device Testing Stages
P1	Diagnostic assessment, culture, and learning styles	Empathise	Understanding students	Questionnaire	Consultation, implementation, reflection, evaluation
P2	Assessment of student characteristics	Define	Understanding students	Questionnaire, interview	Revision of device, implementation, and evaluation
P3	Assessment of gender, hobbies	Define	Understanding students	Questionnaire, observation, discussion	Consultation, reflection, improvement
P4	Activities according to student needs	Define	Learning Design	AI, questionnaire, interview	Implementation, reflection, evaluation
P5	Students with low cognitive ability	Define	Understanding students	Questionnaire, discussion, social media	Consultation, implementation, reflection
P6	Less active students	Define	Understanding students	Questionnaire, observation, interview	Revision, implementation, reflection
P7	Dominant visual learning style	Define	Understanding students	Questionnaire	Revision, implementation, evaluation
P8	Students unfamiliar with scouting	Define	Understanding students	Questionnaire, observation, interview	Implementation, reflection, evaluation
P9	Student readiness to learn	Define	Understanding students	Questionnaire, observation, interview	Consultation, revision, implementation, reflection
P10	Students with low cognitive ability	Define	Understanding students	Questionnaire	Implementation, evaluation, reflection
P11	The majority with a visual learning style	Define	Understanding students	Questionnaire, observation, interview	Implementation, reflection, discussion
P12	Kinesthetic learners dominant	Define	Understanding students	Questionnaire, interview	Implementation, reflection, revision
P13	Diverse learning styles, kinesthetic dominant	Define	Understanding students	Questionnaire, observation, interview	Implementation, reflection, evaluation

Table 2 (*continued*)

Participant	First-order Concepts	Second-order Themes	Aggregate Dimensions	Methods and Instruments	Device Testing Stages
P14	Male students are predominantly kinesthetic	Define	Understanding students	Questionnaire, observation	Implementation, evaluation, revision
P15	Diverse learning styles	Define	Understanding students	Questionnaire, observation, interview	Implementation, reflection, evaluation
P16	Diverse learning styles and cognitive abilities	Define	Understanding students	Questionnaire, observation, interview	Implementation, reflection, discussion
P17	Diverse learning motivation	Define	Understanding students	Questionnaire, observation	Implementation, evaluation, reflection
P18	Diverse students in learning	Define	Understanding students	Questionnaire	Implementation, evaluation, reflection
P19	Interests, talents, and learning styles diverse	Define	Understanding students	Questionnaire, interview	Implementation, evaluation, reflection
P20	Social-emotional and economic diversity	Define	Understanding students	Questionnaire, interview	Implementation, evaluation, reflection

Table 3
Structural data from gioia analysis

First-order Concepts	Second-order Themes	Aggregate Dimensions
Observing student learning styles	Understanding student needs	Understanding student needs
Using questionnaires for assessments	Defining problems based on assessment results	Identifying learning problems
Using ChatGPT to design objectives	Collaboration between technology and humans	Developing learning ideas
Discussing ideas with mentors and peers	Testing prototypes in small groups	Testing learning devices
Testing prototypes in small groups	Evaluating prototype effectiveness	Iterating devices based on data
Revising devices based on student feedback	Evaluating devices	Improving teaching materials

Empathise (Understanding Students' Contexts and Learning Needs)

In the empathise phase, participants emphasised engaging with students' realities to understand their backgrounds, preferences, and learning challenges. This was achieved through informal assessments, interviews, and observations.

> I began by interviewing my students about their learning habits and hobbies; it helped me design more engaging materials. (P8)

Additional examples demonstrate the diversity of approaches: P1 administered a Google Forms questionnaire covering learning styles, cultural background, and interests, which revealed that 70% of students preferred visual learning materials. P3 conducted informal discussions during break times to understand students' hobbies and found that many students were interested in gaming, which informed the design of game-based learning activities. P14 used observation checklists to identify kinesthetic learners who struggled with lecture-based instruction, leading to the incorporation of hands-on activities. P20 discovered through interviews that socio-emotional factors, particularly family economic challenges, affected student engagement more than academic readiness.

Key second-order themes included 'contextual understanding,' 'learner profiling,' and 'diagnostic insight.' Participants in rural contexts reported different challenges compared to urban schools, especially regarding digital tool access.

Define (Identifying Instructional Problems and Objectives)

Participants used empathetic insights to articulate instructional challenges, translating student data into pedagogical problems and specifying learning objectives.

> I realised the main problem wasn't the material, but how it was delivered—too theoretical and hard to visualise. (P3)

Further examples: P5 identified that students with lower cognitive abilities needed more scaffolded instruction with concrete examples before abstract concepts. P7 recognised that visual learners dominated the classroom and required more image-based and video materials. P9 determined that student readiness varied significantly, requiring differentiated pacing. P11 found that while most students had visual learning preferences, a significant minority were kinesthetic learners, being underserved by existing materials.

This stage demonstrated participants' ability to shift from surface-level complaints to structured problem statements. Themes such as 'problem framing' and 'instructional alignment' emerged.

Ideate (Generating Creative Solutions Using ChatGPT)

In ideation, participants utilised ChatGPT as a co-creative partner, employing it to generate lesson ideas, quizzes, narratives, and alternative instructional formats.

> I asked ChatGPT to create a story problem involving environmental

> issues, and it gave me three versions—I modified one to fit my students. (P11)

Participants described various ChatGPT uses: P4 requested differentiated activity suggestions based on learning styles identified in the empathise stage. P6 used ChatGPT to generate game-based quiz formats that addressed the engagement issues identified in the definition. P9 noted:

> Sometimes ChatGPT gives information that doesn't match Indonesian curriculum standards, so I always verify and adapt.

P16 asked ChatGPT to suggest worksheet improvements, adding questions the participant hadn't considered.

Second-order themes included 'AI-supported brainstorming,' 'content generation,' and 'creative stimulation.' Concerns about content accuracy indicated varying levels of critical AI literacy.

Prototype (Designing and Refining Instructional Materials)

During prototyping, participants transformed ideas into tangible learning materials, including worksheets, interactive media, and project-based activities.

> I created the initial worksheet draft, then asked ChatGPT to suggest improvements—it added questions I hadn't considered. (P16)

Participants demonstrated iterative thinking by testing materials on peers or mentors and revising based on feedback. Themes included 'design iteration,' 'peer validation,' and 'digital enhancement.'

Test (Implementation and Reflective Adjustment)

The test phase involved piloting learning tools in real or simulated classrooms. Participants observed student responses, collected feedback, and reflected on effectiveness.

> I noticed students were more focused during the game-based quiz I created using ChatGPT. It was fun for them. (P6)

Themes like 'learner engagement monitoring,' 'reflective practice,' and 'design responsiveness' emerged. Table 3 highlights how participant characteristics influenced this process.

Evidence of Transition from Passive Consumers to Reflective Designers: The findings reveal clear evidence of participants' transformation from passive content consumers to reflective, responsive designers across the five stages. In the empathise stage, rather than assuming student needs, participants like P1, P8, and P14 actively sought student input through questionnaires, interviews, and observations—demonstrating a shift from teacher-centred assumptions to learner-centred inquiry. In the ideate stage, participants critically evaluated and adapted AI-generated content rather than accepting it uncritically; P9's practice of verifying ChatGPT outputs against curriculum standards exemplifies this critical stance.

In the test stage, participants iteratively refined their materials based on evidence rather than implementing designs without reflection. P16's experience is particularly illustrative: after receiving negative feedback on an initial worksheet, the participant completely redesigned it, stating,

> I realised I was creating what I thought was good, not what students needed.

This shift from teacher-centred to learner-centred design thinking was consistently observed across the sample, representing a fundamental transformation in pedagogical orientation.

DISCUSSION

This section interprets the findings in relation to research objectives and broader theoretical contexts. The integration of Design Thinking and ChatGPT reveals a paradigm shift in pedagogical thinking.

The Role of Empathy in Instructional Design

The empathetic stage demonstrated that participants contextualised learning by understanding students' backgrounds, preferences, and challenges. Our data showed that participants who invested more time in empathising (e.g., P1, P8, P14) produced more contextually appropriate materials. Specifically, P1's detailed questionnaire data informed differentiated activities, P8's interviews revealed hobby-based engagement opportunities, and P14's observations led to incorporating kinesthetic activities for struggling learners. This supports prior studies highlighting empathy as the foundation of learner-centred design (Almog & Shechtman, 2007; Cross, 2023; Razzouk & Shute, 2012). The varied methods used—from formal questionnaires to informal conversations demonstrate Design Thinking's flexibility across teaching contexts.

Framing Pedagogical Problems through Design Thinking

Defining pedagogical problems through learner data marks a cognitive transition from general to targeted instruction. Participants like P3 and P7 demonstrated reframing vague challenges ('students are bored') into specific, solvable questions ('visual learners need image-based content'). This alignment occurred through the systematic connection between empathetic data and defining outcomes: P3's observation that students struggled with theoretical content led to the specific objective of creating visualisation tools; P7's questionnaire findings about visual learner dominance directly informed the goal of developing image-rich materials. This aligns with TPACK (Mishra & Koehler, 2006) and backward design principles (Wiggins & McTighe, 2005).

ChatGPT as a Cognitive Support Tool in Ideation

ChatGPT supported ideation by providing access to ideas, draft texts, and examples. Our findings suggest AI can scaffold creativity when used thoughtfully—P4's differentiated activities, P6's game-based quizzes, and P11's story problems all

originated from ChatGPT prompts but were significantly adapted based on empathy and defined insights. The 'how' of this integration involved participants: (1) formulating specific prompts based on identified student needs, (2) critically evaluating AI outputs against curriculum standards (as P9 described), (3) adapting content for local context, and (4) iterating based on peer feedback. This corresponds with literature regarding AI as cognitive support (Luckin et al., 2016; E. Mollick & L. Mollick, 2023), while highlighting the essential role of critical digital literacy (Holmes et al., 2019; Ng et al., 2021).

Iterative Prototyping and Peer Validation

Prototyping enabled participants to test designs through peer review, microteaching, and classroom application. The iterative alignment between stages occurred as follows: empathise with data-informed prototype features, define objectives guided by prototype scope, and ideate outputs provided prototype content. For example, P16's worksheet prototype incorporated ChatGPT-generated questions (ideate) targeted at visual learners (empathise/define), then underwent peer review, revealing gaps, leading to revision. This mirrors design-based research and experiential learning principles (Kolb, 1984) and Schön's (1983) 'reflection-in-action.'

Reflective Testing and Adaptive Practice

In testing, participants implemented and evaluated tools in authentic environments. The connection to results is evident in how test outcomes informed further iteration: P6's observation that students were 'more focused during the game-based quiz' validated the ideate decision to use gamification; negative feedback in P16's case led to a complete redesign. This evidence-based reflection demonstrates adaptive expertise (Hatano & Inagaki, 1986) and metacognitive maturity associated with teacher effectiveness (Marzano & Brown, 2007). The shift in teacher role—from sole content creator to learning designer who curates and contextualises AI resources—represents a fundamental pedagogical transformation.

CONCLUSIONS AND IMPLICATIONS

This study explored how pre-service teachers in the Indonesian PPG Prajabatan program experience integrating Design Thinking and ChatGPT in developing 21st-century learning tools. Through the Gioia method analysis, findings reveal that this integration offers a structured yet flexible framework for instructional innovation, enabling participants to transition from passive content consumers to reflective, responsive designers. Three key conceptual contributions emerged: First, ChatGPT serves multiple pedagogical roles as ideation partner, content generator, and feedback mechanism—that complement rather than replace human creativity. Second, integration follows a coherent process aligned with Design Thinking stages. Third, successful integration requires developing reflective digital literacy.

Practical Implications

For teacher education programs, Design Thinking provides an effective framework for integrating AI tools. Institutions should embed structured opportunities for AI-assisted instructional design within authentic teaching contexts. Explicit instruction in critical AI literacy—including evaluating output accuracy and adapting content for local contexts—should be incorporated into curricula.

Research Implications

Future research should examine long-term impacts on teaching effectiveness and student outcomes. Comparative studies across cultural and institutional contexts would establish generalizability. Research exploring ethical considerations in AI-assisted education represents an important future direction.

Limitations

This study acknowledges limitations inherent to qualitative research. Findings are contextually specific to the Indonesian PPG program and may not be directly generalizable. The interpretive nature of thematic analysis introduces researcher subjectivity, mitigated through triangulation and member checking. The study captures experiences at a specific point in time; longitudinal research would provide insights into practice evolution.

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How Does Intellectual Capital Boost Sustainable Organisational Performance? The Mediating Role of Sustainable Performance Measurement Systems

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ABSTRACT

The crucial role of intellectual capital (IC) and its broad implications are well documented in the academic literature, but it hasn't been entirely discovered yet how IC integrates into certain organisational control systems, including sustainable performance measurement systems (SPMS), when it comes to sustainability. To fill this gap, the purpose of this study is to investigate the linkages among IC dimensions, SPMS and sustainable organisational performance, from the ground of intellectual capital-based view approach. This study utilised structural equation modeling (SEM) particularly partial least squares (PLS) method to test the research framework and hypotheses based on data from 149 top-level decision-makers in Bangladesh's readymade garment (RMG) companies. The cross-sectional SEM results have shown mixed findings for both direct and indirect effects and hence offer new insights to address the research gap for this study. In addition, the contradictory findings highlight the relevance of the mediating role of SPMS in the link between IC and sustainable organisational performance within the context of the study. However, this paper contributes new knowledge on the significance of the effective management operation (e.g., sustainable performance measurement systems) that enables explaining IC and its association with a sustainable organisational performance. Furthermore, this research also provides a practical contribution in the field of performance measurement systems through the inclusion of intellectual capital, which will enable top management to address stakeholder

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expectations, taking into consideration environmental, social and economic issues in the current business landscape.

Keywords: Bangladesh, intellectual capital, intellectual capital-based view, sustainable performance measurement systems, sustainable organisational performance

INTRODUCTION

The pragmatic determination of the sustainable performance of firms has recently emerged as a challenging endeavour for organisation's survival and development (Yusoff et al., 2019). Business sustainability performance is synonymous with comprehensive conservation practices, as it is essential for sectors to adopt sustainable business practices to fulfil the Sustainable Development Goals (SDG) agenda. In addition, the implementation of embedding sustainability in businesses has two main drivers: to meet stakeholder expectations (Gross-Gołacka et al., 2020) and also to avoid the environmental degradation caused by making business.

Recently, Grazier (2025) highlights in the sustainability report that it is significant for the organisations to perform a materiality evaluation process, analysing the competitors in the market, accumulating consistent data, and monitoring the performance for maintaining an effective environmental and social performance. Specifically, World Bank Group (2019) analysis indicates that around 17% to 20% of water pollution is attributable to industrial activities in the clothing and ready-made garment sector, with 72 hazardous compounds resulting from the dyeing and treatment processes. Likewise, McFall-Johnsen (2020) highlights that 10% of human carbon emissions are generated by the fashion industry, 85 percent of textiles end up in landfills every year, microplastics make up 31% of oceanic plastic pollution, and it is said that industrial water pollution contributes roughly about twenty per cent (20%). The McKinsey and Company study by Berg et al. (2023) reported that the clothing industry contributes to 10% of the world's greenhouse gases, highlighting its environmental cost. As international organisations begin to ring the alarm about the dangers to financial stability posed by climate change and the lack of management effort in the shift to low-carbon systems (Aggarwal et al., 2025). Consequently, it is the fundamental obligation of enterprises to adhere to rules and regulations to have a sustainable relationship with stakeholders (Omer & Noguchi, 2020). If this issue remains unresolved, numerous companies may forfeit their contracts due to non-compliance with the SDG.

Bangladesh's RMG industry has turned out to be one of the leading exports for the country in the past four decades. This sector has improved significantly and emerged as one of the largest garment producers in the world (BGMEA, 2022). Although the readymade garment (RMG) sector in Bangladesh is one of the best sourcing

locations for US buyers, and worldwide after China (Berg et al., 2021), but also still serves as the major cause of environmental and social pollution, whose contribution to poisonous chemicals, waste emission, air contamination and water effluent puts an immediate crisis into ecological factors (DataBD.CO, 2019). However, Bangladesh must attain the status of a middle-income country; failing to do so may result in the loss of EU economic relations due to non-compliance with international standards. As such, the essence of sustainability includes a holistic view that sustainable business performance should be undertaken in totality, which raises the question: "What potential strategies can be implemented to achieve sustainable organisational performance in internal business operations?"

With this aim, organisations are seeking effective strategies for implementing business sustainability. In a knowledge-based era, sustainable organisational performance is increasingly dependent on intangible resources as the paradigm shifts from the industrial to the information-based economy (Edvinsson & Malone, 1997). A significant stream of literature has attempted to indicate how intellectual capital as knowledge resources can influence sustainability or sustainable business performance and revealed positive findings between the associated variables, e.g., intellectual capital and sustainability (Gross-Gołacka et al., 2021) sustainable financial performance (Muchran, 2020); financial performance and ecological performance (Khan et al., 2021); intellectual capital related to green panorama, and business sustainability (Sabir et al., 2020; Suki et al., 2023); intellectual capital using the integrated intellectual capital model for organisational performance (Shaari et al., 2018); sustainable competitive advantage (Astuti et al., 2023) and sustainability initiatives (Phonthanukitithaworn et al., 2023); intellectual capital incorporating social capital with the standard three basic dimensions (human capital, structural capital and relational capital) (Asiaei & Jusoh, 2017). Despite these constructive positive outcomes, there are a plethora of studies that demonstrate the diverse level of hindrances and challenges as negative findings (Gross-Gołacka et al., 2020; Hermawan et al., 2020; Noor & Nawangsari, 2021) in the ground of intellectual capital and business sustainability, specifically, green intellectual capital, and business sustainability (Yusoff et al., 2019), as well as organisational performance (Asiaei & Jusoh, 2015). These contradictory findings have prompted a call for further research into the management that may account for variance in the connection between intellectual capital and sustainable organisational performance. Specifically, the novel course of action for the current study combines multifaceted views of intellectual capital (Human capital, structural capital, relational capital, and social capital) with a multidimensional perspective of sustainable organisational performance (social, environmental, and economic). Conversely, there is significantly less prior evidence supporting the concept of social capital (Asiaei et al., 2018).

Interestingly, the concept of intellectual capital and sustainability is still growing (Dumay & Garanina, 2013), but more critical investigation is important (Massaro et al., 2018). In addition, sustainability must be integrated to be sustainable in the digital dynamic era, where intellectual capital is one of the most important capitals (CIMA, 2020). Pangidoan & Nawangsari (2022) mentioned that organisational sustainability as a subject of business practice is less critically interested in compliance because implying the ecological conceptions into the management practice grounded on sustainability represents a very challenging task, and is an area for further investigation that has not been extensively explored by previous researchers (Mio et al., 2022). The prior literature has already significantly contributed to multiple mediating construct like organisational learning capability (Sabir et al., 2020); innovation (Aljuboori et al., 2022; Obeidat et al., 2021); technological innovation (Xu et al., 2019); technology usage (Torre et al., 2020), and environmental management practice (Alam et al., 2021) in the specific area of research. This study has selected sustainable performance assessment systems that are frequently neglected yet may act as a link between intellectual capital and sustainable organisational performance. Therefore, the strategic importance of sustainable performance should be reflected in operational implementation efforts, and assessment, monitoring, and improvements must become indispensable (Maas et al., 2016). Although external sustainability reporting patterns are well understood, less is known about the development of performance measurement systems for sustainability-related information (Gond et al., 2012; Maas et al., 2016), thus underpinning a current research gap in the basis of this study. Specifically, sustainability-based management control systems enable senior management to execute sustainability projects by integrating fundamental sustainability principles, including assessing performance outcomes and mitigating strategic risks linked to sustainability initiatives (Asiaei et al., 2026). This strand of research demonstrates that intellectual capital, as well as sustainable organisational performance must be consistent with the organisation's processes and systems (Lasiyono, 2019). Moreover, the notions of intellectual capital and sustainable performance measurement systems for sustainability performance have garnered separate consideration in numerous studies, while integrating all variables into a cohesive framework is both unique and distinctive. Hence, the present study aims to examine the management of intellectual capital resources using effective sustainability-oriented performance measurement systems to optimise sustainable business performance.

The theory of the intellectual capital-based view (ICBV), which posits the relationships regarding intellectual capital and its components in regard to sustainable organisational performance, serves as the foundational structure of this research. A mid-range approach was proposed by Reed et al. (2006), known

as the ICBV theory, that considers the constraints of the resource-based view (RBV). However, the relationship between the natural environment and the firm is mostly ignored in the RBV perspective (Harts, 1995) by presenting a generic form of intangible resources, while knowledge is the ultimate source of intellectual capital, emphasised in ICBV theory (Reed et al., 2006). Furthermore, ICBV suggests a novel "knowledge-intensive" or "intellectual-based" framework to achieve competitive advantage for surviving in the dynamic business environment (Khalique et al., 2018; Khalique & De Pablos, 2015; Martín-de-Castro et al., 2011), but the multidimensional view of intellectual capital is less focused in previous literature (Asiaei & Jusoh, 2015). Therefore, this study has incorporated the multifaceted concept of intellectual capital by including social capital, using ICBV, because RBV theory is highly descriptive and static. At the same time, ICBV is dynamic, representing exceptional features that distinguish it from physical resources and help to create competitive advantages and ensure sustainability (Curado, 2006). Additionally, the ICBV framework is more conducive to hypothesis generation and empirical testing than the RBV framework. Besides, ICBV focuses exclusively on the knowledge generated and maintained within a company's three essential assets: its people, social and interpersonal connections, and information technology systems and procedures (Reed et al., 2006). Consequently, these assumptions have fewer discussion points in preceding studies, which highlight substantial theoretical gaps in the current study. To the researcher's knowledge, this is one of the unique study integrating multifaceted views of intellectual capital through sustainable performance measurement systems in achieving sustainable organisational performance. In the final analysis, this study extends to fill the gaps in two aspects. Explicitly, this study aims:

1. To examine the relationship between intellectual capital and sustainable organisational performance.
2. To investigate the mediating role of sustainable performance measurement systems in the relationship between intellectual capital and sustainable organisational performance.

The rest of this paper is structured as follows: Section 2 reviews existing literature in intellectual capital and sustainable performance measurement systems for achieving sustainable organisational performance through the lens of the intellectual capital-based view (ICBV) and contingency theory to formulate a series of hypotheses. Afterwards, the methodology of research for this study is presented in Section 3, with the findings consequently reported in Section 4. Finally, Section 5 indicates the main findings of the paper, implications of theory and practice for research, study limitations and future avenues.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

From the theoretical perspective of the ICBV approach, knowledge-based assets are the primary factors that can effectively

improve performance (Reed et al., 2006). Sustainable organisational performance focuses on beyond revenue generation, which integrates social, environmental, and economic performance, known as the triple bottom line approach (TBL) (Elkington, 1998;Saba et al., 2023). The present study also emphasises the multidimensional characteristics of intellectual capital, which comprises human, structural, relational and social capital (Asiaei & Jusoh, 2017; Subramaniam & Youndt, 2005).

Intellectual Capital and Sustainable Organisational Performance

Nevertheless, the plethora of research examining the connection between intellectual capital and sustainable or organisational performance still leaves substantial gaps in this specific area across different research settings. For instance, Gross-Gołacka et al. (2020) scrutinised the relationships between intellectual capital and its components and business sustainability, taking managers' perceptions in the context of SMEs in Poland into account. The outcomes indicate that human capital is more influential than other components (relational and structural capital). More specifically, Muchran (2020) has examined Indonesian pharmaceutical firms, and the findings have shown a positive connection between intellectual capital and the dimensions (human capital, relational capital, and structural capital) on sustainable economic performance. Prioritising relational capital, Roxus & Chadee (2016) examined the significance of a knowledge-based view for environmental sustainability, as demonstrated by 241 manufacturing SMEs in the Philippines and showed that the knowledge-based view is important for long-term business performance in both general and strategic management settings. Furthermore, Yusoff et al. (2019) empirically investigated Malaysia's manufacturing SMEs. The study has found that green structural capital and green relational capital can positively influence business sustainability, whereas green human capital is insignificant. According to Noor & Nawangsari (2021), there appears to be a lack of consistent initiative to improve employees' structural and relational capital within the firm's organisational structure to support the firm’s sustainability, while human capital is a significant potential asset in regional listed companies in Jakarta, Indonesia. Contrarily, Najib & Nawangsari (2021) found that human capital is insignificant for organisational sustainability, whereas structural and relational capital are significant in Indonesian maritime services. IC functions as a knowledge base resource for maximising sustainability performance, which is still obscure and necessitates further analysis (Asiaei et al., 2023; Li et al., 2024). Existing scholarly work expressed that intellectual capital has a positive and significant impact on the business performance of SMEs (Xu & Li, 2020), but sustainable business performance is still unaddressed (Yusliza et al., 2020).

Bearing the above issues in mind, prior researchers have reported contradictory findings, prompting further investigation

of the study. This rationale encourages the following hypotheses:

Hypothesis 1: There is a significant relationship between intellectual capital and sustainable organisational performance

H1(a): There is a significant relationship between human capital and sustainable organisational performance

H1(b): There is a significant relationship between structural capital and sustainable organisational performance

H1(c): There is a significant relationship between relational capital and sustainable organisational performance

H1(d): There is a significant relationship between social capital and sustainable organisational performance.

Mediating Role of Sustainable Performance Measurement Systems in the Relationship between Intellectual Capital and Sustainable Organisational Performance

Both researchers and practitioners unanimously accept that the implementation of sustainability issues in business operations can assist in environmental preservation and social progress (Wijethilake, 2017). Numerous studies have yielded inconclusive results regarding the relationship between intellectual capital and sustainable firm performance (Gross-Gołacka et al., 2020; Najib & Nawangsari, 2021; Noor & Nawangsari, 2021). These results might indicate the importance of mediating mechanisms, such as sustainability-based performance measurement systems, in promoting intellectual capital and sustainable organisational performance (Asiaei et al., 2021).

However, the limited number of empirical studies and the conflicting research findings do not adequately elucidate why sustainable performance measuring systems enhance sustainable organisational performance (Asiaei et al., 2018; Asiaei et al., 2021; Thanh & Cong, 2024). For instance, Asiaei et al. (2018) indicated that performance measurement systems as a mediator including social and environmental factors between IC and organisational performance, play a significant role in evaluating the business performances. This research has argued that the presence of mediation effects can influence the outcome of intellectual capital and firm performance. In another study, Thanh & Cong (2024) evaluated green performance measurement systems as an intermediary to analyse the conceptual relationship of green intellectual capital and environmental performance. The findings indicated that the implementation of green performance measurement systems has beneficial effects on cooperation within the industry sector, where the purpose of social advantages is attained. However, Asiaei et al. (2021) investigated whether performance measurement systems are significant in implementing intellectual capital as knowledge-based assets to improve performance. Unexpectedly,

the study suggests that performance measurement systems do not play an intervening role in facilitating intellectual capital for corporate-level performance in listed Iranian companies. Although ample research has been conducted on environmental disclosure and reporting, considerably less is understood on the internal organisational systems and competencies (Asiaei et al., 2023). This dilemma motivates the development of sustainable performance measurement systems that elucidate the role of intellectual capital in achieving sustainable organisational performance.

This is how the notion of the "fit as mediation" approach has come to the point in the current phenomena. Traditionally, Venkatraman (1989) conceptualised the "fit as mediation" approach as the relationship between antecedents (strategy) and a subsequent outcome; the mediation perspective requires the presence of a central intervening mechanism (such as an organisation's structure). Similarly, the "fit as mediation" approach from contingency theory posited that knowledge-based resources as strategic ones might affect the organisational structure as performance measurement systems to achieve a superior firm performance such as sustainable performance (Asiaei & Jusoh, 2017; Drazin & de Ven, 1985). A sustainable performance measurement system helps to manage strategic resources (Figge et al., 2002). Based on these premises, knowledge-based attributes can influence sustainable organisational performance considering appropriate sustainable performance measurement systems, and hence, the hypotheses can be proposed:

Hypothesis 2: Sustainable performance measurement systems mediate the relationship between intellectual capital and sustainable organisational performance.

H2(a): Sustainable performance measurement systems mediate the relationship between human capital and sustainable organisational performance.

H2(b): Sustainable performance measurement systems mediate the relationship between structural capital and sustainable organisational performance.

H2(c): Sustainable performance measurement systems mediate the relationship between relational capital and sustainable organisational performance.

H2(d): Sustainable performance measurement systems mediate the relationship between social capital and sustainable organisational performance.

METHODS

Study Context

The Bangladesh Garment Manufacturers and Exporters Association (BGMEA), one of the most influential trade organisations for ready-made apparel manufacturers

and exporters in Bangladesh, provided 4500 registered companies as the population of interest for this study. The primary objective of this study is to ensure the long-term sustainability of the business. Hence, Bangladesh's RMG sector is the pioneer of the global environmental initiatives, with 67 green structures and 13 factories receiving LEED Platinum Certification in recognition of exemplary sustainability practices. Therefore, this research centres on LEED-certified RMG companies as its population (Sarkar et al., 2020). Besides, RMG ecosystems can enhance workers' rights, workplace safety, and ethics to meet stakeholder demands in this sustainable development era (Textile Today, 2023). Consequently, it is essential to establish effective green management control systems to mitigate the environmental impact of business activities. Bangladeshi RMG companies have a deficiency in expertise concerning the application of sustainability-based management control systems (Islam & Rahman, 2022). As sustainability is an emerging concept, this study selected 140 LEED-based RMG companies for data collection as certified by the U.S. Green Building Council (USGBC), prioritising the triumph of achievement of sustainability disclosure and practices.

Research Design

In this study, positivist research philosophy has been adopted to explore the mediating role of sustainable performance measurement systems in the relationship between intellectual capital and sustainable organisational performance. The unit of analysis in this study is the organisation, specifically its key decision-makers involved in internal operations and sustainability, including Chief Executive Officers, Chief Financial Officers, and Deputy General Manager. However, there can be a limited sample size when the targeted participants are at the organisational level or decision makers of the company (Memon et al., 2023). Therefore, the number of structured questionnaires is boosted to 280 (140*2) and distributed to the respective RMG companies. With this view, the stratified sampling technique is implied, which is the most efficient in probability sampling (Sekaran & Bougie, 2020). Ultimately, of the 280 distributed questionnaires, 149 replies were deemed genuine and suitable for subsequent data analysis, resulting in a response rate of 53.21%. A survey's response rate must exceed 30% to meet the threshold of acceptability (Sekaran & Bougie, 2016). A 50% or higher response rate is considered excellent (Chung, 2021).

Research Framework

Based on the preceding literature review, this study has developed a research framework that provides a novel research agenda to highlight research gaps and contribute to existing research, as presented in Figure 1.

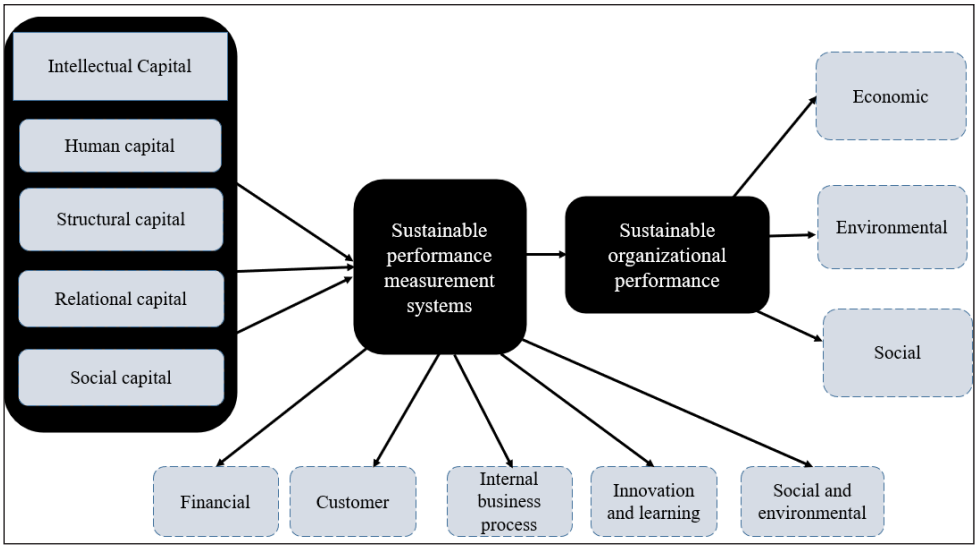

Figure 1. Research framework

Operationalisation of Key Variables

The measurement for the implied variables for sustainable organisational performance as economic performance (Khan et al., 2021); Social and environmental performance (Yusoff et al., 2019); Intellectual capital for human capital (Asiaei et al., 2018) structural capital (Phonthanukitithaworn et al., 2023); relational and social capital (Asiaei et al., 2021) and sustainable performance measurement systems (Asiaei et al., 2021) supported by the relevant literature in the context of the study. Besides, the study utilised a seven-point Likert scale from "Not at all to "very great extent" for sustainable organisational performance and sustainable performance measurement systems and "strongly disagree" to "strongly agree" for intellectual capital, as attached in the appendix section.

Goodness of Data

A non-response bias analysis is essential because this test strengthens the validity of the survey (Sukri & Yusoff, 2021). Thus, the independent sample T-test has been conducted in two groups. The findings have shown that the mean values of the variables for both groups of participants were relatively similar, as presented in Table 1. Following, Lindner and Wingenbach (2002) recommendation, since the research achieved 56.07% response rate, it can be considered that non-response bias was not a major concern.

The presence of missing values in a survey indicates that respondents were reluctant to provide certain information in the questionnaire (Umar et al., 2015). The findings of the SPSS analysis for missing values disclosed that only 1.42% were identified in the data set. According to

Table 1
Independent sample T test

Group Statistics					
		N	**Mean**	**Std. Deviation**	**Std. Error Mean**
HC	Early respondents	50	5.9500	0.74128	0.10483
	Late respondents	50	5.6920	0.64928	0.09182
SC	Early respondents	50	6.1360	0.69686	0.09855
	Late respondents	50	5.4840	0.75061	0.10615
RC	Early respondents	50	6.1480	0.55374	0.07831
	Late respondents	50	5.7190	0.62457	0.08833
SOC	Early respondents	50	5.8720	0.89603	0.12672
	Late respondents	50	5.4530	0.61382	0.08681
SPMS	Early respondents	50	5.3773	0.49590	0.07013
	Late respondents	50	5.1067	0.58709	0.08303
SOP	Early respondents	50	5.5520	0.58987	0.08342
	Late respondents	50	5.1800	0.56892	0.08046

Note. HC-Human capital; SC-Structural capital; RC-Relational capital; SOC-Social capital; SPMS-Sustainable performance measurement systems; SOP-Sustainable organisational performance

Acu˜na & Rodriguez (2004) if a rate falls below 1%, it is considered acceptable. To facilitate further analysis in the Smart-PLS, the values of replacement data were processed using SPSS 23.0 utilising the linear interpolation method. This study conducted the "Mahalanobis distance statistical analysis" technique for outlier detection (Ghorbani, 2019). Therefore, six predictors were identified in this study, it is important to note that the threshold chi-square value is 22.458 at a significance level of $p = 0.001$, and no multivariate outliers are identified in the dataset.

As a methodological technique, the study has used two statistical software programs: SPSS 23.0 for descriptive statistics and PLS-SEM 4.0 to establish measurement and structural models. SPSS was used to evaluate the demographic attributes of the participants, encompassing the organisation's age, type of business, number of employees, job title, and work experience as presented in Table 2. After finalising the research's basic characteristics, PLS-SEM was used to establish measurement and structural models to test hypotheses in line with the study's objective. Researchers often justify the use of PLS-SEM due to the

small sample size (Hair et al., 2019). The PLS-SEM method is more attractive to numerous researchers than the CB-SEM technique because of its ability to determine sophisticated models containing multiple constructs, measurement variables, and structured routes without enforcing any logistical presumptions on the information (Hair et al., 2020). This study aligns with (Asiaei et al., 2021) by offering reflective models that initially assess the reliability and validity of the constructs, followed by a structural model to evaluate the hypotheses (Hair et al., 2019). Furthermore, prior studies in sustainability, performance measurement systems, and RMG companies have employed analogous constructs reflectively, so affirming the appropriateness of the reflective paradigm for this research.

Table 2
Description of the research respondents

Profile	Categories	Frequency	Percent	Cumulative Percent
Working Experience	Less than one year	20	13.4	13.4
	1 to 3 years	24	16.1	29.5
	4 to 6 years	26	17.4	47.0
	7 to 10 years	40	26.8	73.8
	Over 10 years	39	26.2	100.0
Job Position	CEO/President	44	29.5	29.5
	CFO	52	34.9	64.4
	General manager/ deputy general manager	53	35.6	100.0
Number of Employees	500 to 999	20	13.4	13.4
	1000 to 3000	33	22.1	35.6
	4000 to 6000	40	26.8	62.4
	7000 to 10000	34	22.8	85.2
	More than 10000	22	14.8	100.0
Types of Business	Woven	34	22.8	22.8
	Denim	32	21.5	44.3
	Knitwear	34	22.8	67.1
	Woven Denim Knitwear (All)	28	18.8	85.9
	Other garment products	21	14.1	100.0
Age of the company	5- 10	39	26.2	26.2
	11-15	50	33.6	59.7
	16-20	36	24.2	83.9
	Above 25	24	16.1	100.0

RESULTS

Measurement Model Assessment

This section presents the attributes of the reflective measurement model, indicating internal consistency reliability, discriminant validity, and convergent validity, relevant to the current study. This study has analysed the outer loadings as presented in Table 3 about the measurement model for each latent variable across all items. All outer loadings of the reflective constructions exceed the threshold value of 0.70, indicating adequate levels of indicator reliability, whereas the lowest indicator reliability is 0.60 (Hair et al., 2017).

Table 3
Results of outer loadings

	CP	ENP	EP	FP	HC	IBP	LG	RC	SC	SEM	SOC	SP
CP1												
CP1	0.883											
CP2												
CP2	0.897											
CP3	0.919											
CP3												
ENP1												
ENP1		0.769										
ENP2		0.853										
ENP2												
ENP3												
ENP3		0.767										
ENP4												
ENP4		0.763										
EP1			0.851									
EP1												
EP2			0.691									
EP2												
EP4												
EP4			0.778									
EP5			0.718									
EP5												
FP1				0.724								
FP1												
FP2				0.846								
FP2												
FP3				0.89								
FP3												
HC1					0.697							
HC2					0.593							
HC3					0.853							

Table 3 (*continued*)

	CP	ENP	EP	FP	HC	IBP	LG	RC	SC	SEM	SOC	SP
HC4					0.852							
IBP1												
IBP1						0.932						
IBP2						0.98						
IBP2												
IBP3												
IBP3						0.976						
LG1												
LG1							0.871					
LG2							0.724					
LG2												
LG3												
LG3							0.998					
RC1								0.804				
RC2								0.828				
RC3								0.856				
RC5								0.839				
SC1									0.735			
SC2									0.834			
SC4									0.877			
SC5									0.795			
SEM1										0.852		
SEM1												
SEM2												
SEM2										0.86		
SEM3												
SEM3										0.709		
SOC1											0.727	
SOC2											0.846	
SOC3											0.88	
SOC4											0.879	
SP1												
SP1												0.644
SP2												0.742
SP2												
SP3												
SP3												0.812
SP4												0.832
SP4												

Note. HC-Human capital; SC-Structural capital; RC-Relational capital; SOC-Social capital; FP-Financial perspective; CP- Customer Perspective; IBP-Internal business process; LG-Learning and growth; SEM-Social and environmental measures; EP- Economic performance; SP-Social performance; ENP-Environmental performance

Reliability levels ranging from 0.60 to 0.70 are considered acceptable in the context of explanatory research, whereas values between 0.70 and 0.90 are regarded as excellent to good (Hair et al., 2019). In this research, all the dimensions of 2nd-order constructs depict the values ranging from 0.733 to 0.960 for alpha value and composite reliability, with higher reliability from 0.840 to 0.974. Furthermore, convergent validity is achieved by evaluating the average variance extracted (AVE) values, which all exceed the threshold of 0.50 from 0.572 to 0.927, thus meeting the established criteria (Hair et al., 2014) as provided in Table 4. Although the second-order constructs demonstrated very high composite reliability, redundancy was excluded through the evaluation of item loadings, the analysis of VIF values, and the establishment of discriminant validity (Fornell-Larcker and HTMT), where each dimension was theoretically grounded to ensure conceptual differentiation, affirming that the high CR indicates internal consistency rather than redundancy among items. The Fornell & Larcker, (1981) the technique has been conducted by confirming the discriminant validity as presented Table 5. Finally, the indicators exhibit notable degrees of convergent validity along with internal consistency and reliability.

Furthermore, HTMT values should not exceed the threshold value; discriminant validity was additionally evaluated through bootstrapped HTMT confidence intervals. Hence, Henseler et al. (2015) recommended that a typical HTMT value be lower than 0.90, featuring conceptually comparable constructs as presented in Table 6 in this study. A full collinearity test has been conducted, where a VIF larger than 3.3 demonstrates pathological collinearity and common method bias in a model (Kock, 2015; Kock & Lynn, 2016) and the Table 7 presents that all the standard values of VIF, lower than 3.3 for all the constructs.

Table 4
Reliability and convergent validity measurement

	Cronbach's Alpha	Composite Reliability (Rho_C)	Average Variance Extracted (AVE)
CP	0.882	0.927	0.810
ENP	0.797	0.868	0.622
EP	0.757	0.846	0.581
FP	0.763	0.862	0.677
HC	0.762	0.840	0.572
IBP	0.960	0.974	0.927
LG	0.920	0.903	0.760
RC	0.852	0.900	0.692
SC	0.826	0.885	0.659
SEM	0.733	0.850	0.656
SOC	0.855	0.902	0.698
SP	0.757	0.845	0.579

Notes: HC-Human capital; SC-Structural capital; RC-Relational capital; SOC-Social capital; FP-Financial perspective; CP- Customer Perspective; IBP-Internal business process; LG-Learning and growth; SEM-Social and environmental measures; EP- Economic performance; SP-Social performance; ENP-Environmental performance

Table 5
Fornell-Larcker criterion

	CP	ENP	EP	FP	HC	IBP	LG	RC	SC	SEM	SOC	SP
CP	0.900											
ENP	0.426	0.789										
EP	0.597	0.400	0.762									
FP	0.395	0.403	0.158	0.823								
HC	0.515	0.317	0.435	0.283	0.757							
IBP	0.659	0.301	0.423	0.148	0.311	0.963						
LG	0.077	-0.072	-0.021	0.049	0.043	0.054	0.872					
RC	0.500	0.426	0.278	0.517	0.489	0.254	0.077	0.832				
SC	0.398	0.420	0.292	0.608	0.508	0.185	0.034	0.642	0.812			
SEM	0.599	0.397	0.348	0.336	0.293	0.392	0.086	0.453	0.271	0.810		
SOC	0.541	0.400	0.406	0.330	0.275	0.382	0.079	0.523	0.416	0.478	0.835	
SP	0.745	0.519	0.687	0.357	0.527	0.407	0.099	0.552	0.407	0.654	0.608	0.761

Notes: HC-Human capital; SC-Structural capital; RC-Relational capital; SOC-Social capital; FP-Financial perspective; CP- Customer Perspective; IBP-Internal business process; LG-Learning and growth; SEM-Social and environmental measures; EP- Economic performance; SP-Social performance; ENP-Environmental performance

Table 6
Discriminant validity (HTMT)

	CP	ENP	EP	FP	HC	IBP	LG	RC	SC	SEM	SOC	SP	SPMS
CP													
ENP	0.504												
EP	0.721	0.513											
FP	0.47	0.52	0.213										
HC	0.579	0.351	0.557	0.346									
IBP	0.713	0.339	0.495	0.159	0.339								
LG	0.065	0.122	0.123	0.146	0.1	0.056							
RC	0.572	0.511	0.331	0.631	0.539	0.278	0.097						
SC	0.461	0.512	0.355	0.79	0.576	0.199	0.103	0.759					
SEM	0.744	0.507	0.454	0.45	0.346	0.464	0.073	0.574	0.343				
SOC	0.607	0.482	0.49	0.406	0.313	0.41	0.094	0.615	0.488	0.592			
SP	0.89	0.684	0.857	0.46	0.628	0.47	0.1	0.692	0.513	0.899	0.739		

Note. HC-Human capital; SC-Structural capital; RC-Relational capital; SOC-Social capital; FP-Financial perspective; CP- Customer Perspective; IBP-Internal business process; LG-Learning and growth; SEM-Social and environmental measures; EP- Economic performance; SP-Social performance; ENP-Environmental performance

Table 7
Common method bias (VIF)

	SOP	SPMS
HC	1.563	1.435
RC	2.153	2.08
SC	1.887	1.886
SOC	1.685	1.397

Note. HC-Human capital; SC-Structural capital; RC-Relational capital; SOC-Social capital; SPMS- Sustainable performance measurement systems; SOP-Sustainable organisational performance

Structural model assessment

Hypothesis Testing for Direct Effects

This study employed the SMARTPLS 4.0 software to execute a bootstrap resampling procedure using 5000 resamples and utilising Bias Corrected and Accelerated (BCa) labelled as 2.50% and 97.50%, with a 0.05 significance level following two-tailed testing (Hair et al., 2017). Table 8 presents the findings of direct effects testing through structural model assessment.

As per Table 8 in the first hypothesis (H1), proposed that there is a significant relationship between intellectual capital and sustainable organisational performance. The path coefficient (H1a) linking human capital and sustainable organisational performance is 0.01, indicating a positive association. The calculated t-value of 2.617 is above the critical value of 1.96, suggesting that at a 95% confidence level, it is possible to assert that the path coefficient is statistically significant with a significance level of 0.05. This result supports the presence of a positive and significant relationship between human capital and sustainable organisational performance ($\beta = 0.218$; T= 2.617 and P<0.05). Hence, H1a is supported. Consequently, H1b reveals the direct effects between structural capital and sustainable organisational performance, where the p value is negative 0.69; statistically insignificant ($\beta = 0.032$; T= 0.405 and P > 0.05) and t value < 1.96; thus, H1b is not supported. Similarly, H1c also suggests that the path coefficient between relational capital and sustainable organisational performance, but the p-value is not significant ($\beta = 0.017$; T= 0.207 and P > 0.05). Contrarily, H1d supports the direct relationship between social capital and sustainable organisational performance with ($\beta = 0.234$; T= 3.024 and P <0.05) and has a constructive positive value, which is 0.00 by confirming the significance level of 0.05.

Table 8
Findings of the direct effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
HC -> SOP(H1a)	0.218	0.228	0.083	2.617	0.01
SC -> SOP(H1b)	0.032	0.027	0.079	0.405	0.69
RC->SOP(H1c)	0.017	0.015	0.082	0.207	0.84
SOC -> SOP(H1d)	0.234	0.237	0.077	3.024	0.00

Note. β - Beta coefficient; STDEV- Standard error; T- T statistics; P- Probability; Relationships are significant if *P<0.058

Hypothesis Testing for Mediating Effects

The role of mediating factors is crucial in social science and business research with the main variables, frequently recognised for theory development, that mediate the connection between exogenous and endogenous variables (Pieters, 2017). Traditionally, the concept of an indirect effect pertains to the influence exerted by an independent variable (exogenous) on a dependent variable (endogenous), utilising a mediating variable (Baron & Kenny, 1986). However, recent studies on mediation techniques have identified certain limitations in this approach. As a result, there is a widespread consensus regarding revised guidelines for optimal practices in assessing the mediating effect (Gerdin & Greve, 2004; Handzic et al., 2016; Mahmud et al., 2021; Zhao et al., 2010) This study has utilised a decision tree and a systematic process for assessing mediation, developed by Zhao et al. (2010) to investigate the indirect effects of the core conception (Baron & Kenny, 1986). This research has also provided an extensive overview of the conditions necessary for determining different forms of mediation and non-mediation. The two primary types of mediation are partial mediation (complementary mediation) and full mediation (indirect-only mediation) (Zhao et al., 2010).

Table 9 shows the 95% confidence interval generated by bootstrapping the model using a variety of measurements as the mediating variable. In this study, bias-corrected intervals have been used. Firstly, mediation analysis was executed to depict the relevance of sustainable performance measurement systems as mediators for human capital and sustainable organisational performance. The findings revealed in the hypothesis that the indirect effect H2 (a) (a*b) is significant with a positive coefficient value of 0.00 and the t value is more than the critical value of 2.988 with a 0.05 significance level (β = 0.117; T = 2.988 and P<0.05), thus the mediating role of sustainable performance measurement systems is established. Besides, the direct effect c (β = 0.218; T = 2.617 and P<0.05) is also significant.

Table 9
Findings of the indirect effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
HC -> SPMS -> SOP(H2a)	0.117	0.117	0.039	2.988	0.00
SC -> SPMS -> SOP(H2b)	0.008	0.012	0.047	0.166	0.87
RC -> SPMS -> SOP(H2c)	0.088	0.081	0.053	1.671	0.10
SOC -> SPMS -> SOP(H2d)	0.175	0.173	0.046	3.803	0.00

Note. β - Beta coefficient; STDEV- Standard error; T- T statistics; P- Probability; Relationships are significant if *P<0.05

As the first and second rules of thumb are established, (a*b*c) is positive, then the effect of human capital on sustainable organisational performance is partially (complementary) mediated by sustainable performance measurement systems based on the model of the decision tree (Zhao et al., 2010).

In H2(b), the hypothesis proposed that sustainable performance measurement systems mediate the relationship between structural capital and sustainable organisational performance. To identify the type of mediation, the indirect effect (a*b) is insignificant because the criteria of the significance level of 0.05 are not established (β = 0.008; T = 0.166 and P > 0.05), and the mediating role of sustainable performance measurement systems is not determined. Furthermore, the direct effect c (β = 0.032; T = 0.405 and P > 0.05) is also insignificant. Hence, the concept of non-mediation is defined as both relationships are not positive in this study.

In the H2(c) hypothesis, the mediating effect of sustainable performance measurement systems between relational capital and sustainable organisational performance was proposed. The findings have revealed that the indirect effect H2(c) (a*b) is insignificant (β = 0.088; T = 1.671 and P >0.05) while the first condition is not fulfilled. Afterwards, the direct effect c (β = 0.017; T = 0.207 and P > 0.05) is also not significant. This situation states a non-mediation effect, thereby rejecting the hypothesis that sustainable performance measurement systems play an intervening role in the relationship between relational capital and sustainable organisational performance.

In the H2 (d) hypothesis, the assumptions articulate that sustainable performance measurement systems mediate the relationship between social capital and sustainable organisational performance, the findings depicted that the indirect effect H2 (d)(a*b) is significant with a significance level of 0.05 and t value is higher than 1.96; (β = 0.175; T= 3.803 and P < 0.05) with a path coefficient of 0.00. When (a*b*c) is determined, the hypothesis is accepted.

The R^2 represent the cumulative effect of all the exogenous variables on one or more endogenous variables (Hair et al., 2019).

Despite R^2's widespread acceptance across academic fields, researchers still need to settle on a "rough" rule of thumb to determine what constitutes an adequate R^2, with values of 0.75, 0.50, and 0.25 corresponding to strong, moderate, and weak levels of predictive ability(Hair et al., 2014). For this study, the majority of the R^2 values show a strong to moderate level of influence except FP and LG, as shown in Table 10. This model also used F^2 values, while the values show more than 0.02 in this study. The study has conducted the predictive accuracy of the PLS model by the effect size Q^2 suggested by Geisser (1974) and Stone (1974). Furthermore, Q^2 values exceeding 0.25 and 0.50 indicate moderate and substantial predictive significance of the Partial Least Squares Structural Equation Modelling (PLS-SEM) model (Hair et al., 2020). According to the study's findings, it is observed that all values for the endogenous variable exceed zero, indicating that the criteria have been established through Q^2 prediction presented in Table 11.

Table 10
R-squared value

	R-square	R-square Adjusted
CP	0.839	0.838
ENP	0.568	0.565
EP	0.704	0.702
FP	0.275	0.271
IBP	0.624	0.621
LG	0.012	0.006
SEM	0.562	0.559
SOP	0.587	0.572
SP	0.808	0.806
SPMS	0.464	0.449

Note. FP-Financial perspective; CP- Customer Perspective; IBP-Internal business process; LG-Learning and growth; SEM-Social and environmental measures; SPMS-Sustainable performance measurement systems; SOP-Sustainable organisational performance; EP- Economic performance; SP-Social performance; ENP-Environmental performance

Table 11
PLS Predict (Q^2)

	Q^2predict	RMSE	MAE
SOP	0.441	0.754	0.606
SPMS	0.416	0.766	0.614

Note. SOP- Sustainable organisational performance; SPMS- Sustainable performance measurement systems

DISCUSSION

The present study has posited an initial hypothesis (H1) suggesting a substantial correlation between intellectual capital and sustainable organisational performance. Findings presented in Table 8, both human and social capital (H1a and H1b) significantly contribute to the development of sustainable firm performance, as indicated ($P<0.05$) within Bangladeshi RMG companies. Being such a young nation with an emerging frontier market, Bangladesh stands to gain enormously from the arrival of highly skilled people who have the expertise in driving economic development and business performance. Human capital positively and significantly influences both the financial performance indicators (earnings and revenue growth) as well as non-financial (job satisfaction and staff efficiency) in RMG companies of Bangladesh (Kamal & Begum, 2019). Human capital pertains to the acquisition of knowledge and skills by individuals, facilitating successful decision-making in numerous settings, whereas social capital is derived from relationships among individuals (Nuryanto et al., 2020). This observation elucidated that social capital is a motivating tool, especially in a dynamic and rapidly changing socio-economic business environment, such as the Bangladesh economy (Hassan, 2022).

On the contrary, there seems to be no significant effect of structural and relational capital (H1b and H1c) on sustainable organisational performance in the context of this study's findings ($P>0.05$). The findings are significant as they indicate that the utilisation of structural capital encompassing organisational structure, systems and procedures, policies, intellectual assets, and infrastructure does not provide any future benefit for the sustainable performance of RMG enterprises in Bangladesh. Contrarily, structural and relational capital (H1b and H1c) does not appear to substantially influence sustainable organisational performance in the context of the present study ($P>0.05$). The reason can be explained that RMG firms, in general practice, labour-intensive production with a low-cost manufacturing system to enhance their competitiveness and constrained by costs and immediate obstacles, do not prioritise making future investments in infrastructure and technological innovation to achieve their objectives. Regarding empirical evidence, some studies found that the role of structural capital and sustainable organisational performance is not significant (Aljuboori et al., 2022; Ullah et al., 2023). Similarly, the study's findings do not indicate any statistical significance of relational capital in influencing sustainable firm performance among RMG companies in Bangladesh. The primary rationale may be that companies are more focused on establishing short-term relationships than long-term ones with stakeholders. In this aspect, customer preferences and decisions are subject to constant changes in a volatile market, and foreign buyers prefer manufacturers who can deliver products to the marketplace more quickly than their rivals (Chowdhury et al., 2023). Hence, the insignificant findings of are in similar alignment with (Andreeva et al., 2021), who

suggested that intellectual capital can be varied based on the criteria of the external environment, industrial circumstances, and competitive dynamics situation.

In case of indirect effect findings, the mediating role of sustainable performance measurement systems in the relationship between intellectual capital (human capital, and social capital, H2a and H2d) and sustainable organisational performance has been observed in the current study. This outcome corroborates (Pratolo et al., 2022), who observed that when organisational strategic resources are incorporated into a solid framework, e.g., performance measurement systems, they can enhance alignment, cooperation, and leadership to help organisations achieve their goals more effectively. Theoretically, findings align with the central conception of the "fit as mediation" approach in contingency theory (Venkatraman, 1989). Hence, organisations are more likely to examine their fundamental critical resources and skills by using management control systems, which results in improved performance (Drazin & de Ven, 1985). In contrast to anticipated outcomes, hypothesis H2(b) and H2(c) ($P>0.05$) have demonstrated a lack of correlation regarding the mediating role of sustainable performance measurement systems between intellectual capital (structural capital and relational capital) and sustainable organisational performance. In this aspect, the primary rationale is that there is an absence of direct affiliation between structural and relational capital on sustainable firm performance.

CONCLUSION

Within the framework of sustainable performance measurement systems, this research offered new understandings to the research community about the relationships between intellectual capital (human, structural, relational, and social capital) and the achievement of long-term organisational goals. With this issue, it is worthwhile to investigate the unique role of numerous intellectual capital dimensions, including mediation facts, on company performance (Wang et al., 2018). Furthermore, there is a current emphasis in intellectual capital research on the necessity of redirecting attention from an organisation to a sustainability-driven structure. Meanwhile, in such conditions, there is a lack of clarity regarding the specific managerial functions via which organisations might effectively utilise knowledge-related resources to improve sustainable-based performance. With this stream, this study has provided a layout to investigate the potential of different components of sustainable performance measurement systems in effectively managing intellectual capital to achieve a balanced integration of economic, social, and environmental performance.

Implications for Theory

Firstly, the multifaceted views of intellectual capital, combined with the multidimensional perspective of sustainable organisational performance, are a result of the industrial economy's transition to a knowledge-based economy and the digital era. After reviewing the findings of prior studies, there is still

a dilemma about how to connect with intellectual capital with sustainability-based performance, because sustainability is the ultimate demand of stakeholders in the current business world, which is quite equivocal, as well as in terms of measurement (Akhtar et al., 2015; Lasiyono, 2019). Therefore, the study proposes and endorses a framework to create possible connections between intellectual capital (human capital, structural capital, relational capital, and social capital) influencing sustainable organisational performance (social, environmental, and economic) from the vantage ground of TBL, synthesising the relevant research gaps from previous literature. From a theoretical perspective, ICBV theory provides as the underlying framework that illustrates intellectual capital as the critical source of competitive advantage for achieving organisational sustainability, whereas preceding studies have frequently attempted to apply RBV theory.

Practical Implications

In addition to theoretical remarks, this study proposes that owners and managers of RMG businesses should allocate resources towards knowledge assets, which play a crucial role in promoting the long-term viability of the business in the sustainable-based competitive market. RMG managers are still struggling to implement knowledge-related resources towards sustainable organisational performance. Furthermore, the findings can provide an advantage to the management accountants in RMG industries on how to develop an effective, sustainable performance measurement system aligning with the knowledge-based resources in the organisations. Additionally, the current study serves as a blueprint for practitioners and organisations from a holistic perspective. For instance, RMG managers can obtain a more sophisticated knowledge to align the components of intellectual capital while engaging with stakeholders, and afterwards determine how to evaluate them effectively, thereby enhancing the firm's sustainable performance. Second, this study highlights a practical technique to reduce the gaps between primary and secondary stakeholders to improve their relationship with the organisations because both stakeholders need to prioritise intellectual capital to imply and harmonise with the social and environmental factors with economic metrics. Third, the research findings hold substantial ramifications for policymakers and regulatory bodies in Bangladesh.

Limitations and Recommendations for Future Research

Despite extensive research on intellectual capital and its impact on sustainable organisational performance, there is still room to explore the contents and context. Future researchers can employ qualitative data collection techniques, such as conducting interviews with experts, to gain a comprehensive picture of the research topic at hand. This study employed a cross-sectional design, wherein exposure and result were evaluated at one specific time; thus, causal connections cannot be determined.

This methodology corresponds with the study's aim of investigating relationships among variables. Notwithstanding this restriction, the findings yield significant insights into these associations and establish a basis for future longitudinal or experimental research to further explore causal pathways. Hence, the ongoing development of sustainability practices and resources indicates a necessity for longitudinal research to evaluate their influence on sustainability performance levels. Besides, the researcher may develop questionnaire items with a mixture of open-ended questions and rating-scale questions. To conclude, as an itinerary, this study can be considered as a contribution to knowledge-intensive organisations to enhance their understanding of the application of intellectual capital in transitioning the industry from labour-intensive to knowledge-driven and ultimately achieving sustainability amidst competition in the current business landscape.

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APPENDIX: SURVEY INSTRUMENT

Measurement items

Section 1. Intellectual Capital (IC)

The following items explore aspects of economic performance over the last five years. Please tick (□) a number from 1 to 7 to indicate your response. 1- Strongly disagree 2- Moderately disagree; 3-Disagree; 4- Neutral; 5- Lightly agree; 6- Agree; 7- Strongly Agree)

Variable	Item
Human Capital	Our organisation has a highly competent and creative management team
	Our organisation encourages the sharing of ideas, knowledge and practices
	Our organisation recognises the importance of knowledge as a strategic asset
	Our organisation encourages and supports research and development activities
	Our organisation has an innovative and professional workforce
Structural Capital	Our organisation provides the infrastructure for employees to access relevant information
	Our organisational system and procedures support innovation
	Our organisation's policies, procedures, databases and networks
	Our organisation keeps track of and makes full use of our intellectual assets such as patents and copyrights
	This company has an easily accessible information system
Relational Capital	Our customers are highly loyal to our firm
	Our organisation is recognised by external agents (customers, suppliers, competitors, and the general public)
	Our organisation is collaborative with international organisations can enhance our performance
	Our organisation has enough distribution channels for the satisfaction of our customers
	The enterprise effectively cooperates with experts or consultancies
Social Capital	Our employees are skilled at collaborating with each other to diagnose and solve problems
	Our employees have good relationships and communication with each other in performing their duties
	Our employees co-operate with each other to accomplish team tasks
	Our employees exchange experiences with people from different departments of the organisation
	Our employees like to share information and learn from each other

Section 2. Sustainable Performance Measurement Systems (SPMS)

The following items explore aspects of economic performance over the last five years. Please tick (□) a number from 1 to 7 to indicate your response. 1- Not at all; 2-To a very small extent ; 3-To a small extent; 4-To a moderate extent 5-To a fairly great extent ; 6-To a great extent ; 7- To a very great extent)

Variables	Items
Financial Perspective	Our company's focusing on increasing revenue growth
	Our company's return on assets has been enhancing
	Our organisation is focusing on reducing cost per revenue unit
Customer Perspective	Our company is highlighting market share
	Our company has achieved a customer loyalty level
	Our company is considering customer complaints in an appropriate manner
Internal Business Process	Our company believes in delivering products and services to customers on time
	Our company is trying to maintain a sustainable relationship with local and international markets
	Our company is focusing on producing competitive products and services
Learning and Growth	Our company is trying to produce different categories of products
	Our company is the technological leader in the market
	Our company has the ability to compete globally
Social and Environmental Measures	Our company has a diversity of employees
	Our company is concerned about stakeholders participation in social and environmental affairs
	Our company is attempting to protect for natural resource and reducing emission levels

Section 3. Sustainable Organisational Performance

The following items explore aspects of economic performance over the last five years. Please tick (□) a number from 1 to 7 to indicate your response. 1- Not at all; 2-To a very small extent ; 3-To a small extent; 4-To a moderate extent 5-To a fairly great extent ; 6-To a great extent ; 7- To a very great extent)
In your assessment, how has your company performed in the last five years concerning:

Variable	Item
Economic Performance	Sales growth
	Operating income
	Return on investment (ROI)
	Return on equity (ROE)
	Increase in customer base
Social Performance	Prioritised employee health and safety
	Concerned about protecting the rights of original people or local community
	Considering the interests of our stakeholders
	Interested funding in a local community based on needs
	Communicated the firm's environmental impacts and risks to the public
Environmental Performance	Our company is conscious about decreasing energy consumption
	Our company is conscious of decreasing waste & emissions from industrial activities
	Our company is concerned with purchasing of non-renewable materials, chemicals and components
	This company is conscious of reducing the risk of environmental accidents, spills, and releases.
	This company is concerned with reducing environmental impacts by establishing partnerships

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De-Westernising China's Global Image: A Discourse Analysis of Muslim Intellectual Elite Narratives on the Belt and Road Initiative

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ABSTRACT

This study examines how China's global image is constructed in Muslim intellectual elite discourse, with reference to the Belt and Road Initiative (BRI). Addressing the Western-centric bias in existing research, the study adopts a qualitative discourse-analytical approach, integrating thematic analysis, framing analysis, and elements of critical discourse analysis. Drawing on a corpus of elite-authored texts (2015-2020), the findings identify five key thematic frames: economic prosperity, geostrategic interdependence, Sino-U.S. policy comparison, political stability, and regional security concerns, organised through two dominant discursive logics: economic pragmatism and moderated geopolitical framing. The analysis shows that China is primarily constructed as a development-oriented partner, with economic utility serving as the principal evaluative lens, while geopolitical concerns remain secondary and contextually negotiated. The study contributes to the literature by clarifying the distinction between perception, image, and discourse, advancing de-Westernised perspectives in global communication research within a discourse-analytical framework and a constructivist understanding of national image formation. Although limited to English-language elite texts, the findings provide important insights into context-specific constructions of China's image in the Muslim world.

Keywords: Belt and Road Initiative, China image, economic diplomacy, elite discourse, framing, soft power

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INTRODUCTION

China's growing global influence, particularly through the Belt and Road Initiative (BRI), has intensified scholarly interest in its international image and soft power.

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However, existing research remains largely Western-centric, relying predominantly on survey-based studies and elite discourse from Europe and North America. These studies often frame China's rise in terms of geopolitical competition and strategic concern, offering a partial understanding of its global image.

In contrast, the Muslim world represents a strategically significant yet underexplored context. Many Muslim-majority countries are key participants in the BRI, yet their perspectives remain insufficiently examined in the literature. Furthermore, existing studies frequently conflate the concepts of perception, image, and discourse, leading to conceptual ambiguity and overgeneralisation.

This study addresses these gaps by examining Muslim intellectual elite discourse as a site of image construction. It shifts the focus from measuring perception to analysing discourse as an observable and structured form of meaning-making. The study is guided by three research questions: (RQ1) how China's image is constructed in Muslim elite discourse; (RQ2) what dominant discursive frames shape this construction; and (RQ3) how these frames differ from prevailing Western narratives.

This study examines how China's image is discursively constructed within Muslim elite texts by identifying dominant frames and interpretive logics, rather than measuring public perception. It argues that China's image is not uniformly constructed but emerges through context-specific and negotiated discursive logics, primarily economic pragmatism alongside moderated geopolitical awareness.

LITERATURE REVIEW

From Perception to Discursive Construction of China's Global Image

Scholarship on country image has traditionally been dominated by perception-based approaches, which conceptualise national image as an aggregate of public attitudes measurable through survey instruments (Anholt, 2008). Foundational work by Joseph Nye situates national image within the broader framework of soft power, emphasising the role of culture, political values, and foreign policy in shaping how countries are viewed internationally (Nye, 2004). Empirically, large-scale surveys conducted by the Pew Research Centre and the Global Attitudes and Trends (GAT) project have played a central role in measuring China's global image, particularly across Western and developed contexts.

These studies reveal important trends, including a gradual decline in favourable perceptions of China across advanced democracies (Xie & Jin, 2022). Similarly, policy-oriented analyses by the Mercator Institute for China Studies highlight structural challenges affecting China's global reputation, including concerns related to governance, transparency, and media freedom (Drinhausen, 2023). While such contributions are empirically valuable, they suffer from two fundamental limitations. First, they are geographically skewed, privileging Western perspectives and thereby marginalising non-Western viewpoints.

Second, they rely heavily on attitudinal measurement, reducing country image to aggregated perceptions and overlooking the processes through which meanings are constructed.

As Kaneva (2011) argues, such approaches risk methodological individualism by neglecting the role of discourse, power, and institutional contexts in shaping national images. Consequently, existing research remains both epistemologically and geographically limited, leaving significant gaps in understanding how China's image is constructed in non-Western settings, particularly within Muslim-majority societies.

To address these limitations, recent scholarship has increasingly adopted discursive and constructivist approaches, emphasising that country image is not merely perceived but actively produced and negotiated through communication processes (Wodak & Meyer, 2016). Drawing on critical discourse analysis (CDA), particularly the work of Norman Fairclough, discourse is conceptualised as both reflective and constitutive of social reality (Fairclough, 1995). From this perspective, media narratives, policy texts, and elite commentaries function as key sites where meanings about nations are constructed, shaped by power relations, ideological positioning, and institutional contexts. Accordingly, this study shifts the analytical focus from measuring "perception" to examining discursive constructions of China's image, thereby responding directly to a critical gap in the literature. Building on this discursive turn, it becomes essential to situate China's image within the broader material and strategic context of its global engagement, particularly its economic diplomacy and the Belt and Road Initiative (BRI).

China's Economic Diplomacy and the Belt and Road Initiative (BRI)

China's transformation into a global economic power has been widely interpreted through the lens of economic diplomacy and soft power projection. Early analyses by Kurlantzick (2007) characterise China's rise as driven by non-coercive engagement, development-oriented cooperation, and pragmatic diplomacy, while Wenzhao (2016) highlights the "peaceful rise" doctrine as a guiding principle emphasising collaboration rather than confrontation. Together, these perspectives frame China as an actor seeking to expand its global influence primarily through economic integration and infrastructural development.

The Belt and Road Initiative (BRI) represents the most prominent manifestation of this strategy. As documented by Li (2017), the initiative was articulated through key speeches delivered by President Xi Jinping in Kazakhstan and Indonesia, proposing the development of both the Silk Road Economic Belt and the 21st Century Maritime Silk Road. The geographical context of these announcements, particularly their linkage to regions with significant Muslim populations, highlights the strategic importance of the Muslim world within China's global vision.

From a developmental perspective, the BRI has been framed as a platform for infrastructure development, trade connectivity, and regional integration (Huang, 2016). However, the meaning and implications of the BRI are not fixed; rather, they are shaped by divergent interpretations across geopolitical and intellectual contexts. This variability necessitates a closer examination of how such narratives are constructed and negotiated within specific discursive environments.

Competing Global Narratives: Cooperation and Geopolitical Contestation

The literature on the BRI reveals a contested discursive field, characterised by competing narratives reflecting broader geopolitical and ideological divides. On the one hand, Chinese and many Global South perspectives emphasise the developmental and cooperative dimensions of the initiative. Within this framework, the BRI is presented as a mechanism for fostering economic integration, enhancing connectivity, and promoting mutual benefit. It is often linked to China's broader vision of building a "community of shared future for mankind" (Zhang, 2018), which frames development as a collective and inclusive process (Ministry of Commerce of the People's Republic of China, 2017).

On the other hand, a substantial body of Western scholarship interprets the BRI through a geopolitical and security-oriented lens. Scholars such as Mosher (2017) and Godement (2015) argue that China's expanding economic engagement reflects broader strategic ambitions to reshape global power structures. Others often situate the BRI within geopolitical competition, raising concerns about strategic influence, debt dependency, and expansionism (Jones & Zeng, 2019; Rolland, 2017). Policy analyses further reinforce this perspective, with Europe increasingly characterising China as a systemic rival (Valášek, 2019), while U.S.-based analysts interpret the BRI as a tool of geopolitical influence and strategic competition (Haenle, 2019; Spalding, 2019). These interpretations are often informed by political economy and postcolonial critiques, which frame the BRI as a potential form of neo-colonial expansion.

A growing body of work examines how China's image is constructed through media and elite discourse (Shi, 2015; Zhang, 2017). These studies emphasise that China's image is context-dependent, varying across regions and actors. Importantly, the apparent dichotomy between "Chinese optimism" and "Western scepticism" is often overstated. The literature is internally diverse, and interpretations vary significantly across contexts.

Importantly, these perspectives should not be treated as mutually exclusive or universally accepted. Rather, they represent competing discursive frameworks that shape how China's role is interpreted across different contexts. This divergence underscores the need to move beyond binary representations and instead examine how such narratives are rearticulated within non-Western

discursive spaces, particularly within Muslim intellectual discourse, thereby addressing the question of epistemic imbalance and the need for de-Westernising perspectives in global communication research.

De-Westernisation and Epistemic Rebalancing

The dominance of Western perspectives in global communication research has generated increasing calls for de-Westernisation, an approach rooted in postcolonial theory, particularly the work of Edward Said (Said, 1978). De-Westernisation seeks to broaden the epistemological and geographical scope of scholarship by incorporating perspectives from the Global South and challenging the assumed universality of Western frameworks (Curran & Park, 2000).

In the context of China's global image, this perspective is particularly relevant, as Western geopolitical concerns and media systems often shape dominant narratives. Examining discourse within Muslim-majority contexts, therefore, provides an opportunity to uncover alternative interpretive frameworks, which may prioritise development, sovereignty, and regional cooperation over security-centric narratives. Crucially, de-Westernisation does not imply normative alignment with China's policies; rather, it facilitates a more pluralistic and context-sensitive understanding of global communication processes. To operationalise this perspective, it is necessary to focus on actors who actively produce and circulate such discourses; namely, intellectual elites.

Elite Discourse as a Site of Image Construction

A growing body of scholarship conceptualises elite discourse as a critical site for understanding the construction of national image. As Wang (2011) argues, elite narratives provide insight into how nations are interpreted within policy, academic, and media spheres. Similarly, Fan (2008) highlights the role of elites as discursive gatekeepers who shape both media representation and public understanding.

Building on framing theory, particularly the work of Robert Entman, elite discourse operates through processes of selection, emphasis, and interpretation, structuring how issues are understood and evaluated (Entman, 1993). Furthermore, as noted by Rusciano et al. (1997) and Entman (2008), elite discourse is not merely reflective but constitutive, actively shaping communication environments and influencing broader public narratives.

In this context, analysing elite discourse enables a deeper understanding of how China's image is constructed within influential intellectual circles. It also allows the study to move beyond the limitations of survey-based approaches, which are predominantly Western-centric and insufficient for capturing the complex, context-dependent processes of meaning-making.

Research Gap, Questions, and Contribution

Despite extensive scholarship, significant gaps persist. Existing research remains

heavily skewed toward Western perspectives, relies predominantly on survey-based methodologies, and often conflates key concepts such as perception, image, and discourse. Moreover, Muslim-majority contexts remain underexplored, and there is limited integration of discourse analysis, framing theory, and soft power perspectives.

Addressing these gaps requires a focused empirical investigation guided by the following research questions:

RQ1 : How is China's global image constructed in Muslim elite discourse?

RQ2 : What dominant frames (economic pragmatism vs. securitised framing) structure this discourse?

RQ3 : How do these frames differ from dominant Western narratives?

By shifting the analytical focus from perception to discourse, this study offers a novel and theoretically grounded approach to understanding China's global image. It contributes to the literature by examining Muslim intellectual elite discourse, an underexplored domain, and by integrating critical discourse analysis, framing theory, and soft power perspectives within a de-Westernised framework. In doing so, it advances a more nuanced and context-sensitive understanding of global communication and international image construction.

METHODOLOGY

To examine how China's global image is discursively constructed within Muslim elite texts, this study adopts a qualitative, interpretive research design grounded in critical discourse analysis (CDA) and framing analysis. Rather than measuring public opinion through survey-based methods, the study conceptualises texts as sites of discursive production, where meanings, narratives, and ideological positions are constructed and circulated.

In pursuit of this, the authors collected and analysed data using a rigourous research design, as shown in Figure 1, which is elaborated under the following headings.

Research Design

The analytical approach is informed by CDA, particularly the work of Norman Fairclough, which treats discourse as both reflective and constitutive of social reality.

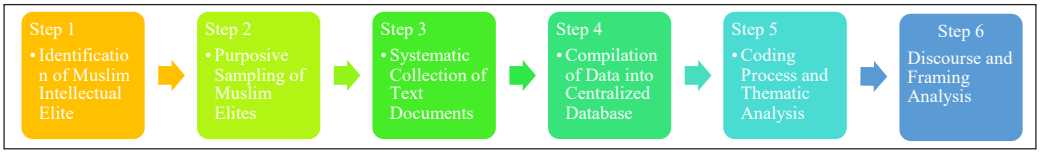

Figure 1. Overview of research design

This is complemented by framing theory as developed by Robert Entman, enabling the identification of interpretive structures through which China is evaluated and positioned.

While the study is fully qualitative, it incorporates systematic coding procedures supported by NVivo (Version 14) to enhance transparency and auditability. These computational tools assist in data organisation and pattern detection but do not substitute interpretive analysis. Accordingly, the study is best characterised as a qualitative discourse-analytical design with systematic analytical support.

Conceptual Scope and Analytical Focus

A key methodological clarification lies in distinguishing between three related but analytically distinct concepts:

Perception: refers to internal cognitive or attitudinal states (not directly observable here)

Image: denotes the broader symbolic representation of a country across narratives

Discourse: The textual and communicative construction of meaning by identifiable actors

The study focuses explicitly on elite discourse, not public perception. Accordingly, it analyses how China is represented, framed, and positioned in elite texts rather than claiming to measure societal attitudes.

Data Collection and Sampling Strategy

Data collection followed a two-stage process combining iterative web-based discovery and purposive sampling.

An initial corpus was generated through a structured web-crawling procedure inspired by random-walk logic (Becchetti et al., 2006), allowing for the identification of interconnected elite-authored texts across institutional platforms. This process yielded an initial pool of 50 texts authored by 22 identifiable intellectual elites. Subsequently, purposive sampling was applied to construct a theoretically relevant dataset. The final analytic corpus consists of 27 texts, selected based on clearly defined inclusion and exclusion criteria.

Inclusion Criteria

a) texts authored by identifiable "intellectual elites" (academics, think-tank researchers, senior journalists/columnists, policy analysts, or named government officials); b) explicitly discusses China and/or the BRI in the context of the author's country or region (i.e., the content addresses China's image, BRI projects, or China-related policy implications); c) published between the set timeframe; d) accessible in English or in an official English translation; and e) available in a stable public source (not behind a paywall or broken link).

Exclusion Criteria

a) duplicate or near-duplicate content (same text republished across outlets without substantive difference); b) non-elite

authorship (individuals lacking institutional affiliation or identifiable expertise); c) off-topic pieces not addressing China/BRI discourses (e.g., pure trade statistics, unrelated local news); d) paywalled or inaccessible content at the time of collection; e) short items (<200 words) that did not contain substantive opinion/analysis; and f) unattributed opinion pieces or anonymous blog posts. The mentioned criteria are broken down in the audit trail (Figure 2), illustrating the multi-stage screening process used to identify the final analytic corpus from the initial document pool.

Ensuring Stability of Elite Perspectives

To ensure that the analysis captured stable elite perspectives, we selected texts from analytical genres: policy briefs, commentaries, and strategic essays; and confirmed that each author's argumentation aligned with their broader publication record. NVivo checks showed consistent orientations among repeat authors, indicating that the included materials reflected sustained positions rather than episodic or reactive views.

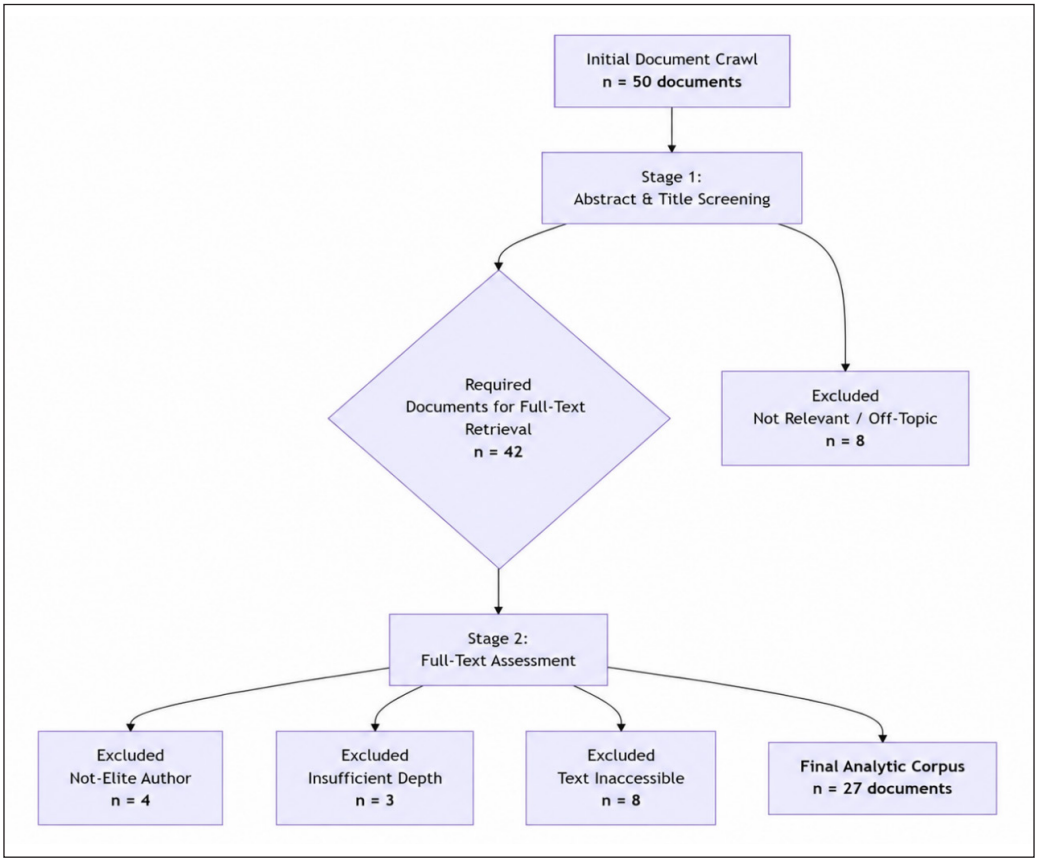

Figure 2. Data selection and filtering process

Crawl Configuration and Pilot Validation: Link Verification and Textual Integrity Procedures

Web-crawling parameters were set after pilot testing alternative configurations. Shallower settings produced overly narrow, seed-constrained outputs, while deeper or unlimited crawls yielded large volumes of irrelevant or outdated material. The final settings (crawl depth four; up to five outbound links) offered the best balance, generating a diverse but thematically coherent corpus. Link integrity was maintained by verifying URL stability, consulting cached archives for dead links, and excluding any item that was retracted, substantially revised, or unrecoverable.

Seed Site Selection and Representativeness: Screening for Authorship Authenticity and Coordinated Messaging

Seed pages, drawn from major national newspapers, regional think tanks, university policy centres, and BRI-focused portals across the Middle East, South Asia, Central Asia, and Southeast Asia (details in Appendix A), were chosen to capture diverse political regimes and media systems while ensuring consistent publication of elite, institutionally grounded commentary. Authorial elite status was confirmed through authenticated institutional affiliations using official profiles, academic databases, and cross-verified professional listings; those lacking verifiable ties were excluded. Risks of coordinated or ghost-written material were mitigated through authorship verification, stylistic variation checks, and cross-system comparisons, none of which revealed evidence of templated or synchronised framing.

Language Scope and Translation Quality

Because the study relied on publicly accessible English-language texts, including English originals and verified official translations, the sample reflects intentionally oriented elites. Vernacular-only commentary in Arabic, Farsi, Bahasa Indonesia/Melayu, Urdu, and Central Asian languages, which may contain more locally grounded or critical views, could not be included. Translation quality was ensured through terminological consistency checks and cross-sentence coherence; any text with unverifiable translation accuracy was excluded.

Unit of Analysis and Sensitivity Testing

The paragraph was selected as the unit of analysis, as it represents a coherent unit of meaning within discourse, allowing for the identification of framing devices, evaluative language, and narrative positioning. Sensitivity testing confirmed that sentence-level coding fragmented meaning, while larger units obscured discursive nuance.

Coding Reliability and Validation: Reproducibility and Data Transparency

To assess analytical reliability, 10% of the corpus was manually re-coded independently of NVivo. Agreement reached 93%, with minor discrepancies confined to subtheme boundaries, confirming the stability of the

thematic structure. For transparency and replicability, the seed list, crawl settings, inclusion and exclusion criteria, full corpus URLs, and complete codebook and coder matrices are provided as supplementary materials and through an OSF repository.

Ethical Considerations

All material analysed consisted of publicly available texts authored by identifiable public intellectuals writing in open-access environments, and no human subjects are directly involved. Under scholarly fair-use norms, additional consent was not required; nevertheless, all NVivo-coded identifiers were anonymised, and only institutionally attributed authors were included to avoid unintended use of private individuals' content. Further ethical practices included accurate representation of authors' arguments and avoidance of selective quotation.

Data Analysis Method

The analysis integrates thematic analysis, discourse analysis, and framing analysis. The thematic analysis introduced by Braun and Clarke (2006), assisted with NVivo, was used to identify patterns and final themes out of the data corpus. Accordingly, the authors employed a structured coding scheme, from raw data to theme generation, involving the following steps:

Coding Procedure and Inter-coder Reliability

Familiarisation. Immersed in the data by reading transcripts repeatedly to understand content and context.

Initial Coding. Generated preliminary codes using NVivo 14 by labelling relevant data segments without predefined categories.

Code Refinement. Reviewed and merged overlapping codes; refined definitions and boundaries for clarity.

Pilot Coding and ICR. To ensure coding consistency, a second independent coder analysed 20% of the corpus using the NVivo 14 software. Cohen's Kappa coefficient was calculated to assess agreement between coders. The analysis yielded a Cohen's Kappa of 0.82, indicating strong agreement (Landis & Koch, 1977). Additionally, we report raw Kappa (0.82), PABAK (0.89), 95% CI, and include a coder-by-code contingency matrix in Appendix B. Discrepancies were discussed and resolved through consensus; unresolved items were adjudicated by the senior author, resulting in the refinement of the codebook and improved coding consistency for the remaining data.

Codebook Development. Developed a detailed codebook documenting each code's name, definition, and example quotes. The codebook documents how lower-level codes were aggregated into the five higher-level themes (see Appendix C). The codebook evolution is demonstrated in the detailed code-merging and code-dropping table in Appendix D.

Full Coding. Applied the finalised codebook to the entire dataset using NVivo 14, ensuring consistency across transcripts.

Theme Generation. Grouped related codes into broader themes representing patterns in the data, iteratively refining through team discussions.

Discourse and Framing Analysis. Beyond thematic identification, the study examined:

Dominant Frames - economic pragmatism and geopolitical/securitised framing

Narrative Structures - how China is positioned in global systems

Discursive Logics - developmental cooperation vs strategic competition

This approach enables interpretive depth, moving beyond frequency counts toward meaning construction and ideological positioning (see evidence trail Figure 3).

Use of QSR NVivo (Version 14)

To add rigour and more accuracy to the handling of data, the coders used QSR NVivo (version 14) to organise the coding process and generate visualisations such as word clouds and thematic charts. Using NVivo's Word Frequency Query function, the analysis systematically identified recurrent terms across the dataset and produced a word cloud visualisation (Figure 4), |highlighting prominent keywords such as BRI, China image, economic development, and Muslim world.

Internal Consistency and Codebook Stability: Preventing Frequency Artefacts

The thematic structure demonstrated strong internal coherence. Iterative refinement of the codebook, merging overlapping categories and removing low-frequency items, ensured conceptual clarity.

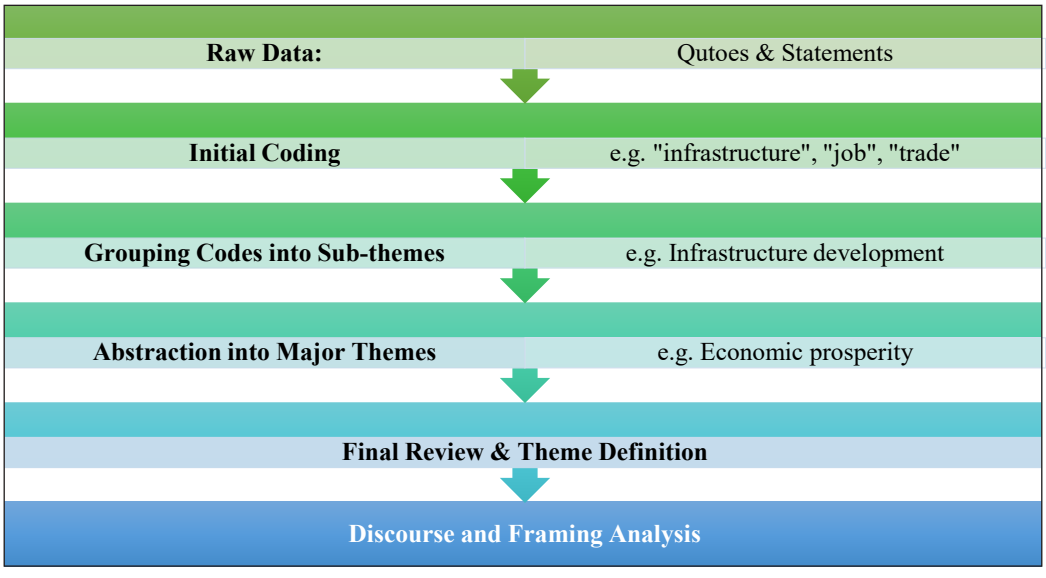

Figure 3. Evidence trail from raw data to theme generation to interpretive analysis

Figure 4. Word Cloud showing high-frequency words out of the data corpus

Contextual, rather than lexical, coding prevented distortion from highly frequent country names or policy terms. Manual validation of NVivo suggestions confirmed that themes emerged from interpretive meaning rather than mechanical word counts.

Methodological Limitations

The study acknowledges elite bias (not representative of the general population), language bias (English-only dataset), selection bias (publicly accessible texts), and a small sample size (which limits generalisability). Accordingly, findings are interpreted as discursive tendencies rather than universal claims.

In summary, this study is best understood as a qualitative, discourse-analytical investigation of elite narratives, supported by systematic coding and computational tools. Its contribution lies in identifying discursive patterns, framing logics, and narrative structures that shape representations of China within a specific intellectual context, rather than measuring public opinion.

RESULTS

Discursive Construction of China's Image: From Themes to Discursive Logics

The analysis of the corpus comprising twenty-seven texts authored by Muslim intellectual elites reveals a structured yet internally differentiated representation of China's global image. At the surface level, five recurring thematic frames emerge: economic prosperity, interdependence with Muslim geography, Sino-U.S. policy comparison, political stability, and the South China Sea (SCS) as a potential constraint. However, treating these frames as discrete categories risks reducing the findings to descriptive enumeration. A deeper interpretive reading demonstrates

that these themes are organised through two overarching discursive logics: economic pragmatism and geopolitical/securitised framing, which together structure how China is understood, evaluated, and positioned within Muslim elite discourse.

These discursive logics are not mutually exclusive; rather, they coexist in a dynamic relationship, shaping a hybrid narrative in which economic opportunity is foregrounded while geopolitical awareness remains present but moderated. This layered structure indicates that elite discourse does not simply reflect opinion but actively constructs meaning through context-dependent interpretive frameworks.

Economic Pragmatism as the Dominant Interpretive Frame

Across the dataset, the most salient and structurally dominant logic is that of economic pragmatism. While the framing of economic prosperity accounts for approximately 40% of all coded references, its analytical significance extends beyond its numerical prominence. It functions as the primary lens through which other dimensions of China's engagement are interpreted, effectively anchoring the broader discursive construction of China's image.

Within this framework, China is consistently represented as a development-oriented partner whose value lies in its capacity to deliver tangible economic outcomes. The Belt and Road Initiative (BRI) is framed as a transformative mechanism for infrastructure development, trade expansion, and regional connectivity. For instance, Mahmood (2016) characterises the China-Pakistan Economic Corridor (CPEC) as an opportunity to promote an "economics of peace," linking economic integration with broader regional stability. Similarly, Rahman (2016) describes the BRI as a "window of opportunity" for Bangladesh, while policy discourse in Iraq emphasises its potential to address post-conflict reconstruction needs (Al-Bayan Centre, 2018). These representations collectively construct China not merely as an investor, but as a systemic enabler of long-term development trajectories.

This pragmatic framing extends to the micro-level, where employment generation and local economic benefits are emphasised as key indicators of China's positive role. Afghan and Central Asian perspectives highlight the potential for job creation and human development, with Khalil (2016) underscoring the transformative possibilities of the "Great Silk Road." Similarly, Garibov (2018) points to the promise of large-scale investments in Central Asia, while Al-Awar (2017) frames economic cooperation with China as a safeguard against future financial instability. Such narratives reveal a utilitarian mode of evaluation in which China's legitimacy is derived from its constructed capacity to produce measurable socio-economic benefits.

The discourse on trade facilitation and regional integration further reinforces this logic. Scholars from Saudi Arabia, Turkey, and Southeast Asia interpret the BRI as a strategic opportunity to reposition their economies within global trade networks.

For example, Tago (2016) links the BRI to Saudi Arabia's Vision 2030, emphasising its role in economic diversification, while Sensoy (2016) highlights Turkey's geostrategic position as a gateway between Europe and Asia. These perspectives illustrate that economic pragmatism is not merely reactive but actively appropriated by local actors as a means of advancing national development agendas.

Interpretive Implications

This economic framing reflects a developmentalist epistemology characteristic of Global South discourse, where material benefits outweigh ideological concerns and foreign policy is evaluated through instrumental rationality. Such representations align with scholarship on soft power as context-dependent attraction (Nye, 2004) and strategic economic communication (Anholt, 2008).

Interdependence and Spatial Reconfiguration Framework

Closely linked to economic pragmatism is the theme of interdependence, which accounts for approximately 22% of the discourse. This framing situates economic cooperation within a broader spatial and geopolitical context, emphasising the mutual dependence between China and Muslim-majority regions.

Elite narratives consistently frame Muslim geography as integral to the success of the BRI, highlighting the strategic importance of countries such as Iran, Turkey, Egypt, and Kazakhstan. For instance, Ahmadian (2016) portrays Iran as a critical transcontinental bridge, while Al-Naggar (2016) emphasises the centrality of the Suez Canal in facilitating Chinese trade. Similarly, Kukeyeva et al. (2019) underscore Kazakhstan's role as a geo-economic hub at the intersection of major trade routes. These representations reconfigure Muslim-majority regions from peripheral actors into central nodes within global connectivity networks.

This discourse also reflects a broader shift from dependency narratives toward mutual embeddedness. Rather than portraying engagement with China as asymmetrical, elites emphasise reciprocal benefits, wherein China relies on geographic access while partner states leverage their strategic positioning. Kurbanov (2018) captures this transformation by suggesting that the BRI has the potential to convert Central Asia from a landlocked region into a continental bridge for global trade. Likewise, Hamaizia (2020) frames Algeria's participation in the BRI as a means of advancing economic diversification through geostrategic positioning. In this way, interdependence is not merely descriptive but constitutes a discursive strategy for asserting agency within global economic restructuring.

Interdependence as Reciprocal Framing and Distribution of Agency

This theme reinforces a reciprocal narrative, where China requires geographic access and Muslim regions leverage strategic positioning for development.

Such framing challenges dependency narratives and aligns with theories of agency in Global South international relations (Rusciano et al., 1997). A key discursive feature is the active positioning of Muslim-majority countries as not passive recipients but as strategic actors negotiating engagement.

Sino–U.S. Comparison and Discursive Differentiation

The comparison between China and the United States, which appears in approximately 19% of the dataset, introduces a critical evaluative dimension to the discourse. Through this comparative framing, China's image is constructed relationally rather than in isolation.

Muslim intellectual elites frequently position China as a non-interventionist alternative to Western powers, emphasising its commitment to sovereignty and economic cooperation. Al-Naggar (2016), for instance, contrasts China's "peaceful cooperation" with what is articulated as Western hegemonic intervention. This framing reinforces the broader logic of economic pragmatism by aligning China with development-oriented engagement rather than ideological imposition. However, the comparative discourse does not amount to uncritical endorsement. Instead, it reflects a nuanced and context-dependent evaluation in which Western critiques are acknowledged but not fully internalised. Variations in tone are influenced by elite training backgrounds: Western-educated scholars tend to adopt more balanced positions, whereas regionally grounded or China-linked elites emphasise developmental benefits and non-interference. Despite these differences, the presence of Sino-U.S. comparison across all groups indicates that it functions as a shared discursive reference point for interpreting China's global role.

Hybrid Securitisation

Unlike dominant Western narratives that frame China as a strategic threat, securitisation in this dataset is attenuated and conditional. Elite texts acknowledge geopolitical risks, situate them within broader economic benefits, and avoid framing China as an existential threat. This results in a hybrid discourse, where pragmatism moderates securitisation and opportunity coexists with caution.

Political Stability as an Extension of Developmental Logic

Although less frequently mentioned, the discourse of political stability plays a significant interpretive role within the dataset. Representing approximately 11% of coded references, it is closely intertwined with economic narratives, reinforcing the idea that development and stability are mutually constitutive.

China is often constructed as a neutral and pragmatic actor capable of mediating conflicts without direct intervention. Milani (2016) highlights China's potential to act as a mediator in the Middle East, attributing this role to its non-interventionist foreign policy. This narrative contrasts with representations of Western powers as interventionist and politically intrusive.

At the same time, economic interdependence is framed as a mechanism for conflict mitigation. Zaidi (2017) suggests that projects such as CPEC could foster cooperation and reduce tensions in South Asia by creating shared economic interests. Similarly, Afghan perspectives emphasise the role of regional connectivity in promoting long-term stability (Rabbani, 2016). These narratives illustrate how political stability is discursively constructed as an extension of economic pragmatism, rather than as an independent domain.

Geopolitical Concerns and the Managed Securitisation of China

The South China Sea (SCS) theme, though representing only 7% of references, provides important insight into the presence of geopolitical and securitised framing within the discourse. Unlike economic narratives, which are broadly positive, this discourse introduces elements of caution and strategic concern.

Scholars from Southeast Asia, particularly Indonesia and Malaysia, highlight the risks posed by unresolved territorial disputes to regional stability and trade. Sukam (2016) emphasises that the success of the BRI depends on resolving such tensions, while Wanandi (2018) underscores the potential role of ASEAN in mediating disputes. However, these concerns do not translate into full securitisation. Instead, they are contextualised within broader economic considerations, resulting in a moderated or "managed" form of geopolitical awareness.

Geographical variation plays a significant role in shaping these perspectives. Coastal states exhibit stronger concerns due to their proximity to contested areas, whereas inland regions display minimal engagement with the issue. This pattern suggests that securitised narratives are conditioned by spatial proximity and strategic exposure rather than being uniformly distributed across the Muslim world.

Narrative Construction and the Coexistence of Interpretive Frames

Across the dataset, China's image is constructed through a set of overlapping narratives that reflect both opportunity and constraint. On one level, China is portrayed as a development partner facilitating economic growth and connectivity. On the other hand, it is recognised as a strategic actor with long-term geopolitical ambitions. These narratives coexist in a productive tension, where economic opportunity often tempers strategic concern. This duality underscores the non-monolithic nature of elite discourse. Rather than aligning uniformly with either positive or negative evaluations, elites engage in a process of negotiation, balancing potential benefits against framed risks. The resulting image of China is therefore relational, contingent, and shaped by context-specific priorities.

Agency and Strategic Positioning

A notable feature of the discourse is the distribution of agency between China and Muslim-majority countries. While China is consistently represented as proactive and strategically capable, partner states are not depicted as passive recipients.

Instead, they are framed as active agents capable of negotiating, adapting, and strategically engaging with China's initiatives. This construction challenges conventional dependency narratives by emphasising the capacity of Global South actors to shape the terms of engagement. It reflects a broader shift toward recognising the agency of recipient countries within global economic processes.

Synthesis and Theoretical Implications

Taken together, the findings demonstrate that China's image within Muslim elite discourse is constructed through a complex interplay of economic pragmatism and moderated geopolitical awareness. Economic considerations provide the primary interpretive framework, while security concerns remain present but secondary. This results in a hybrid discourse characterised by strategic engagement, contextual evaluation, and negotiated meaning. Importantly, these findings reflect elite discursive tendencies rather than generalised public perception. They highlight the role of intellectual elites as key intermediaries in shaping how global power dynamics are interpreted and communicated within specific socio-political contexts.

Frequency Distribution of Muslim Discourses by Thematic Frames and Regions

The frequency analysis of the dataset (n = 27) by thematic frames and region helped deepen understanding of how the BRI was constructed across regions within the global Muslim community.

Distribution of Thematic Frames of the Discourses

The distribution of thematic frames of Muslim discourses provides insight into how local contexts influence perspectives toward China's image through the BRI.

Among the elite discourse constructs, the most frequently mentioned was the economic aspect of the BRI, with a total of 11 mentions (40%). This was followed by the BRI's interdependence with Muslim-majority regions, receiving 6 mentions (22%), and the Sino-U.S. policy comparisons with 5 mentions (19%). Comparatively, themes related to political stability and the SCS issue were less prominent, receiving 3 (11%) and 2 (7%) mentions, respectively, as illustrated in Figure 5.

The statistics suggest that most Muslim intellectuals are particularly interested in the economic opportunities offered by the BRI, given its potential to drive development in their strategically significant regions. The strong focus on the economic dimensions reflects a common desire among Muslim countries to capitalise on the economic benefits offered by China's infrastructure projects. Similarly, the notable emphasis on BRI's interdependence with Muslim geography and Sino-U.S. policy comparisons indicates the scholars' aspirations to leverage their geographic significance to achieve socio-economic progress and political stability, preferring soft to hard power.

Another considerable focus on political themes manifests the Muslim expectations associated with the BRI for the prospective political stability in their countries.

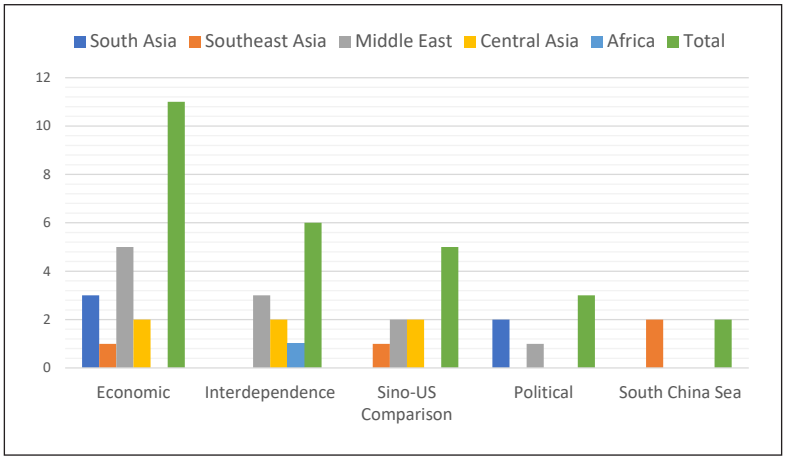

Figure 5. Frequency distribution of Muslims' discourses by themes

Relatively, the lower emphasis on the SCS issue shows the smaller number of Muslim states involved in the dispute. Although less frequently mentioned, the concern persists with certain scholars, given the regional security and global power dynamics.

Frequency Distribution of Muslim Discourses by Regions

Assessing the distribution of Muslim perspectives on the BRI by region, Figure 6 shows that the largest proportion of views comes from the Middle East, accounting for 41% of the total discourse. This reflects the region's high concentration of Muslim-majority states, many of which are eager to engage with the BRI for both economic development and political stability, particularly Iraq, Iran, and Egypt, which portrayed the initiative as a potential vehicle for economic prosperity and political stability.

South Asia and Central Asia account for the second and the third highest proportion of views, contributing 22% and 18% of the total, respectively, though the interests of scholars in these regions diverge somewhat. The scholars from Afghanistan, Bangladesh, and Pakistan tend to focus on the economic and geopolitical aspects of the BRI, emphasising the significance of its two crucial corridors: CPEC and CMIB, framed as a gateway to regional connectivity, peace, and prosperity. On the other hand, the intellectuals from Azerbaijan, Kazakhstan, and Uzbekistan exhibit a keen interest in comparing Sino-U.S. policies, with a noticeable inclination toward China's non-interventionist approach. This may be attributed to China's growing economic and political influence in Central Asia, particularly through its infrastructure investments and energy partnerships under the BRI.

In the case of Southeast Asia, it contributes 15% of the discourse. The scholars from Brunei and Malaysia are optimistic about China's initiatives, whereas the intellectuals from Indonesia have shown a particular concern about the water disputes.

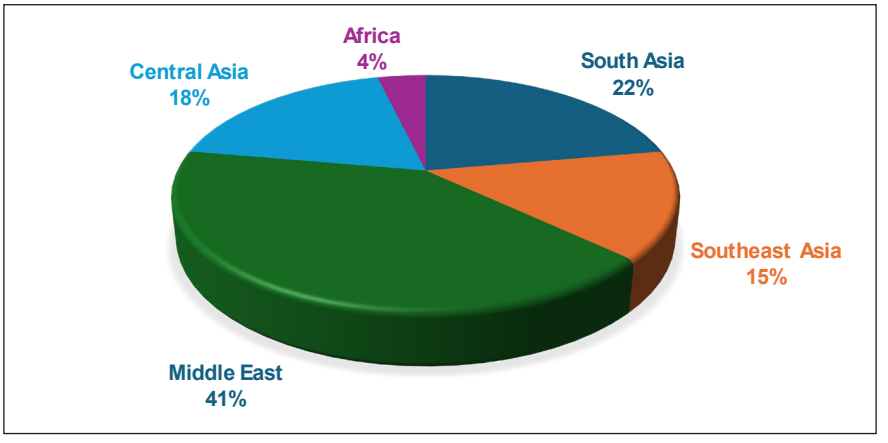

Figure 6. Frequency distribution of Muslims' discourses by region

The emphasis on the SCS by those scholars is likely driven by their proximity to the contested waters and the implications of the China-US rivalry in the region.

The smallest proportion comes from Africa, accounting for only 4%. The Algerian scholar viewed the BRI as a lever for infrastructure development and economic progress. The low statistics from Africa may be attributed to the limited reach of the BRI projects in the region.

The regional distribution of Muslim discourses reflects the varying degrees of engagement and concern with the BRI, shaped by the geopolitical and economic realities of each region.

Regional Variation and Contextual Differentiation

In the final analysis, the regional distribution of discourse reveals significant variation in emphasis and orientation. The Middle East accounts for the largest proportion of texts, with a strong focus on reconstruction and stability. South Asia emphasises connectivity and economic transformation, particularly through flagship projects such as CPEC. Central Asian discourse is more attuned to geopolitical balancing, while Southeast Asia exhibits heightened sensitivity to security concerns, particularly in relation to the South China Sea. African perspectives, though limited in number, highlight infrastructure development and economic diversification.

These variations reflect the influence of structural factors such as geographic location, economic dependency, and political context. They indicate that China's image is not uniformly constructed but is mediated by local conditions and strategic priorities.

Validation and Robustness of Thematic Frames

Alignment with Real-world Developments

The distribution of thematic frames corresponded closely with observable project dynamics. For example, CPEC optimism aligned with ongoing implementation; Iraq's reconstruction-

oriented expectations mirrored sustained Chinese investment; South China Sea anxieties matched stalled maritime projects in Southeast Asia; and Central Asian enthusiasm reflected expanding rail and connectivity corridors. These convergences suggest that elite discourse is grounded in material developments rather than abstract perceptions alone.

Outlet-type Variation and Author-dominance Checks

Comparisons across outlet types revealed predictable but non-disruptive variation: think-tank texts emphasised geopolitics and interdependence, newspapers foregrounded economic narratives, and government portals consistently highlighted political stability. A robustness test excluding the three most prolific authors showed all five themes persisted with only marginal proportional shifts, indicating that the thematic architecture was not driven by author concentration.

Distinguishing China-focused Views from Domestic Governance Critiques

Coding matrices showed a clear separation between evaluations of China and commentary on domestic political actors. Statements on local governance were coded only when directly tied to China's role, ensuring that the themes reflect narratives about China rather than internal political debates.

Government-affiliated Outlets and Thematic Balance

Government-linked outlets represented under 20% of the corpus. While these texts placed stronger emphasis on political stability and development, their limited volume prevented them from shaping or homogenising the overall thematic distribution.

Media-system Controls and Cross-regional Convergence

Comparisons across media systems, ranging from highly controlled Gulf and Central Asian environments to more open systems in Malaysia, Indonesia, and Turkey, revealed no evidence of tonal saturation or systematic distortion. Themes appeared consistently across all political contexts, suggesting that elite discourse reflects cross-regional convergence rather than state-driven uniformity.

Country-level Profiles and Structural Exposure

Country profiles (Pakistan, Egypt, Kazakhstan, Indonesia, Iran) showed that thematic emphases aligned with each state's structural exposure to the BRI: debt reliance, infrastructure dependency, and framed risk. National-level contexts thus shaped the tone and focus of elite evaluations.

Temporal Drift Analysis (2015–2020)

Moderate temporal variation was observable across the period. Economic optimism dominated 2015–2017, strategic interdependence intensified in 2018–2019, and the late 2019–2020 saw a modest rise in geopolitical concerns linked to trade tensions and South China Sea disputes.

These shifts indicate changing salience rather than structural transformation.

Summary of Findings

Overall, the results demonstrate that China is primarily constructed through economic pragmatism, whereas geopolitical concerns are present but moderated. Elite discourse produces hybrid, context-dependent narratives, and China is simultaneously viewed as a development partner and strategic actor. Crucially, these findings reflect discursive tendencies within a limited elite sample and should not be generalised beyond this analytical scope.

DISCUSSION

Reframing China's Image: From Themes to Discursive Negotiation

This study set out to examine how China's global image is constructed within Muslim elite discourse, particularly in relation to the Belt and Road Initiative (BRI). Moving beyond descriptive accounts, the findings demonstrate that China's image is not simply "positive" or "negative," but is discursively negotiated through two coexisting logics: economic pragmatism and moderated geopolitical awareness.

This duality advances existing scholarship on soft power by showing that image formation is neither uniform nor ideologically fixed, but instead contingent on context-specific interpretive frameworks. In contrast to dominant Western-centric analyses that foreground Securitisation and threat narratives, Muslim elite discourse reveals a hybrid evaluative structure, where economic opportunity consistently tempers geopolitical concern.

The Primacy of Economic Pragmatism

A central contribution of this study lies in identifying economic pragmatism as the dominant discursive logic structuring China's image. While prior studies often treat economic perceptions as one dimension among many, the present findings show that economic reasoning functions as the organising principle through which other dimensions are interpreted.

This is evident in the centrality of themes such as infrastructure development, trade connectivity, and employment generation, which collectively frame China as a functional development partner. Importantly, this framing is not merely frequent but structurally dominant; it anchors how geopolitical risks, political implications, and strategic concerns are evaluated.

From a theoretical perspective, this supports and extends soft power theory, suggesting that attraction is not derived solely from cultural or ideological appeal, but also from material and developmental utility. More broadly, the findings reflect a developmentalist epistemology characteristic of Global South contexts, where foreign policy evaluations prioritise tangible outcomes over normative alignment. This challenges universalist assumptions embedded in much of the existing literature on international perception.

Interdependence and the Reconfiguration of Agency

The prominence of interdependence narratives further complicates conventional understandings of China's global engagement. Rather than depicting Muslim-majority countries as passive recipients of Chinese influence, elite discourse consistently positions them as strategic actors leveraging their geo-economic and geopolitical significance.

Instead of reproducing dependency narratives commonly found in Western scholarship, Muslim elite discourse constructs a reciprocal and negotiated relationship, in which partner states are positioned as active agents. This reciprocal framing highlights a key shift in global communication dynamics that agency is distributed rather than centralised. Muslim regions are represented as indispensable to the success of the BRI due to their geographic positioning, natural resources, and connectivity potential. Such representations challenge dependency-based interpretations and instead suggest a model of negotiated interdependence. This finding contributes to broader debates in international communication and political economy by illustrating how peripheral regions actively reinterpret and appropriate global initiatives, rather than merely absorbing them, thereby suggesting that Global South actors are not passive recipients of external influence but strategic participants in shaping engagement. In this sense, China's image is co-constructed through interaction, rather than unilaterally projected or imposed.

Moderated Securitisation and Contextual Geopolitics

While geopolitical concerns are present, they are notably attenuated and context-dependent. Unlike dominant Western narratives that frame China as a systemic threat, Muslim elite discourse tends to adopt a selective and moderated Securitisation, acknowledging risks without allowing them to dominate the overall evaluative framework.

The Sino-U.S. comparison theme is particularly revealing in this regard. China's non-interventionist approach is frequently contrasted with Western interventionism, leading to a relative preference for China's model of engagement. However, this should not be interpreted as an uncritical endorsement. Rather, it reflects a process of contextual evaluation, where global power dynamics are interpreted through local priorities and historical experiences. The South China Sea (SCS) theme further illustrates this nuance. Security concerns are geographically concentrated and do not generalise across the dataset, reinforcing the argument that Securitisation is spatially contingent rather than universally dominant.

Relational Framing and the Role of Comparative Narratives

The presence of Sino–U.S. comparison highlights that China's image is often constructed relationally, rather than in isolation. Through the lens of framing theory

(Robert Entman), this comparative discourse functions as a mechanism of differentiation, positioning China as an alternative to Western modes of engagement. However, the findings indicate that such comparisons are context-dependent and non-binary. While China is frequently associated with non-interference and economic cooperation, Western actors are not uniformly rejected. Instead, elite discourse reflects a process of selective appropriation and contextual evaluation, reinforcing the hybrid nature of China's image.

Narrative Tension and Hybrid Image Construction

A key insight emerging from this study is the presence of productive narrative tension within elite discourse. China is simultaneously constructed as a development partner, enabling economic transformation as well as a strategic actor with long-term geopolitical ambitions. These narratives do not cancel each other out; instead, they coexist in a dynamic equilibrium, where economic pragmatism mitigates strategic concern. This hybridity underscores the importance of moving beyond binary frameworks in the study of international image construction.

From a critical discourse perspective, this reflects how meaning is produced through negotiation rather than consensus. From a framing perspective, it demonstrates that interpretive structures are layered, allowing multiple evaluations to coexist within the same discourse.

De-Westernising China Image Studies

Taken together, these findings contribute to ongoing efforts to de-Westernise global communication scholarship. By examining Muslim elite discourse, the study foregrounds perspectives that are often marginalised in dominant academic narratives, which remain heavily Western-centric. Importantly, de-Westernisation here does not imply normative alignment with China, but rather an epistemological shift toward pluralising perspectives. The study demonstrates that China's image varies significantly across contexts and cannot be fully understood through frameworks derived solely from Western geopolitical concerns.

CONCLUSION

This study has undertaken a qualitative, discourse-analytical examination of how China's global image is constructed within the textual outputs of Muslim intellectual elites. By shifting the analytical lens from perception-based measurement to discursive construction, the study provides both theoretical and empirical contributions to the literature on global communication, soft power, and international image formation.

The findings demonstrate that China's global image within Muslim elite discourse is neither monolithic nor polarised but is instead constructed through a complex and contextually grounded set of interpretive frameworks. Most prominently, economic pragmatism emerges as the dominant discursive logic shaping these

representations. Across the dataset, China is consistently framed as a development-oriented actor, with emphasis placed on its role in infrastructure development, trade facilitation, and the generation of tangible material benefits. The Belt and Road Initiative (BRI) is interpreted as a mechanism for economic transformation and regional integration.

At the same time, the analysis reveals the presence of geopolitical concerns, although these are not articulated in the form of strong Securitisation. Rather, such concerns are moderated and contextually embedded, resulting in what can be described as a form of "managed Securitisation." This indicates that while elites remain aware of potential strategic risks and geopolitical implications, these considerations do not dominate the discourse nor negate the perceived economic opportunities.

Importantly, the study finds that elite discourse produces a hybrid and context-dependent image of China. Instead of adopting uniformly positive or negative positions, intellectual elites engage in a process of discursive negotiation, balancing opportunity with caution. Within this process, Muslim-majority regions are not constructed as passive recipients of Chinese influence; rather, they are framed as active and strategic agents capable of shaping the terms of engagement. This reflects a broader reconfiguration of agency within Global South discourse, where local actors assert their strategic relevance in global economic processes. Taken together, these findings suggest that China's global image is not merely perceived but actively constructed through discourse, shaped by local socio-political contexts, developmental priorities, and relational comparisons with other global powers.

In conclusion, this study demonstrates that China's global image is not a fixed or inherently stable attribute but a dynamic and contextually mediated construct. It is actively produced, negotiated, and reinterpreted through discourse rather than simply reflected in measurable perceptions. By foregrounding Muslim elite perspectives, the study contributes to a more pluralistic, nuanced, and analytically grounded understanding of global communication processes in an increasingly multipolar world.

Implications of the Study

Theoretical Contributions

The study advances existing scholarship in several important ways. First, it contributes to a growing body of literature that critiques perception-based approaches to studying country image by demonstrating the analytical value of examining discursive construction. By focusing on how meanings are produced and negotiated within texts, the study moves beyond the limitations of survey-based methodologies that reduce complex representations to aggregate attitudes. Second, the integration of critical discourse analysis and framing theory provides a more robust and multidimensional analytical framework. This approach enables the identification of underlying narrative structures, interpretive

frames, and ideological positions that shape representations of China within elite discourse. Third, the study contributes to the ongoing project of de-Westernising global communication scholarship. By foregrounding perspectives from Muslim-majority contexts, an area that remains underrepresented in the literature, it challenges the dominance of Western-centric narratives and expands the geographical and epistemological scope of research on China's global image. Finally, the study introduces the concept of hybrid discursive formation as a theoretical contribution, capturing the coexistence of economic pragmatism and moderated Securitisation within elite narratives. This concept provides a useful analytical lens for understanding how competing interpretations can coexist within the same discursive field.

Methodological Contributions

From a methodological perspective, the study demonstrates the value of treating elite-authored texts as critical sites of meaning production. By analysing policy commentaries, academic writings, and strategic essays, the research captures how influential actors construct and circulate narratives about global power relations. Additionally, the study illustrates how qualitative interpretation can be strengthened through the use of systematic coding procedures and computational tools such as NVivo. While remaining firmly interpretive in orientation, the integration of such tools enhances transparency, consistency, and analytical rigour. A further contribution lies in the explicit differentiation between discourse, image, and perception. By clearly delineating these concepts, the study addresses a common source of conceptual ambiguity in the literature and provides a more precise framework for future research.

Practical Contribution of the Study

This study offers important practical contributions to policymakers, media practitioners, and international communication strategists by providing a nuanced understanding of how China's global image is constructed within Muslim intellectual discourse. The findings demonstrate that economic development, infrastructure cooperation, and non-interventionist engagement play a central role in shaping favourable narratives about China and the Belt and Road Initiative (BRI) in many Muslim-majority contexts.

For policymakers and diplomats, the study highlights the importance of context-sensitive communication strategies that prioritise developmental cooperation, mutual benefit, and regional agency rather than securitised geopolitical rhetoric. For media and communication scholars, the research provides a discourse-based framework for analysing international image construction beyond Western-centric perception surveys. The study also contributes to broader debates on de-Westernisation in media and communication studies. By foregrounding Muslim intellectual voices that are often marginalised in dominant global communication scholarship, the paper expands the geographical and

epistemological scope of China image studies. This has practical significance for scholars, institutions, and policymakers seeking more inclusive and globally representative approaches to international communication research.

Additionally, the findings may assist governments, think tanks, and international organisations in understanding how strategic narratives are negotiated within the Global South, thereby supporting more effective intercultural engagement, public diplomacy, and policy communication in an increasingly multipolar world.

Limitations and Recommendations for Future Research

Despite these contributions, the study is subject to several limitations that should be acknowledged. The reliance on English-language texts introduces a linguistic bias, privileging internationally oriented elites and potentially excluding locally grounded perspectives expressed in vernacular languages. Similarly, the focus on elite discourse means that the findings reflect the views of a specific intellectual stratum rather than the broader population, limiting the ability to generalise to public opinion.

The relatively small size of the analytical corpus, while appropriate for qualitative discourse analysis, further constrains the scope of generalisation. In addition, the use of publicly available materials may introduce selection bias, as certain viewpoints, particularly more critical or informal perspectives, may not be captured. Accordingly, the findings should be interpreted as indicative of discursive tendencies within a specific intellectual field rather than as representative of the wider Muslim world.

Building on these limitations, future research could extend this line of inquiry in several ways. Incorporating vernacular-language sources would allow for a more comprehensive understanding of locally grounded discourses and reduce linguistic bias. Expanding the dataset to include a larger and more diverse sample of texts would enhance analytical robustness and enable more systematic comparison across regions. Comparative cross-regional studies could further illuminate how China's image is constructed differently across varying geopolitical and socio-economic contexts. In addition, integrating multi-method approaches, such as combining discourse analysis with interviews, focus groups, or survey data, would provide a more holistic understanding of the relationship between discourse and perception.

Such efforts would significantly deepen our understanding of how global images are constructed, contested, and transformed within diverse communicative environments.

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APPENDIX A – SEED LIST

This appendix provides the complete seed list used to initiate the random-walk web crawling.

A. National Newspapers

- Arab News (Saudi Arabia)
- The News International (Pakistan)
- Dawn (Pakistan)
- Jakarta Post (Indonesia)
- Daily Star (Bangladesh)
- Tehran Times (Iran)
- Gulf Times (Qatar)
- New Straits Times (Malaysia)

B. Think Tanks

- Institute of Strategic Studies Islamabad (Pakistan)
- Bayān Center for Planning and Studies (Iraq)
- Middle East Institute (Singapore)
- Chatham House – MENA-linked outputs
- Center for Strategic Studies – Jordan
- ISIS Malaysia

C. University Policy Centres

- Centre for Policy Dialogue (Bangladesh)
- Asia Research Centre – Universiti Malaya
- Eurasian Studies Centre – Kazakhstan
- Qatar University Policy Department

D. BRI-Focused Outlets

- Xinhua BRI English Portal
- CGTN BRI Section
- Silk Road Briefing
- Belt and Road News Network

APPENDIX B – CODER MATRICES AND RELIABILITY STATISTICS

Inter-Coder Reliability

- Raw Cohen's Kappa: 0.82
- PABAK: 0.89
- 95% CI: 0.78–0.92

Coder Matrix (20% Sample)

Code	Coder A	Coder B
Economic Prosperity	34	33
Strategic Interdependence	21	22
Respect for Sovereignty	18	19
Geopolitical Concerns	26	27
Sino-U.S. Framing	12	12
Agreement rate: 93%		

APPENDIX C – CODEBOOK

This appendix presents the finalised codebook used in the thematic analysis. It includes raw quote, author & source, applied code(s), higher-level theme, country/region, and year.

Raw Quote	Author and Source	Applied Code(s)	Higher-level Theme	Country/ Region	Year
"CPEC offers immense opportunities for promoting the economics of peace in South Asia."	Khalid Mahmood	Infrastructure Development	**Economic Prosperity**	Pakistan	2016
"The BRI promises to create thousands of new jobs and to contribute to economic growth in the region."	Azad Garibov	Job Creation	〃	Kazakhstan	2018
"The BRI is contributing to the kingdom's prosperity by building economic bridges along the Silk Road."	Abdul Hannan Tago	Trade Facilitation	〃	Saudi Arabia	2016
"China's neutral stance in the Middle East is a pragmatic and sound policy."	Mohsen Milani	Neutrality, Non-Interference	**Political Stability**	Middle East	2016
"CPEC could unlock Kashmir and build soft borders, creating economic interdependencies that would deter future conflicts."	Adnan Zaidi	Economic Interdependence	〃	Pakistan	2017
"Turkey controls strategic routes along the Silk Road, making it a key player in the BRI's success."	Suleyman Sensoy	Strategic Geography: transit hubs, energy corridors, or gateways	**Interdependence with Muslim Geography**	Türkiye	2016
"The BRI has the potential to unlock Central Asia and turn it into a prosperous region." — Sobir	Sobir Kurbanov	Regional Connectivity	〃	Uzbekistan	2018
"China's peaceful cooperation contrasts sharply with Western hegemony."	Ahmed Al-Naggar	China's Non-Intervention vs. US Hegemony	**Sino-US Policy Comparison**	Egypt	2016
"China's proactive leadership in initiatives like the BRI and the Boao Forum for Asia reflects its growing commitment to fostering regional cooperation, economic development, and a shared vision of Asia's future."	Rastam Mohd Isa	Soft Power / Developmental Pragmatism	〃	Malaysia	2016
"The SCS dispute must be resolved for the BRI to achieve its full potential."	Rizal Sukam	South China Sea Concern, Water Disputes	South China Sea as a Hindrance	Indonesia	2016

APPENDIX D – CODEBOOK EVOLUTION

Initial Code Set

- Economic opportunity
- Infrastructure
- Connectivity
- Geopolitics
- Security concerns
- Non-interference
- Political stability
- Cultural respect
- Ideological comparison
- Elite diplomacy
- BRI risks
- BRI benefits

Changes

Merged:

- Economic opportunity + Infrastructure → Economic Prosperity
- Cultural respect + Non-interference → Respect for Sovereignty

Dropped:

- Elite diplomacy
- BRI risks (absorbed under Geopolitical Concerns)

Renamed:

- Connectivity → Strategic Interdependence
- Ideological comparison → Sino-U.S. Framing

Final Codebook

1. Economic Prosperity
2. Strategic Interdependence
3. Respect for Sovereignty
4. Geopolitical Concerns
5. Sino-U.S. Framing

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Flipbook Development with Automated Feedback for Upscaling Receptive Language Skills and Cultural Understanding of BIPA Learners

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ABSTRACT

The convergence of teaching materials and technologies, such as flipbooks, represents a new phenomenon in *Bahasa Indonesia bagi Penutur Asing* (BIPA) or Indonesian for Foreign Speakers. Flipbooks introduce new opportunities to integrate language learning and cultural exposure in the BIPA learning processes. This paper investigated the ability of BIPA learners to improve their receptive language skills alongside cultural adaptation through the use of flipbooks using automated feedback. The flipbook created in this study incorporates East Javanese cultural materials and is particularly intended for intermediate students. A quasi-experimental design study was used in which an experimental group learned with the flipbook, that provides automated feedback, and a control group learned with traditional or printed learning materials. Data was collected via receptive language skills and cultural understanding pre-and post-tests and by learner perception of questionnaires. Findings indicate that the flipbook used by learners resulted in a significant difference in improvement of listening and reading comprehension, followed by the deepening of ideas regarding Eastern Javanese cultural values compared with the control group. Systematic feedback was found to stimulate self-correction, aid personalised learning, and improve learner motivation and engagement. Overall, BIPA learners who used flipbooks with automated feedback significantly improved their receptive language skills and cultural knowledge when compared to those using traditional printed learning materials.

Keywords: Automated Feedback, BIPA learning, cultural understanding, flipbook, receptive language skills

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INTRODUCTION

Bahasa Indonesia bagi Penutur Asing (BIPA) has a strategic role in introducing the Indonesian language and culture to foreign students. In BIPA teaching, the teaching materials are not only aimed at cultivating learners' language competence but also at promoting intercultural communication, which can make an essential contribution to effective cross-cultural connections. BIPA also constitutes language diplomacy, an effort to enhance cultural visibility and soft power, thus placing the language as a bridge for intercultural relations and cooperation.

The burgeoning of educational technology developments in recent years has broadened the opportunities to deliver language and culture in a more interactive or performative manner (Aulia et al., 2025). It generally includes digital video and flipbooks to create multimodally framed learning content by considering learners' linguistic competency and cultural characteristics. This learning material digitalisation greatly enhances flexible approaches in education, learner-centred practices, and technology-based pedagogy.

As interactive digital publications, flip books offer an exciting reading experience, enriched with high-res images, audio/video clips, or links. Realising a better learning environment to boost comprehension and retention becomes totally possible through this multisensory process. Apart from linguistic outputs, flipbooks are plausible to enrich culture through positive imagery, contextual narrative, and multimedia storytelling. Furthermore, the automatic feedback in flipbook provides learners with corrective feedback, and it reinforces their implicit knowledge about performance toward personalised learning (Muzaki et al., 2024).

In BIPA learning, the cultural aspect is not a complement in the communication of meaning; it becomes the essence of communication itself (Suyitno, Fazwi et al., 2019). The students are exposed not only to types of language structures or lists of vocabulary, but also to values, symbols, and cultural forms that underlie social interactions in Indonesian society. The language we speak is a reflection of the way we see the world (Kramsch, 1993; Risager, 2006). This means that learning materials integrating linguistic and cultural representations are indispensable for the development of communicative competence and cultural literacy among BIPA learners.

Some studies have concentrated on product transformation, notably through the differentiation of local or national cultural components. BIPA materials with Indonesian cultural content were developed by Sudana et al. (2020). Sudana and her colleagues developed BIPA textbooks in which Indonesian cultural materials incorporate Balinese cultural values. Likewise, some researchers have investigated the integration of Javanese cultural values in BIPA learning. Murtianis et al. (2019), Saddhono et al. (2020) as well as Tanwin and Rosliani (2020) developed culture-based learning materials drawing on local customs in Central Java. In the domain of digital learning, Usman et al. (2024)

investigated the effects of flipbooks and e-learning platforms use in English teacher education, which found that learner motivation and achievement were improved. Similarly, Dewi and Wibawa (2024) reported a flipbook with integrated *Megedong-gedongan,* a cultural ceremony in Bali, was effective at enhancing students' science literacy and contextual knowledge of the local traditions.

Incorporating local culture into language study serves to strengthen a students' understanding of Indonesian national identity and raise their affective involvement. As Widodo et al. (2018) points out, integrating cultural values in teaching materials succeeds in elevating learners' interest and memory of learning, as it triggers an emotional response and a sense of its relevance. Failure to address any local cultural components, however, runs the risk of creating a kind of decontextualised language teaching that serves only to distance students from a living culture. To make learning culture more authentic, digital flipbooks deal with this gap through multi-modal meaning-making and interactive storytelling (Abdeen & Albiladi, 2021).

Related to these findings, previous studies have discussed how culture-based content meets digital learning resources. Aiming to improve context understanding and vocabulary learning, Mutiara and Emilia (2022) created flipbook learning media on Indonesian cuisine. Two other researchers, Syamsi et al. (2024) and Khaerunnisa et al. (2024), respectively incorporate linguistic and cultural aspects into a BIPA textbook and Betawi cultural elements into BIPA interactive multimedia teaching materials. Additionally, Jannah et al. (2021) and Wicaksono et al. (2021) also emphasised how crucial it is to integrate local wisdom into intercultural learning and used Flip Book Maker software to create interactive electronic resources for Indonesian language teaching. Thus, these findings revealed the promising prospects of digital platforms, flipbooks in particular, to foster culturally grounded learning for BIPA's students.

In the context of learning, it is essential to consider automatic feedback for reflective and efficient learning. It has been proven that learners can quickly identify their mistakes and rectify them after getting instant feedback, consequently speeding up the process of comprehending language forms as well as cultural elements (Nguyen & Takashi, 2021). Such immediacy in BIPA instruction context stimulates more profound learning since learners are able to calibrate how language and culture interact consistently in real environments where Indonesian is spoken.

The investigations into automated feedback also occurred in language education. Exploring the comparative effects of teacher, automatic, and integrated feedback on writing accuracy and learner anxiety, Haddadian (2024) pointed out that automated feedback has enhanced students' performance effectively since it reduces their anxiety. It was concluded that automated flash-noticing is rather successful at decreasing learners' anxiety while

enhancing their performance. Schiller et al. (2024) and Liu and Yu (2022) verified that clarity, quality, and precision of automatic feedback resulted in improved learner engagement and advancement. Moreover, Mertens et al. (2022) observed that surface-level and higher-order learning gains benefit from computer-based feedback, whereas Fleckenstein et al. (2023) found that automated feedback had significant impacts on writing performance at proficiency levels. Hahn et al. (2021) reinforced the positive impact on the digital learning and assessment environments of automated feedback. Despite these advances, research on the integration of flipbook-based learning materials equipped with automated feedback, especially in the context of BIPA learning to enhance both receptive language skills and cultural understanding, remains limited at this time. This study intends to fill that gap by investigating the effectiveness of such a model in intermediate-level BIPA instruction.

To address the gap identified in previous research, our aim here is to investigate Flipbook Development with Automated Feedback for Upscaling Reseptive Language Skills and Cultural Understanding of BIPA Learners for the Intermediate level. Furthermore, this study is a continuation of previous research in 2024 entitled Developing BIPA Teaching Materials while Containing East Javanese Culture (Susanto et al., 2024). The previous project developed printed teaching materials covering five thematic units on *Reog,* a display and dance from Ponorogo's cultural heritage. The present study builds the work by using a digital flipbook as an alternative to printed materials, integrated with automatic feedback, in order to increase engagement and interactivity; accessibility is also expected to be enhanced.

LITERATURE REVIEW

In the literature review section, (1) BIPA learning materials, (2) Automated Feedback, (3) flipbook, and (4) receptive language skills and cultural understanding are discussed.

BIPA Learning Materials

BIPA learning materials are indispensable resources for promoting the global identity of the Indonesian language and culture. For clarity and accuracy: BIPA is similar to ESL. BIPA is the teaching of Indonesian for foreigners, while ESL is the teaching of English for foreigners. The instruction of BIPA is intended not only to create communication competency, but also the understanding of intercultural relations among learners who come from various native languages (Tiawati et al., 2023). Learning materials, then, becomes the mediators between language and culture. Kamilla et al. (2023) argues that just as linguists are able to contribute their areas of expertise, significant additional input should be made so that materials will not only possess linguistic components, e.g., grammar, vocabulary, and syntax, but also cultural knowledge, values, and practices. Selecting and creating materials imbued with culture for foreign language teaching helps learners to better understand language

as a lived expression of culture and not simply an abstract system of rules.

Multimodal inputs: text, image, audio, and video can enrich students' understanding and engagement with digital resources (Widodo et al., 2018). The use of digital tools also encourages self-directed learning and sincere engagement with the target language and cultural contexts (Richards, 2015). From such a perspective, the movement from printed textbooks to digital resources in BIPA instruction can be seen as a paradigm shift and has brought BIPA learning more or less in line with international trends towards technology-mediated language learning.

Moreover, digitalisation of BIPA learning materials appears to be a reaction to technological development towards transforming the learning behaviours of international students. Widodo et al. (2018) affirmed that students may gain more understanding and be deeply engaged into the learning with the help of digital resources for multimodal inputs, such as text, image, audio, and video. Richards (2015) also confirmed that self-directed learning and sincere engagement with the target language and cultural contexts are the other advantages digital tools can offer. It suggests a paradigm shift where digital resources take over printed textbooks for BIPA instruction, which pushes BIPA learning towards technology-mediated language learning at an international level.

Fostering learners' intercultural competence is one of the concerns in BIPA learning, indicating the importance of local cultures (Byram, 2021). The cultural riches of East Java become huge supports for the inclusion of local cultures. Conforming to this, promoting empathy and intercultural understanding by encouraging students to participate in real-life interaction and appreciate the social roles that underpin interaction in Indonesia is a fundamental matter. Making sense of language in its vibrant social life showcases how culturally authentic BIPA instruction is, differentiating it from other learning materials that present themselves as simply linguistic thought objects, unbound to real situations.

Since digital learning materials, including flipbooks, foster exploratory, and self-regulated learning, they are suitable for intermediate-level learners. Iterative practice and immediate feedback have encouraged learners to hone their reading strategies autonomously while simultaneously expanding their cultural knowledge. It complies with prevailing principles in language pedagogy; experience, reflection, and interaction allow them to conceptualise learners as active constructors of knowledge (Richards, 2015). Moreover, integrating local narratives and sociocultural practices from East Java, as an example of embedding cultural content in digital flipbooks, enhances their pedagogical value. It puts them as mediational tools that bind linguistic forms to authentic cultural contexts. Consequently, it is noticeable that a pedagogically sound approach, embodied in digital flipbooks equipped with an automatic feedback mechanism, operationalises constructivist principles and

supports the integration of language and culture in BIPA instruction.

Richards (2015) proposed the principles of language teaching, and it was chosen as the theoretical framework of this study, the Flipbook Development with Automated Feedback for Upscaling Receptive Language Skills and Cultural Understanding of BIPA Learners. Richards underscores the priorities that effective language instruction must have. Those are comprehension-based activities and learners' exposure to authentic and contextualised input, supporting the focus on listening and reading as foundational receptive language skills. The other element he accentuated was the indivisible relationship between language and culture. He argued that whenever linguistic forms are embedded in sociocultural contexts, language learning becomes perfectly effective. These principles provide theoretical justification for the use of a culture-based digital flipbook with automated feedback as a pedagogical tool to enhance learners' receptive language skills.

Automated Feedback

Automatic feedback involves the use of computer-based systems that can react to learners' linguistic contributions to describe performance in-the-moment and facilitate self-correction. This system provides alternative options to traditional teacher-centred feedback by creating an atmosphere of learner autonomy and individual learning. In the language learning environment, such system-based feedback conditions support not only accuracy but also self-awareness and motivation as learners' own progress can be monitored independently from teachers' reactions (Nguyen & Takashi, 2021).

Furthermore, automated feedback is conducive to adaptive learning environments in which the feedback can be tailored to the learner's mastery level. It is beneficial for BIPA students with various language abilities. They acquire the ability to detect and adjust grammatical, lexical, or pragmatic mistakes effectively. These kinds of computerised systems supply corrective, explanatory, and metalinguistic information, which further enhance language acquisition (Dosse et al., 2024). In short, an example of a strategic move in BIPA pedagogy that makes efficiency and engagement possible without compromising personalised support is the automation of feedback in a digital space (e.g. by means of flipbooks).

Hence, the role of feedback on language accuracy and awareness should be noted by recalling the description of formative feedback given by De Freitas (2025). He declares it as information designed for reducing learner errors, enhancing understanding, and developing metalinguistic awareness. Technology advances offer automated feedback mechanisms that respond instantly and consider individual levels in students' input. To detect errors and suggest corrections, explanations, or exemplars, these systems utilise algorithms. These tools encourage "learn to learn" by giving real-time support, reducing dependence on educators' assistance, and maintaining motivation through instantaneous reinforcement.

The integration of interactive multimedia and automated feedback provides a double benefit, that is to increase learner engagement as well as to support adaptivity. Feedback-enabled flipbooks thus both provide interactive content and assist learners in identifying and correcting language errors independently. Such synergy is consistent with Zimmerman's (2002), The concept of self-regulated learning is based on self-paced learner control, monitoring, and reflection. In sum, the incorporation of media with automated feedback not only prevents student errors but also increases engagement and thus language acquisition.

Flipbook

A flipbook is a digital publication that combines audio, text, photographs, and illustrations in a way that draws inspiration from reading an actual book, but with additional elements such as sounds and moving images. Institutional flipbooks have been shown to enhance learners' motivation, understanding, and engagement in educational scenarios, given their multimodal attributes (Bikowski & Casal, 2018). In language learning, for example, flipbooks create an integrated environment of receiving visual images, hearing sounds, and reading words that help the learner create meaning and remember. The flipbook then becomes the locus for material-based comprehension.

Within the frame of BIPA instruction, flipbooks have the potential to present authentic cultural content in interactive and visually engaging ways. Flipbooks of cultural production may also situate cultural phenomena (e.g., traditional customs, arts, and social norms) in communicative tasks so that learners are more aware and sensitive to culture. Through automated feedback embedded in flipbooks, BIPA learners can immediately identify errors and obtain contextual explanations without having to constantly wait for teacher intervention, thus making the learning process more personalised and adaptive. For BIPA teachers, especially in multicultural and cross-border classroom contexts, this integration helps improve learning efficiency while encouraging the development of learners' metacognitive skills through continuous reflection on their learning processes and outcomes.

In addition, together with the automation of feedback, flipbooks represent smart learning environments that provoke immediate reflection and correct responses to further growth (Van & Baartman, 2019). Providing multimedia and feedback applications to students is a crucial step towards individual and experiential BIPA learning. In supporting the BIPA teaching process, digital media is projected to do more than merely provide access; it will also motivate learners and support the growth of learner autonomy (Pavlenko, 2025). One of the most recent additions to that trend is the interactive flipbook, which represents a teaching medium with digital capabilities. In closing, a flipbook adopts the print medium format with multimedia features such as video,

audio, animation, and quiz to design a multi-modal environment that enhances deep learning experiences (Putra et al., 2022).

Receptive Language Skills and Cultural Understanding in BIPA Learning

Foreign language learning encompasses the development of receptive and productive skills integrated into the communicative use of language. Receptive language skills, namely listening and reading, serve as the basis for understanding language input, while productive language skills, namely speaking and writing, reflect the learner's ability to produce language meaningfully in a social context. In foreign language teaching, both skills are inseparable from the cultural dimension, because language use is always influenced by the values, norms, and cultural practices of its speakers (Ermanto et al., 2025). Therefore, the integration of cultural elements in foreign language learning is essential so that learners are not only linguistically competent but also able to communicate appropriately and sensitively to the target culture in context (Liddicoat & Scarino, 2013).

The importance of receptive language skills (listening and reading) in second language acquisition is underlined by the fact that through these two means, students receive input that can be used for meaningfully constructed output. In BIPA teaching, receptive language competence allows learners to identify the grammatical forms, understand pragmatic meaning, and perceive sociocultural embedding contained within communication (Dulay et al., 1982). As a result, learners require exposure to authentic usages of Indonesian and culturally situated texts which represent 'real' Indonesian discourse through their listening and reading activities.

The perception of culture, on the other hand, is an intrinsic part of language proficiency. Language acquisition in the context of BIPA is not limited to implications of words or grammar, but extends to encompass meanings carried by culture, morals, and worldview that language represents (Kramsch, 1993; Risager, 2006). Learners, through cultural elements of local art forms, customs, and social practices incorporated into listening and reading materials, help to construct an understanding of intercultural sensitivity and communicative appropriateness (Suyitno, Susanto, et al., 2019). Accordingly, teaching materials that link receptive language skills with cultural comprehension are able to provide more holistic, meaningful learning experiences for BIPA students.

METHODOLOGY

Research Design

Using a quasi-experimental research design with a non-equivalent control group model, the present study investigated the impact of an automated feedback flipbook on developing BIPA learners' receptive language skills and cultural understanding. The experimental group was given a digital flipbook of the East Javanese cultural materials, whereas the control group used conventional or printed materials containing the same content.

In this quasi-experiment, the researcher could compare learning outcomes across groups in situ as they naturally occurred in real classroom activities, so that pedagogical authenticity was not lost. Two main measures, which were a receptive language skills test (listening and reading) and a cultural understanding questionnaire, were given before (pre-test) and after (post-test) the treatment. Moreover, a learner perception survey was applied to measure learners' attitudes toward the employment of flipbooks and automated feedback in terms of motivation, interactivity, and autonomy. Therefore, it can be said that this study uses a mix method of research design.

Participants

The participants of this study were intermediate-level students. The intermediate level refers to B1 and B2 according to CEFR, and BIPA 3 and BIPA 4 according to SKL. Meanwhile, according to ACTFL, it is divided into intermediate Low, Mid, and High. Intermediate BIPA learners are typically capable of comprehending and producing language in familiar contexts. At this stage, learners can process more complex linguistic and cultural information and are expected to expand their competence toward deeper interpretation and independent thought. Hence, teaching at an intermediate level requires a balance between linguistic demand and cultural representation so that students can engage in critical thinking as well as reflective learning.

The number of the participants of this study were 31 learners who have taken intermediate-level courses at BIPA Universitas Negeri Malang in East Java, Indonesia in the fall semester of 2025. The participants were assigned into an experimental (n = 16) and a control group (n = 15). The control group consisted of students from Malawi, Pakistan, Tanzania, Thailand, China, Taiwan, Yemen, Egypt, and Vietnam. While the experimental group consisted of international students from Afghanistan, Algeria, the Philippines, China, Taiwan, Yemen, and Sudan. The choice of the experimental and control classes was determined by the existence of intermediate classes in this particular program, the willingness to study authentic cultural texts, and their ability to benefit from feedback-centred instruction. The research setting was chosen for its multicultural environment, accommodating learners from various countries in Asia and Africa. This diversity clearly presents a rich context to evaluate how digital cultural materials can support cross-cultural learning and interaction in BIPA classrooms; the East Javanese flipbook is an example.

Research Instruments

This study utilises both quantitative and qualitative instruments. The instrument for collecting quantitative data comprised 30 multiple-choice questions. They are divided into 10 questions for listening comprehension, 10 questions for reading comprehension, and 10 questions for cultural understanding. Then, for the qualitative instrument, this study employed learner-perception questionnaires, which

are beneficial to measure satisfaction, motivation, and perceived autonomy in learning. These were reviewed and validated by two BIPA experts and two assessment experts from Universitas Negeri Malang to ascertain the instruments' validity, clarity, and reliability. Eventually, the research instruments were proven suitable for measuring the listening, reading, and cultural understanding skills of intermediate-level BIPA learners.

Research Procedure

The study runs four primary stages: (1) preparation, (2) implementation, (3) data collection, and (4) data analysis.

1. Using *Flip PDF Professional* during the preparation stage, the flipbook integrates East Javanese cultural content and automated feedback functions. The flipbook contains five units of material on East Javanese culture. Each unit covers a different aspect of East Javanese culture. Each unit incorporated receptive language skills (listening to audio conversations and reading texts), productive language skills (speaking and writing), grammar, and cultural understanding. Automated feedback function in the form of Google quizzes was embedded in the listening comprehension, reading comprehension, cultural understanding, and grammar exercises. Feedback appears instantly after students click the "Submit" and "Check Answers" buttons. Furthermore, this flipbook is distributed to teachers and students for use in intermediate classes.
2. The implementation stage took place over six weeks, from September 4 to October 9, 2025. A meeting with the teachers to distribute the flipbook was held on September 4. The quantitative instrument was used for a pre-test on September 11 and a post-test on September 18 and 25. Both Pre-test and post-test were held for two 100-minute sessions. Scoring results were grouped into three sections: listening, reading, and cultural understanding. The assessors for the control and experimental groups were teachers. Further, researchers collected qualitative data through classroom observations and students' perception surveys on September 25 for the control group and October 4 for the experimental group. The experimental group used the interactive flipbook, while the control group used conventional printed textbooks.
3. Data collection involved administering pre-tests before the intervention and post-tests afterward, along with learner perception surveys.
4. Data analysis focused on comparing score improvements between the two groups to determine the effect of the flipbook intervention.

Data Analysis

Quantitative data analysis was carried out by comparing the differences in scores between the control group and the experimental group in the aspects of receptive language skills (listening and reading) and comprehension of East Javanese culture.

Qualitative data analysis was carried out by describing and explaining words or sentences expressed by students from the control group and the experimental group about their experiences using flipbooks equipped with and without automated feedback features.

From the quantitative data (pre-test and post-test scores), an independent sample t-test was generated to investigate whether there were statistically significant differences in language proficiency progress between experimental and control groups. Conversely, observational and first-person report data were also analysed qualitatively with an observation grid and questionnaires in order to assess student learning and the effectiveness of automated feedback. Findings from this study are intended to confirm the research hypothesis that the use of flipbooks with automated feedback significantly enhances the receptive language skills and cultural understanding in BIPA learners when compared to traditional learning materials.

RESULTS

Results of Quantitative Analysis

Two groups of intermediate BIPA learners participated in this study: a control group (n = 15) that used traditional printouts and an experimental group (n = 16) that studied with flipbooks equipped with automated feedback programs. The two groups took pre- and post-tests measuring receptive language skills (listening and reading) and cultural knowledge. Tests were carried out prior to the inferential test to ensure that data met the assumption of a parametric test ($p > 0.05$). The comparison of the mean gain score between the groups using an independent samples t-test is given in Table 1.

Interpretation of Quantitative Results

The findings indicate a statistical difference between the experimental and control groups in all dependent variables ($p < 0.05$). Students receiving the flipbook

Table 1
Comparison of mean scores between control and experimental groups

Skill Areas	Groups	N	Pre-test Mean	Post-test Mean	Gain Score	t-value	Sig. (p)
Listening Comprehension	Control	15	68.20	74.13	5.93	3.42	0.002*
	Experimental	16	67.88	82.00	14.12	6.15	0.000*
Reading Comprehension	Control	15	70.47	75.53	5.06	2.98	0.005*
	Experimental	16	69.81	83.69	13.88	6.42	0.000*
Cultural Understanding	Control	15	65.33	71.60	6.27	3.75	0.001*
	Experimental	16	64.75	80.38	15.63	6.88	0.000*

with automatic feedback were significantly better at achieving improvements in receptive language skills, specifically listening and reading comprehension, as well as one cognitive variable, cultural knowledge.

The average change in listening score for the experimental group (14.12 scores) is more than two times that of the control group (5.93 scores). Also significant were differences in reading comprehension (13.88 vs 5.06) and cultural understanding (15.63 vs 6.27). These findings led us to a learning process that shows accelerated processing times, upgraded comprehension, and more consistent learning results by integrating automated feedback.

Results of Qualitative Analysis

Several students stated,

> *Saya senang belajar pakai flipbook yang ada fitur koreksi otomatisnya. Dengan fitur ini, saya langsung tahu salah saya dan bisa koreksi sendiri.* [I enjoy learning using flipbooks with automatic correction features. With this feature, I can immediately see my mistakes and correct them myself.]

Another statement was,

> *Gambar-gambar dan cerita dari Jawa Timur menarik bagi saya dan buat saya ingin belajar lebih budaya Indonesia*. [the pictures and stories from East Java made me more interested in learning and want to learn more about Indonesian culture.]

According to most of the participants in the experimental group, the flipbook helped them reason for themselves and correct their mistakes through interactivity, as well as immediate feedback. Learners also reported that the cultural elements contained in the flipbook such as pictures, short videos and original East Javanese stories raised their motivation and interest of Indonesian traditions. Observation notes also documented that the experimental groups were more active, self-assessed more frequently, and were eager to speak about cultural content compared to the control. This is consistent with Nguyen and Takashi (2021) conclusions that automated feedback promotes learner autonomy and reflective learning in second language learning.

DISCUSSION

The results of the study indicate that the use of East Javanese culture-based flipbooks featuring automated feedback has a significant impact on improving receptive language skills and cultural understanding of intermediate-level BIPA learners. In addition, the integration of local cultural content in flipbooks has been shown to deepen learners' comprehension of East Javanese cultural values. The presence of automated feedback also encourages self-correction, more personalised learning, and increased learner motivation and engagement during the learning process, so that overall digital flipbook-based learning is more effective than traditional learning.

The results of this study support the literature that has already been written, that

is, BIPA teaching is not only concerned about linguistic skill but also intercultural sensitivity (Asteria et al., 2023). According to Kramsch (1993) and Risager (2006), language is culture and vice versa. What this means is that, on the one hand, we use the instrument of culture, which is the language, and then on the other, language also has its way of existing. The dramatic increase in cultural understanding within subjects of the test group can be assumed when the learning process includes local (East Java) orientated content. This sample under consideration provides its learners with additional support to pragmatically correlate forms and functions with real cultural meanings. This is consistent with Widodo et al. (2018) argument that local culture will enhance cognitive and affective engagement in language resources.

The results also suggest that digital flipbooks can be used as multimodal learning devices to help engage students in understanding a theory better. By using texts and images along with sound, flipbooks are able to create an enhanced semiotic environment in which meaning can be made. This is in line with the assertion by Bikowski and Casal (2018) that multimodal input favours different learning styles and enhances understanding through the activation of more than one sensory channel. In BIPA learning, such multimodal presentation supports learners to visualise abstract linguistic phenomena and situate them in Indonesian cultural contexts. The increase in listening comprehension in this study may demonstrate the efficacy of flipbooks in linking linguistic and cultural input.

Moreover, incorporating automated feedback in the flipbook was instrumental in promoting learners' improvement as it offered instant and personalised feedback about their performance. This is in line with Nguyen and Takashi's (2021) claim on the role of timely automated feedback in promoting self-regulated learning, that would also help learners to monitor and correct their errors autonomously. Automatic feedback is unlike timely feedback that teachers provide during traditional education, which is dependent on the teacher's presence in the student's communication and practice process. Automatic feedback thus creates better learning loops between comprehension and incorporation. The current results indicate that the experimental group participants engaged in more self-correction and were more accurate on comprehension tasks. This data supports the argument that technology-mediated feedback plays a facilitating role in learner autonomy and confidence.

The automated feedback embedded in digital learning environments is an example that reflects modern pedagogical theories, underscoring learners' centrality, interaction, and individualism. Dosse et al. (2024) enlightened us that learning using digital platforms can be personalised to each student to make instructions more meaningful because they are able to concentrate on specific learners' needs. Concerning the situation in BIPA program where students' linguistic and cultural

backgrounds vary, adaptive feedback can help chart their own psychological profile. It is especially helpful when students deal with the Indonesian language and its cultural particularities. Instruction can be relevant, fair, and responsive to the learning milieu of a classroom in the global context due to this pedagogical variation.

The distinction of multimodal input in second language learning has been reflected through the enhanced receptive language skills, listening, and reading perception of experimental group students. Taking part in this discussion, Goh and Vandergrift (2021) believed that the combination of auditory, visual input, and situational cues has made listening comprehension grounded. The flipbook's audio narration, visual graphics, and embedded text have enabled learners to obtain extensive exposure. These can scaffold their comprehension through presentations that involve repetition and context. The affirmation is also evident in reading materials containing numerous cultural pictures, which stimulate students to draw inferences and retain new words. These results exhibit the idea that multimodal layout and automatic feedback boost receptive processes and the depth of processing language input.

Apart from the advantages in learning a language, this study elaborates on effective components of cultural engagement. Cultural narratives and symbols evoked emotional resonance and personal relevance that lower anxiety and enhances motivation. The respondents explained that experiences which directly exposed them to East Javanese culture gave more meaningful and enjoyable learning experience by bringing them even closer to Indonesian culture. This corresponds to Viartasiwi et al. (2021) who claim that cultural learning in BIPA is a cultural diplomacy program of sorts where learners are rendered informal ambassadors of Indonesia abroad. Accordingly, digital materials that incorporate cultural content do not only produce communicative competence but also serve as a soft power for Indonesia.

It was reasonable to choose intermediate learners as research participants because at that stage, learners have already been exposed to challenging language and cultural materials. Intermediate learners have an emerging grammatical system and are increasing in competency towards fluency in interpreting and performing linguistic tasks. Intermediate students, according to Richards (2015), require both linguistically challenging and contextually rich input. The immediacy of multimedia materials and automated feedback in a flipbook are ideally tailored to this learning stage, where learners can transition from face value comprehension to interpretative understanding. The remarkable enhancement of their receptive and cross-cultural competencies affirms that technology-enhanced materials are appropriate for this proficiency level.

The general results have pedagogical and sociocultural applicability. They pedagogically endorse that technology, feedback, and culture can be integrated in BIPA teaching to enhance comprehensive

language acquisition. Culturally, with the digitalisation of East Javanese culture through interactive flipbooks, a new model for distributing Indonesian's linguistic and cultural interests emerges. By working synchronically through genuine local materials, learners gain not only the Indonesian language but also absorb cultural values, traditions, and worldviews. Therefore, the application of flipbooks supported by ICT with feedback features provides not only an educational novelty, but also an electronic GPS between language learners and their native-speaking peers.

This study shows that by using a flipbook with automated feedback to learn reading strategy, advanced BIPA learners can take advantage of support in their receptive language skills and intercultural competence. The results of the quasi-experiment demonstrate that: 1) students in the experimental group had better performance than those in the control group in terms of listening and reading comprehension, and 2) students in the experimental group also outpaced the COI protocol in comparison to students in the control group. The audio, text-images, and text-video multimodal dimensions of the flipbook assisted learners' intake processing, immersed them more fully in the content matter, and exposed them to linguistic forms in culturally authentic contexts. The promoting role of automated feedback in the enhancement might leave its mark on learner autonomy, self-correction, and a variety of individual learning contexts as well.

Apart from the linguistic skills they acquired, students reported generating a substantial body of cultural knowledge in Indonesia, in particular East Javanese culture. The surveys indicate that cultural storytelling and images embedded in the flipbook enhanced intercultural sensibility and affective engagement with learners' target culture. Learners could associate the linguistic form with its sociocultural connotations, and the preferred material seemed to mediate between culture and language in a manner that was meaningful and interactive. In this light, the evidence from this data indicates that digitally enriched cultural resources prove to be formidable tools in the development of lingual and cross-cultural competences in BIPA teaching.

Underlining that BIPA learning is oriented towards mastering linguistic skills and developing intercultural understanding and sensitivity makes the results of this study strongly aligned with previous research findings. This study determines that the integration of East Javanese local cultural content and flipbooks has truly deepened learners' cultural understanding. It confirms its consistency with the views of Kramsch (1993) and Risager (2006) since language and culture are interrelated entities. Another consistency can be seen in the statement of Widodo et al. (2018), who assert that local culture can enhance learners' cognitive and affective engagement. Furthermore, the findings of Bikowski and Casal (2018) and Goh and Vandergrift (2021) disclose the improvement in listening and reading skills

in the experimental group. He emphasises the importance of multimodal input to support receptive language processing by activating various sensory channels.

Concerning the strategic role of automated feedback in digital-based BIPA learning, this study also expands and differentiates previous findings by highlighting this exact concern. While previous studies underscore flipbooks' effectiveness as a multimodal medium, the results of this study point out that automated feedback provides a significant additional contribution to self-correction, comprehension accuracy, and learner motivation. This conclusion supports the findings of Nguyen and Takashi (2021) and Dosse et al. (2024) regarding rapid and personalised feedback in encouraging independent learning and personalised learning. Unlike conventional feedback, greatly relying on teacher presence, automated feedback in flipbooks creates a more sustainable and adaptive learning cycle of BIPA. BIPA learners have linguistic and cultural backgrounds. Thus, this study both asserts previous findings and emphasises the added value of integrating automated feedback technology for refining language and cultural competencies in intermediate-level BIPA learners.

The pedagogical and diplomatic implications have paved the way for integrating digital enhancements (e.g., automatic feedback having flipbook features), through the same paved way for integrating digital enhancements (e.g., automatic feedback having flipbook features) in BIPA and supports learning preferences. This study has provided evidence for Indonesia's National and local governments to improve language instruction and cultural diplomacy through education. While it may be similar to a textbook, the flipbook is more than that; it exists as an entertaining education medium that transmits East Javanese culture and customs, which can be used to advance Indonesian media into the bones of the global curriculum.

CONCLUSION

This study concludes that an East Javanese culture-based flipbook integrated with automated feedback is effective in improving the receptive language skills and cultural understanding of intermediate-level BIPA learners. Furthermore, the presence of automated feedback in the flipbook was found to stimulate self-correction, support more personalised learning, and enhance learner motivation and engagement throughout the learning process. Therefore, flipbooks equipped with automated feedback have strong potential as innovative instructional media for fostering the sustainable development of BIPA learners' linguistic and cultural competencies.

In addition to linguistic gains, the integration of cultural narratives and visual elements within the flipbook fostered intercultural awareness and emotional engagement with the target culture. To suggest that the digital material successfully bridged language and culture in an interactive and meaningful way, learners

were indeed able to connect their linguistic expressions to sociocultural meanings. In general, to advance both linguistic competence and intercultural understanding in BIPA instruction, the findings of this study elaborate that culturally embedded digital learning materials can serve as powerful tools for advancing both linguistic competence and intercultural understanding in BIPA instruction.

The findings of this study convey essential pedagogical and diplomatic implications. They underscore the potential of integrating digital innovations pedagogically, such as flipbooks with automated feedback into BIPA instruction to create more adaptive, interactive, and culturally grounded learning experiences. For educators, this approach provides a model for developing multimodal materials aligned with learners' needs and modern learning behaviours. Culturally, the study supports Indonesia's mission, which is promoting linguistic and cultural diplomacy through education. To say that the flipbook serves not only as an instructional medium but also as a digital cultural ambassador strengthening Indonesia's presence in global education is definitely possible. It happens by making digitised East Javanese culture within an engaging learning platform.

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Cross-cultural Adaptation of Chinese Expatriates in Indonesia

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ABSTRACT

Despite the many similarities in Hofstede's cultural dimensions between China and Indonesia, the cultural adaptation of Chinese Expatriates working in Indonesia needs to be investigated. This study takes a comprehensive, mixed-method approach to understand the issue. The first quantitative phase was conducted by distributing the Expatriate Adjustment Scale to 57 Chinese Expatriates working in manufacturing, communication, and technology companies in Indonesia. The findings from this phase indicated significant barriers in language and local friendships, which were further explored in a qualitative phase using phenomenological semi-structured interviews with seven Chinese expatriates. The results highlighted that language, particularly the influence of Chinese dialects on communication in English and Bahasa Indonesia, and difficulties in forming local friendships, are the main obstacles to successful cultural adjustment. These barriers have practical implications for job performance and satisfaction, providing valuable insights for multinational companies to enhance cross-cultural training and support mechanisms for expatriates in Indonesia.

Keywords: Chinese expatriates, cross-culture, diversity, expatriate adaptation, Indonesia, mixed-methods

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INTRODUCTION

The current phenomenon revealed that businesses are increasingly adopting a multinational approach to stay competitive, leveraging opportunities in other countries for customers and labour (Coyle & Nguyen, 2022). Multinational companies (MNCs)

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are setting up subsidiaries worldwide to establish a global presence, leading to more employees being assigned abroad (Plourde et al., 2014). Globalisation has increased long-term international assignments, where expatriates, typically domestic nationals, temporarily work in another country for their parent company (Varma et al., 2023).

Studies on expatriates often assess their success through measures like adjustment (Sokro et al., 2021), job performance (Bader et al., 2021), organisational commitment (Zhang et al., 2022), and withdrawal cognitions (Pinto et al., 2017). The most common criteria for expatriate success include cross-cultural adjustment, task completion, and performance, with cross-cultural adjustment being the most extensively studied (Chenyang, 2022). It is crucial to understand that difficulties adapting to new environments can lead to failed assignments, making it imperative to delve deeper into the factors influencing expatriate success.

Previous research has extensively studied the factors that influence the adjustment and outcomes of expatriate assignments, such as the meta-analysis by Hechanova et al. (2003). According to earlier studies, the forerunners of cross-cultural adjustment can be categorised into three levels: personal, organisational, and social (Bhatti et al., 2013). Personal-level variables include individual characteristics of the expatriate, such as self-efficacy (Chang et al., 2023), language proficiency (Peltokorpi et al., 2021), and experience living and working abroad (Bhatti et al., 2013). Organisational-level factors include organisational characteristics and HR practices, such as perceived organisational support and social support (Arokiasamy, 2021; Karunarathne, 2022). Finally, social or environmental-level factors encompass the broader social and organisational context of expatriate adjustment and work performance, such as social similarity (Fan & Harzing, 2021) and family and social support (Dang et al., 2022).

Despite previous efforts to identify factors related to expatriates' adjustment success, several gaps can be identified from the existing literature. First, although prior studies on expatriate adaptation have utilised quantitative and qualitative methods, the measurement instruments still predominantly rely on the traditional scale introduced by Black et al. (1991). This scale, although pioneering, has come under scrutiny in recent years (e.g., Kubovcikova, 2016). There is an urgent need to apply a more recently developed scale since adjustment is believed to be an ongoing process rather than a static state (Maertz et al., 2016). This study utilises the Expatriate Adjustment Scale (Hippler et al., 2014), which incorporates the person-environment fit theory, argued to be vital in understanding the expatriates' experience, and is combined with qualitative interviews to explore these experiences further. More research in this area is pressing, and this study aims to contribute to filling this gap.

Second, most studies on expatriate adjustment have focused on Western and developed Asian countries (Selmer et al., 2007).

Recent meta-analytic evidence confirms that the majority of empirical samples continue to originate from Western expatriates and developed Asian host contexts such as China, Singapore and Japan (Han, 2022). Such a pattern highlights the need for more research in under-represented regions like Africa, South America, and Southeast Asia. Expanding research to these areas would provide a more comprehensive understanding of expatriate experiences globally and explore success factors in diverse cultural contexts (Abdul Malek et al., 2015). This study aims to enhance the understanding of Chinese expatriates in Indonesia, a country with significant cultural diversity, low labour costs, and abundant natural resources, making it an attractive investment destination for Southeast Asian investors, including large Chinese multinational corporations (Zhou, 2024). Despite Indonesia's status as a favoured investment locale, research on Chinese expatriates there is limited, with only one prior study (Yan, 2021). This research could significantly impact the understanding of expatriate experiences in diverse cultural contexts and fill a crucial gap in the literature.

The cultural differences between Indonesia and China challenge Chinese expatriates to integrate and become part of the local community (Briscoe, 2015). It is crucial to consider these differences when selecting Chinese expatriates for international assignments in Indonesia. One critical factor to consider during the selection process is the employees' social intelligence level (Ascalon et al., 2008). Social intelligence refers to an individual's ability to adapt to new social settings and operate effectively in culturally diverse situations. Therefore, selecting Chinese employees should prioritise their social intelligence to reduce inadaptability and increase their adjustment and work performance (Chew et al., 2021).

This study aims to assist Chinese multinational corporations (MNCs) in selecting suitable expatriates and providing them with the necessary support to enhance their well-being, work performance, and family integration during international assignments in Indonesia. The study will investigate how these elements impact Chinese expatriates' adjustment and work performance by exploring the influence of individual, organisational, and environmental factors. Additionally, the study will examine the role of cross-cultural adjustment and its relationship to these factors using a mixed-methodology approach. The findings will offer valuable insights for Chinese MNCs in developing effective strategies to support their expatriates' successful integration and performance in Indonesia.

LITERATURE REVIEW

The ability of expatriates to successfully perform their duties during international assignments is crucial for multinational organisations to gain a competitive edge and succeed (Selmer et al., 2007). Unfortunately, most expatriates face severe challenges during their global assignments due to difficulties adapting and performing well in a foreign environment (Smith, 2019).

This discrepancy indicates that the current approach for understanding expatriate adjustment success may not be adequately tailored to address specific cultural nuances. Therefore, it is essential to study the impact of Chinese expatriates' adjustments on their performance and to identify the factors that influence their cross-cultural adjustments.

The challenges of cultural adjustment could be explained from several theoretical lenses. From the cultural lens, Den Hartog et al. (1999) described the non-universal attributes of the characteristics of effective leadership styles worldwide, where the cultural background will strongly affect the perceiver's interpretation of the social environment. Thus, knowledge about culture and its influences can be helpful for executives operating in multicultural business environments (Javidan et al., 2006). This argument was developed into Implicit Leadership Theory (House et al., 2004, p.16), stating that "individuals have implicit beliefs, convictions, and assumptions concerning attributes and behaviours that distinguish leaders from followers, effective leaders from ineffective leaders, and moral leaders from evil leaders." Implicit leadership serves as a standard idea about the traits and behaviours of leaders in general, consisting of individual perceptions of organisational variables. People from different cultural backgrounds have varying criteria for an ideal leader, primarily influenced by their culture of origin. Consequently, an expatriate may face significant adjustment challenges due to differing implicit beliefs—both their own and others'—about appropriate behaviour in their home country compared to their host country.

From the expatriate study literature, the differing implicit beliefs could be best explained using Theories of Fit (Chatman, 1989; Dawis & Lofquist, 1984; Holland, 1997; Schneider, 1987), specifically person-environment fit (P-E fit). The ability of expatriates to function in their work and social lives, as well as their physical health and satisfaction in life, reflects a harmonious P-E fit (Lazarus & Folkman, 1984). The relocation process in international assignments disrupts the existing P-E fit, making expatriates readjust and find a fit in the new environment. Unfortunately, the previous instrument, primarily used in cross-cultural adaptation, introduced by Black et al. (1991), does not consider the P-E fit aspect. The P-E fit was later introduced when Hippler et al. (2014) introduced the Expatriate Adjustment Scale utilised in the present study.

Toh and DeNisi (2005) highlight some important considerations regarding the fit between expatriates and their environment. They emphasised the importance of gaining acceptance from local staff. As part of their job, expatriates share new management styles, technologies, and knowledge with the local staff. However, the local staff will only adopt these new practices if they see that it leads to better results in their work. If expatriates are not accepted by their local colleagues, they are less likely to perform well or feel satisfied with their work relationships (Toh & DeNisi, 2005).

Furthermore, if expatriates lack local knowledge and support from local staff managers or fail to become part of the social network, they risk losing credibility and acceptance (Toh & DeNisi, 2005). From a cultural perspective, Indonesia is a highly collectivist society (Hofstede et al., 2010a), meaning Indonesians prioritise their group over others. Despite being in the same Asian region, China and Indonesia may have different beliefs, religions, tribes, attitudes, and values, not to mention the fact that Indonesia is the largest Muslim nation in the world. At the same time, China is the most prominent Communist nation, which makes it difficult for Chinese expatriates to integrate and become part of the local community (Kwartanada, 2020). For Chinese expatriates to incorporate into the local community, they must know and understand Indonesian culture to adapt effectively.

Based on these facts, it is essential to consider these differences when selecting Chinese expatriates for global assignments in Indonesia. During the selection stage of Chinese expatriates, the focus should be on the level of their social skills. Social skills refer to a person's ability to adapt successfully to new and diverse social settings and operate efficiently and effectively in situations characterised by cultural diversity (Wang et al., 2017). When selecting Chinese employees for global assignments, their social skills should be emphasised to reduce inadaptability and increase their adjustment and work performance.

The next challenge related to expatriate adaptation is the language issue between home and host countries. Nowadays, many expats are expected to be proficient in English in the global economy (Huff, 2013; Li et al., 2020), but this is not always the case in the host country. Like the results of the Noman et al. (2020) study in Pakistan, Chinese MNCs with subsidiaries in Indonesia may face language barriers when communicating with Indonesians due to a lack of proficiency in the Indonesian language. Therefore, Chinese expats' proficiency in the Indonesian language should also be considered by MNCs, in addition to their proficiency in English.

The role of expatriate companions is crucial for the expatriate and the success of international assignments. In general, companions are more involved in the local environment daily to ensure their families can continue their normal activities (Abdul Malek et al., 2015). However, Chinese companions in Indonesia may face challenges in their daily lives, such as unorganised facilities, difficulties with the local language and culture, and a lack of social support. These challenges can negatively affect the adjustment of the expatriate and can also lead to the spillover of stress from the companion to the expatriate. Therefore, the adjustment of the companion can significantly impact the adjustment of the expatriate (Andreason, 2008).

METHODS

This study employs an explanatory sequential mixed-methods approach based on Creswell's (2021) methodology.

Initially, a quantitative study is conducted, and its results are explored more deeply through a qualitative phase. This design is common in fields with a strong quantitative focus, starting with quantitative research and then delving deeper through interviews with purposively selected participants. Although effective, this approach may pose challenges in determining appropriate sample sizes for each phase. The researcher collects quantitative data and uses qualitative methods to explore and interpret the results in greater detail (Creswell & Clark, 2018).

In the quantitative phase, an online survey was conducted with 57 Chinese expatriates working in Chinese multinational companies (MNCs) in Indonesia's Telecommunication and Technology sectors. They were selected based on specific inclusion criteria to ensure that only eligible expatriates were involved. The inclusion criteria were: (1) Chinese nationals currently on full-time work assignments in Indonesia, (2) having at least worked for 6 months in Indonesia to ensure cultural adaptation experience, and (3) capable of understanding English to complete the questionnaire. Access to Chinese expatriates in Indonesia was challenging due to their limited social interactions and preference for engaging with others from the same linguistic group or region. Cultural and linguistic differences between Chinese expatriates and Chinese Indonesians further complicated access. To overcome these challenges, the study employed network sampling to reach this "hidden" population (Heckathorn & Cameron, 2017). One researcher with experience in Chinese-owned companies in Indonesia leveraged her network to facilitate data collection.

The quantitative data collection starts by identifying a small number of initial participants – the "seeds" – 12 individuals, so they could recruit others who matched the criteria. All the "seeds" were the network of one of the researchers during her working period in a Chinese MNC in Jakarta. Communication with the "seeds" was conducted via WeChat, a popular social media platform for Chinese nationals worldwide. In total, 57 responses were obtained during the data collection period from March to June 2022 through an online survey. Sample size of approximately 50 participants is adequate for detecting medium effect sizes in behavioural research. The final sample of 57, therefore, meets this recommended threshold, particularly given that the quantitative phase of this study relied on descriptive rather than inferential analysis. Initially, respondents were obliged to fill in and give responses to all questions, including the demographic information, but this made the response very low since only 18 responses, including responses from the seeds, were collected by mid-April. Some potential samples explained to the seeds that they lost interest in completing the questionnaire due to its length, which consisted of 35 items of the Expatriate Adjustment Scale / EAS (Hippler et al., 2014), and two questions for the willingness of the respondents to participate in the qualitative interview, in which they should copy the consent statement and leave their

contact number. Furthermore, there was a concern about disclosing their identity even though the cover letter already explained that data collection is for research only and no information will be published in the research publication. Based on the condition, the researchers concluded that the items for the EAS instrument should be reduced to attract potential samples, and demographic information related to the samples was deleted to ensure complete anonymity.

The original Expatriate Adjustment Scale (EAS) consists of 35 items across ten dimensions, and previous validations have shown acceptable to high internal consistency, with Cronbach's alpha values ranging from 0.74 to 0.89 (Hippler et al., 2014), meeting the commonly accepted reliability benchmark of $\alpha \geq 0.70$ (Nunnally, 1978). Given the challenges in accessing Chinese expatriates in Indonesia and the concern about questionnaire length, only the items most relevant to the Indonesian context were retained. Hippler et al. (2014) also note that using the full content domain is not always practical in applied field settings. Therefore, a shortened version of the EAS was used to preserve conceptual coverage of key adjustment domains while reducing respondent burden and improving completion rates. This adaptation is consistent with practices in earlier cross-cultural adjustment studies (e.g., Hippler, 2009; Shaffer et al., 1999). This decision aligns with the principle of mixed-method design, where the "pragmatism" principle in mixed methods is the main aim of the present study to understand how and what factors contribute to Chinese expatriates' adaptation to the culture of Indonesia. Teddlie and Tashakkori (2009) stated that pragmatic research is primarily concerned with generating practical and actionable knowledge, allowing more flexibility to adapt the research design according to the aim of the study. The retained items from the EAS are presented in Table 1 with slight modifications to reflect participants' perceptions of their current life in Indonesia. Examples of the modified questions are "I rate my family cohesion as satisfactory during my stay in Indonesia," "Indonesian workers working in my company have good attitudes," and "I have opportunities to practice my hobby while working in Indonesia."

Since English is not the first language for Chinese expatriates working in Indonesia, there is a need to ensure that the respondents understand the modified instrument well. The final version of the instrument was checked by international students from non-English speaking countries currently enrolled at Universitas Diponegoro to follow the back translation process suggested by Brislin (1970) and Behr (2017). The researchers work at Universitas Diponegoro, and access to international students was easy, although participation in the back-translation process was voluntary. The process involved seven international master students from Pakistan, Afghanistan, Tanzania, Sierra Leone, China, and Timor Leste to check whether they understood the meaning of each item and the instructions

given in the questionnaire. They were selected since they originated from non-English-speaking countries. Yet, they could demonstrate their English proficiency by being accepted as international students with English as the language of instruction. No revision was made since all students clearly understood the items. Lastly, it was decided that some statements in the questionnaires were reversed. There has been controversy regarding whether to include a reverse item or not in the research instrument (Vigil-Colet et al., 2020); nevertheless, based on the pragmatism paradigm, this study decided to utilise such a technique since it could enhance the accuracy of response since the respondents need to pay closer attention and to reduce the probability of careless answering (Józsa & Morgan, 2017; Weijters et al., 2013).

For the instruction filling the questionnaire, participants were asked to rate their experiences of living, working, and interacting in a culture different from their own on a 0-100 scale. The questions in the instrument cover three areas that are critical to the adjustment process: (a) general adjustment, (b) work adjustment, and (c) interaction with host nationals, as suggested by researchers on expatriate studies (Peltokorpi & Froese 2014).

After obtaining quantitative results from the questionnaire, the study proceeded to qualitative interviews with questions developed from the same instrument. The qualitative research involved case studies and interviews with seven millennial Chinese expatriates aged between 25-40 years old. According to phenomenological research guidelines, in-depth exploration of lived experiences typically involves a small number of participants, with 3-10 individuals recommended (Creswell & Poth, 2018). This range is also consistent with evidence that data saturation in homogeneous groups often emerges within the first six interviews (Guest et al., 2006). Most of them were Chinese expatriates with experience living, studying, and working in Indonesia for a few years and represented various job roles to capture diverse perspectives on adaptation. Most had previously completed the quantitative questionnaire. Invitations to participate in the study's second phase were distributed via the “seeds.” The final participants for the qualitative phase mainly consisted of the “seeds” since by October 2022, only two participants outside the “seeds” were willing to participate in the interview. Despite the condition, the sample size for the qualitative phase was considered sufficient, and the fact that most of the interviewees were part of the “seeds” brings advantages since gaining trust and building rapport were much more accessible. Trust and rapport are essential in qualitative interviews since the interviewee is more likely to cooperate and be willing to provide accurate, comprehensive details and information (Abbe & Brandon, 2013).

The interviews were phenomenological by nature since they asked participants to recall their experience upon hearing about their assignment to Indonesia, their first few days in the country, things that surprised them about the way things worked, their experiences of culture shock, their relationships with co-workers, the barriers to

working in Indonesian culture, and how they utilised their previous skills while working in Indonesia. Referring to van Manen (1990), phenomenology involves deeply exploring how people perceive and make sense of their everyday experiences–valuing individuals' lived experiences. Interviews for all the participants were completed by December 2022 since they needed to be conducted at the convenience of both the participants and the interviewers. The interview questions are presented in Table 3.

Following data collection, this study adhered to the data analysis guidelines by Miles et al. (2019). The themes and subthemes were developed through an inductive thematic analysis following the same framework. Although the interview questions were informed by the Expatriate Adjustment Scale, the analysis was not tied rigidly to the scale's categories. Instead, the patterns that appeared in the interviews were interpreted using the person-environment (P-E) fit theory and the cross-cultural adaptation framework, which help explain how expatriates understand and respond to different cultural and organisational demands. Through this theoretical lens, the emerging themes represent various forms of person-environment interaction, with Workplace Dynamics and Hierarchies capturing how expatriates negotiate expectations and social structures in their work environment.

The data analysis followed three concurrent activities: data reduction, data presentation, and conclusion drawing or verification (Miles et al., 2019). Data reduction simplifies, focuses, and transforms raw data from field notes, guided by the researcher's conceptual framework and research objectives. The study then presented the Expatriate Adjustment Scale (EAS) results alongside qualitative findings from seven participants. Triangulation was achieved through mixed-method protocols and investigator triangulation (Denzin, 2009), where each researcher independently analysed interview transcripts and emerging themes. Additionally, member checking was conducted by presenting the final draft of findings to interviewees for verification, ensuring the accuracy of their stories and interpretations. This process validated the conclusions, preventing them from being solely determined during data collection (Miles et al., 2019).

RESULTS AND DISCUSSION

The quantitative study sampled 57 Chinese expatriates working in various organisations in Indonesia, including 13 males and 44 females. Only 16% (9 participants) brought their spouse to Indonesia, while the rest are single. The sample was drawn from 12 manufacturing, telecommunication, and technology organisations. Most participants have worked in Indonesia for less than four years, with around 20% (11 participants) having worked for more than five years. A significant challenge in collecting responses was establishing trust that the data would be used solely for research purposes, despite a formal statement in the cover letter from the Head of the Education institution where the researchers work. The quantitative data results are presented in Table 1.

Table 1
Average scores of each of the dimensions of the scale

Dimension (indicators)	Average Score (n=57)
Work Environment	
Indonesian workers working in my company have good attitudes	83.51
My Indonesian co-workers are reliable	79.14
I have issues with the way my Indonesian co-workers discuss work-related matters (R)	80.88
Language	
I have no problem in understanding the language used in my work environment	69.82
It is hard for me to communicate with my Indonesian co-workers in a non-work environment (R)	74.82
I could understand the written Indonesian language	72.89
I could express myself in the written Indonesian language	70.96
Job Characteristics	
I have freedom in decision-making at work	82.37
I have a professional responsibility at work	80.98
I have autonomy in organising and structuring my tasks at work	81.32
Leisure Time	
I could play sports I enjoy	80.88
I am satisfied with the way I spend my leisure time	83.68
I have opportunities to practice my hobby while working in Indonesia	76.40
Urbanity	
I could tolerate the street traffic in Indonesia	70.61
My local environment is beautiful	84.04
Indonesians are very punctual	72.72
Work-life Balance	
I could balance my professional life with my home life	81.40
My working hours allow me to maintain a work-life balance	82.28
Living Quarters	
I am satisfied with the size of my house or apartment	82.63
I am satisfied with the accommodation that I have here in Indonesia	82.02
Family Life	
I rate my family cohesion as satisfactory during my stay in Indonesia	85.00
I have a harmonious relationship with my spouse or partner during my stay in Indonesia	84.74
Local Friendships	
I have good number of friends from Indonesia	68.95
My friendship quality with my Indonesian friends is satisfactory	71.23
Contact to Those Left Behind	
I maintain frequent contact with my friends back in China	81.49
I maintain frequent contact with my relatives back in China	80.18

The survey results indicate a generally positive experience for expatriates in Indonesia, especially in areas vital to their professional and personal well-being. High scores in work environment indicators, such as coworker attitudes and reliability, suggest strong support and respect in the workplace. Expatriates also report significant autonomy and responsibility, reflecting a conducive organisational culture for expatriate success. Additionally, positive feedback on work-life balance and living conditions highlights overall satisfaction, suggesting that expatriates find a favourable balance between work and personal life. This supportive environment is crucial for maintaining high morale and productivity, benefiting the host companies and the broader economy. The adjustment score for Chinese expatriates is summarised in Figure 1.

Despite the positive experience, the survey and adjustment scores reveal challenges that could affect expatriates' long-term satisfaction and integration. Language barriers, reflected in lower scores for understanding and communicating in Indonesian, hinder effective communication outside work and limit deeper social interactions with local colleagues and friends. Additionally, while expatriates maintain strong ties with their home country, difficulties in forming local friendships suggest potential social isolation, which could lead to loneliness or cultural detachment. Although the professional environment is well-managed, targeted interventions like language training and social integration programs are needed to address these challenges and ensure a more holistic and fulfilling expatriate experience in Indonesia.

Following the quantitative results, the qualitative investigation was conducted through interviews with seven Chinese expatriates who participated in the quantitative study. The background of the qualitative participants is provided in Table 2.

The qualitative interviews with participants explored Chinese expatriate responses to the questionnaire, revealing 18 sub-categories, nine categories, and five themes.

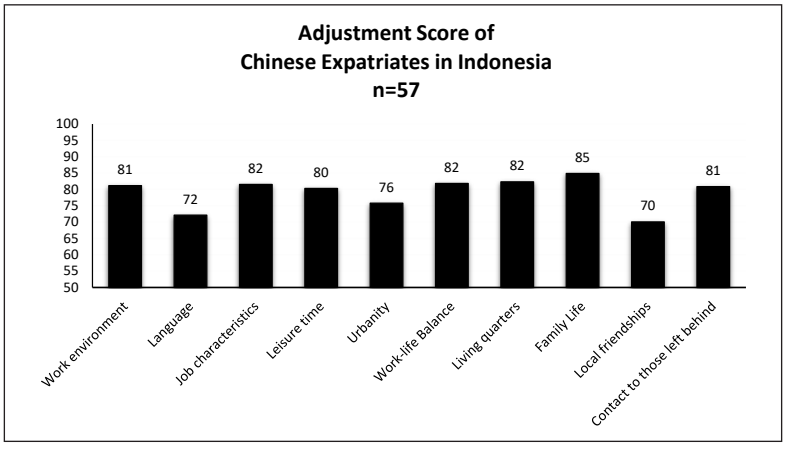

Figure 1. Adjustment score of Chinese expatriates in Indonesia (n = 57)

Table 2
The background of participants of the qualitative study

No.	Name	Background
1.	Maji	Maji worked in Indonesia for 3 years and was curious about the country. She was surprised that most Indonesians pray 5 times a day. The most difficult thing she faced was misunderstandings with colleagues due to cultural differences.
2.	Zhao	Zhao worked in a global tech company in Indonesia for 5 years. He had many questions before coming to Indonesia, such as whether Indonesians are friendly to Chinese and whether he can eat pork. He found the infrastructure to be poor, but locals to be happy. His English skills improved.
3.	Huang	Huang worked in Indonesia for 10 years, including at a Chinese global phone manufacturer. He was excited but also afraid when he learned he would work in Indonesia. Communication in a religious culture was a big challenge. The most difficult thing was making others understand his ideas.
4.	Wenqi	Wenqi learned the Indonesian language and culture for 4 years and has worked in Indonesia for 2 years. She found the culture shock to be praying multiple times a day and washing in the toilet before praying. She acts as a key communicator between HQ and the Indonesian branch.
5.	Jack	Jack worked in Indonesia for 2 years without knowing the language. He was excited to experience a new culture and found the locals to be kind. The culture shock was praying multiple times a day. His duty was to report market conditions and get support from HQ.
6.	Wenxin	Wenxin can speak Indonesian and has worked in Indonesia for 8 years. She was curious but didn't feel good at first due to language barriers. She found locals to be laid-back and shocked that they celebrate birthdays with pizza or martabak.
7.	Aaron	Despite being a Chinese national, Aaron spent his childhood in Australia and managed to interact with some international students from Southeast Asia during his youth. Although he already had some understanding of Southeast Asian culture, he became confused in understanding Indonesians, as people coming from different parts of Indonesia have their own distinct values and behaviour. He has been working in Indonesia for 2 years.

The themes were developed inductively and interpreted through the person-environment fit and cross-cultural adaptation frameworks. The first theme focused on cultural and religious adaptation, encompassing society's dominant religious practices and workplace cultural norms. The second theme highlighted communication challenges, including language barriers and difficulties in understanding Indonesia's indirect communication style. The third theme centred on workplace dynamics, addressing social hierarchies, team interactions, and perceptions of Indonesian culture. The fourth theme concerns personal and professional growth, discussing the benefits of international assignments and skill development. The final theme emphasised the importance of pre-departure training, covering participants' expectations versus reality, preparation for cultural integration, and the role of organisational support. These themes and categories emerged from interviews where participants described their experiences as Chinese expatriates in Indonesia, with the conversation flowing naturally and supported by follow-up questions outlined in Table 3.

Table 3
Expatriate interview questions

No.	Questions
Main question: Please describe your experience as a Chinese expatriate working in Indonesia.	
1	What is your name?
2	How long have you been working in Indonesia?
3	What did you think when you first heard you were going to Indonesia?
4	What were the first few days like?
5	Were there things that surprised you about the way people thought or worked?
6	What was your first "aha" (culture shock) about the culture?
7	How did people of that culture (Indonesia) see you?
8	Can you describe your relationship with your co-workers?
9	Can you describe your relationship with your home organisation?
10	What are the most difficult things you faced when working in Indonesia?
11	Do you get to use the skills you acquired abroad in your current job?

Theme 1: Cultural and Religious Adaptation

All the respondents in our study experienced culture shock when adapting to Indonesian culture, particularly in religion. In Indonesia, religion plays a significant role in people's lives, with most of the population being Muslims who pray five times a day. Muslims perform two of their daily prayers at work during lunch breaks and before work hours end in the evening. This practice was unfamiliar to Chinese expatriates, especially when meetings had to be rescheduled or planned at inconvenient times to allow Muslim employees to perform their prayers. Aaron shared his experience regarding this issue:

> For the midday prayer, I'm okay with that. But sometimes, I found that my staff also take up to 30 minutes for the afternoon prayer. It's just 2 hours before the end of work, yet they intentionally take an extra break for this reason. During my early months, I also noticed that they often came late to meetings or left early, using prayer as an excuse. (Aaron)

Most participants agreed that Indonesians tend to avoid confrontation and are forgiving of errors and failures. However, for Chinese expatriates, such values are seen negatively as they could lead to complacency, contrasting with the Indonesian cultural tendency to avoid conflict. Huang, one of the Chinese participants, noted that preventing conflict is unnecessary since conflicts are unavoidable and still occur in the workplace. He argued that foreign workers might need to adjust their communication style to be more indirect, as most Indonesians often use body language, facial expressions, or tone of voice to convey their feelings rather than expressing themselves directly. Understanding this indirect communication style is vital to ensuring effective communication.

Theme 2: Communication Challenges

Jack shared his experience of communication challenges due to language barriers and cultural misunderstandings when interacting with his team on work-related issues:

> You know that my job is to send reports to company HQ multiple times daily, right? During my first few weeks, I couldn't speak Bahasa Indonesia, and when speaking in English, my Chinese accent made it difficult for Indonesians to understand me. One day, I asked my team about a sales report, but it turned out that he went to perform prayer. When he arrived, I asked, 'Where were you?'—perhaps due to my facial expression, tone of voice, or language barrier—he took it as if I was scolding him. But my full message was that if he was going to pray, please send me the necessary data first because the report needed to be delivered on time. I didn't know how to say it properly, and I know that if you come here not knowing Bahasa Indonesia and rely on broken English, things will be very hard. (Jack)

In Jack's case, this challenge motivated him to learn Bahasa Indonesia and improve his English to increase communication effectiveness. Similarly, Zhao highlighted the importance of understanding indirect communication:

> When we talk fast and loudly, they (Indonesians) thought that we were angry. (Zhao)

Understanding this indirect communication style is essential for effective communication in Indonesia. Zhao highlights that Indonesian-style communication needs a high tone of voice, which is considered rude. However, he realised this quite late, almost a year after arriving in Indonesia. Reflecting on his early days as an expatriate, Zhao initially hesitated to adjust his communication style to suit the local workers. When one of the Chinese managers mentioned that Zhao had gained a reputation as a hotheaded person, he began to reflect on whether his behaviour was effective. Zhao recalls that he initially thought his Indonesian co-workers were friendly and obedient. However, after noticing some behavioural changes when they interacted with him, Zhao concluded that it was due to the indirect communication style of the Indonesian workers, who are uncomfortable confronting others in the workplace.

Theme 3: Workplace Dynamics and Hierarchies

Indonesian workers tend to adhere to social hierarchy, and using titles is essential when addressing someone senior. This practice creates boundaries between foreign workers (superiors) and local workers (subordinates), hindering the team bonding process. Subordinate workers usually do not question their superiors and follow requests without any response, behaviour driven by the desire to please their leaders. Additionally, Indonesians still adhere to stereotypes, and subordinates typically

do not challenge what their superiors ask. Wenxin commented on this issue:

> We can show our full team potential only if everyone is willing to participate, be open to each other, and be critical when we know the best method has not been used. But if they only say 'yes' and 'OK' all the time, then everything will come back to me to decide. There's no use in having a team if team members cannot contribute. (Wenxin)

The work environment and office type can also affect mood and productivity. In Indonesia, the work environment varies, and foreign workers may encounter attitudes different from what they are used to. Productive workers are vital to achieving business goals. Still, Indonesians working in a multinational company tend to separate their personal and work lives, making it difficult for Chinese expatriates to befriend Indonesian employees. Zhao further illustrated this challenge:

> When we talk fast and loudly, they (Indonesians) thought we were angry. When we invited them for dinner, they were afraid the food would contain pork. I thought of this issue before coming to Indonesia and prepared myself for the adjustment. But sometimes it takes trust and cooperation because now we are in the same boat, and we want to move forward together. I think the company agrees to employ Indonesian Muslims because they know that people will start to work together when they have a common goal. Time has proven that we can work together—but the cooperation and trust could be better. (Zhao)

Maji also supported the statements from Wenxin and Zhao. Maji highlighted that the Indonesian workers maintain some distance from the Chinese employees at her office. She was surprised to learn this, as it contradicted what she had previously understood: that a collectivist society would be more open to personal relationships. She concluded that this distance might be due to various factors such as religion, culture, and political views. Additionally, she noted that her office did not prioritise fostering synergy between the host country and home country employees. Quoting her response, she mentioned that 'in the end, everything was up to the company'—implying that such synergy would never happen without the company's effort to cultivate good relationships.

Theme 4: Personal and Professional Growth

Despite the many adjustments that Chinese expatriates have had to make, they also acknowledged the benefits of their international assignments. For example, Jack's language challenges motivated him to learn Bahasa Indonesian and improve his English to communicate better with the local staff.

Despite challenges in adjusting to Indonesia's culture, all participants in the qualitative study agreed that Indonesians are friendly. Cross-cultural adjustment is crucial for building relationships between

Chinese expatriates and the local culture, helping to avoid misunderstandings and conflicts, thereby enhancing performance and achieving goals. Participants noted that working in Indonesia improved their understanding of global business practices, enhanced their soft skills, and boosted their language proficiency through daily interactions. Wenqi highlighted that as the world becomes more interconnected, multinational corporations increasingly value international experience. It provides professional and personal rewards and offers a competitive advantage in the job market, demonstrating an ability to tackle new challenges, making it highly appealing to employers.

Theme 5: Importance of Pre-Departure Training

Interestingly, some participants shared their experiences with pre-departure training before coming to Indonesia. Wenxin, for example, learned about the dos and don'ts in Indonesia, but most of the information highlighted stark cultural differences. She was surprised by the distinctiveness of the Chinese Peranakan culture—a blend of Chinese and local indigenous cultures in Southeast Asia, especially in language, customs, and food, compared to mainland China. She also found that many Indonesian foods in Jakarta were familiar to her and was surprised to learn that a significant proportion of Indonesians are not Muslims. The following is her statement:

> I know… they should tell us about it, right? All we know is that we are going to work in a culture that is very different from where we come from. (Wenxin)

Many expatriates may not be familiar with foreign locations, and most organisations do not offer cultural adaptation training, particularly in culturally complex countries like Indonesia. Despite this, most respondents acknowledged the importance of cross-cultural adjustment for their future work. This adjustment enhances soft and hard skills, improves language abilities crucial for effective communication, and helps build essential relationships in new environments.

Chinese expatriates recognised the benefits of their international assignments despite the challenges. Living and working abroad allowed them to immerse themselves in new cultures, learn languages, and develop life skills. Although adjusting to new places and cultures was initially challenging, working abroad offers unique personal and professional growth opportunities. A critical aspect of pre-departure preparation is understanding how Indonesians handle conflict. Indonesians tend to avoid direct confrontation and are forgiving of mistakes. Expatriates unfamiliar with this approach may need to adapt. All participants agreed that Indonesians prefer to avoid conflict, with Huang's observation highlighting how personal characteristics influence adaptability:

> If the expatriate has high openness to new experiences and is willing to take criticism and feedback, adjusting to the new working culture will not be too difficult. (Huang)

CONCLUSION

Interviews revealed that working abroad significantly deepened respondents' understanding of global business practices and enriched their vitae with valuable experience and skills. It also provided a valuable opportunity to develop soft skills, such as effective communication with diverse backgrounds, and unexpectedly improved their English and Indonesian language proficiency. Despite adjustment challenges, working abroad was a highly positive and transformative experience.

The survey results highlight a generally positive experience for Chinese expatriates in Indonesia, particularly in areas vital to their professional and personal well-being. High scores in work environment indicators, such as coworker attitudes and reliability, suggest strong support and respect in the workplace. Expatriates also report significant autonomy and responsibility in their roles, indicating that Indonesia's organisational culture is conducive to expatriate success. Additionally, positive feedback on work-life balance and living conditions underscores overall satisfaction, suggesting that expatriates find a favourable balance between work and personal life. This supportive environment is crucial for maintaining high morale and productivity, benefiting host companies and the broader economy.

Despite positive experiences, the survey and adjustment scores reveal challenges that could affect expatriates' long-term satisfaction and integration. Lower scores in Indonesian language proficiency highlight significant communication barriers, particularly in non-work environments, limiting deeper social interactions with local colleagues and friends. Qualitative findings emphasise that these challenges concern language and the indirect communication style common in Indonesia. For example, Jack struggled with compelling messaging, and Zhao realised the importance of tone and volume, underscoring the need for expatriates to develop both language skills and cultural sensitivity. Additionally, lower scores in local friendships suggest difficulties forming meaningful connections, potentially leading to social isolation and impacting their overall experience.

Implications of the Study

The conclusions of this study have several theoretical implications. Regarding cultural and religious alignment, this study reinforces earlier findings by Perdhana et al. (2019), who noted that barriers to cross-cultural adjustment in Indonesia include differing social norms, language use, privacy expectations during socialisation, and time management practices. These findings highlight the need for structured pre-departure briefings tailored to Indonesia's multicultural environment. Early cultural familiarisation can benefit expatriates by helping them understand simple Indonesian phrases and fostering curiosity about Indonesian culture.

In relation to communication and language barriers, the findings of this study are consistent with previous research (e.g., Avril & Magnini, 2007; van Erp

et al., 2011), which shows that limited two-way communication and language differences hinder socialisation between Chinese expatriates and local staff. These findings reinforce previous studies. Thus, organisations should provide bilingual communication guidelines, encourage English or Indonesian language training, and establish communication norms that reduce misunderstandings. Strategies such as checking whether the interlocutor understands, practising active listening, and improving basic Indonesian or English skills can help make daily interactions smoother.

The next implication reveals that Chinese expatriates often struggle to understand Indonesian workplace expectations. This finding supports evidence from Setti et al. (2022), who noted resistance and adjustment challenges when workplace expectations differ from what expatriates are accustomed to. Therefore, leadership and cultural-competence training that focuses on Indonesian workplace culture is vital. Expatriates should also engage in relationship-building with coworkers across ranks to better understand the norms and nuances of Indonesian cultures.

This study also found that many Chinese expatriates developed resilience, confidence and problem-solving abilities while navigating cultural and workplace challenges. Their adjustment process often involved learning to manage uncertainty, adaptation to the local culture, and negotiating unfamiliar expectations from host-country nationals. These findings reflect evidence that cross-cultural assignments can contribute to long-term professional development and the acquisition of global competencies (Takeuchi, 2010). Expatriates in this study reported that challenging situations, such as unclear communication, different decision-making processes, or adaptation to the high-context communication style of the Indonesians, strengthened their adaptability and coping strategies.

Given these challenges, it is recommended that multinational corporations conduct well-prepared cross-cultural training for employees who will be sent to countries with high cultural complexity, such as Indonesia. According to the Indonesian Ministry of Labour (Ariyanti, 2023), 52,331 Chinese nationals worked in Indonesia as of November 2022. Considering the quantitative results of this study, the primary barriers to adjusting to Indonesia's culture are language difficulties and challenges in forming friendships with local Indonesians. Therefore, cross-cultural training should thoroughly explain the differences between Chinese and Indonesian cultures, focusing on measurable, universal aspects. Cultural frameworks such as those from Hofstede et al. (2010b), the GLOBE Project (2006), Munter (1993), or Hall (1976) could be utilised to provide a clear comparison of the values of Chinese and Indonesian people. Furthermore, a diversity and inclusion policy should promote cooperative working methods within the company, particularly in the Indonesian subsidiary. A common mistake

by multinational corporations operating in Indonesia is to generalise Indonesian culture. In contrast, each Indonesian cultural group has a distinct culture that could affect work interactions and managerial effectiveness. Expatriates should prepare mentally for adjustment, seek institutional support and embrace local networks to facilitate smoother adaptation.

Limitations and Recommendations for Future Studies

The pragmatism paradigm utilised in this study has proven effective in assessing the 'hidden' population of Chinese expatriates in Indonesia. However, the small sample size of 57 expatriates in the quantitative study could be expanded in future research. This study found that despite distributing the questionnaire through WeChat expatriate groups, responses were low due to concerns about trust. Future research could address this issue by using a trusted survey website. Furthermore, this study suggests that qualitative diary studies could significantly enrich future research with the potential to provide a deeper understanding of the fundamental challenges expatriates face in their new country of residence.

Given the significant cultural variation within China, future research should delve into the dyadic relationship between Chinese expatriates and their Indonesian peers, considering their sub-cultural origins. Understanding this relationship can contribute to a more nuanced understanding of cross-cultural interactions. Cultural values might vary by region within a country, resulting in distinctive sub-cultural values that shape the national culture (Hofstede et al., 2010a). There is a possibility that certain Indonesian subcultures share values that are similar to Chinese cultural values, leading to smoother interactions in the business environment. This approach could help identify cultural compatibility between specific Chinese and Indonesian subcultures to expand the knowledge of expatriate adjustment in Indonesia.

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Smartphone Placebo for Nomophobia: A Quasi-Experimental Study on Smartphone Dependency and Toxicity

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ABSTRACT

Nomophobia, or the fear of being away from a smartphone, has evolved as a growing concern among university students, often linked to smartphone dependency and toxicity. These conditions are associated with anxiety and declined academic performance. This study introduces a novel intervention, the smartphone placebo, as a naturalistic intervention to manage smartphone dependency without requiring complete digital detoxification. Using a quasi-experimental mixed design, 200 undergraduate students were assigned to experimental (n=100) and control (n=100) groups. The intervention involved the use of a smartphone placebo resembling a smartphone in size and function as a smartphone placebo. Data were collected in three phases: baseline time, follow-up time and evaluation time using a structured questionnaire measuring two dimensions: smartphone dependency and smartphone toxicity. Findings from a mixed-design ANOVA revealed a significant reduction in smartphone dependency and digital toxicity over time in the experimental group compared to the control group. The results indicate that a non-digital-based intervention like a smartphone placebo may help regulate digital attachment behaviours and mitigate toxic usage patterns. This study offers practical implications for digital well-being programs in higher education, suggesting the use of symbolic substitutes to manage nomophobia and improve smartphone dependency. The findings contribute to the growing field of digital behaviour intervention by providing evidence for low-cost, non-technological alternatives to digital detox strategies. The study implies that higher education institutions may adopt this

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intervention of using smartphones to promote digital literacy. Future research should consider exploring the importance of smartphone placebo in different demographic and educational contexts.

Keywords: Nomophobia, quasi-experimental, smartphone dependency, smartphone placebo, toxicity

INTRODUCTION

The rise of smartphones in recent years has led to a behavioural phenomenon characterised by nomophobia or fear of being without a smartphone, which significantly affects social interactions. Nomophobia is often intertwined with smartphone dependence, where individuals exhibit compulsive behaviours regarding the use of smartphones. This phenomenon leads to adverse effects such as anxiety, aggression and feelings of solitude (Notara et al., 2021). This interconnection highlights the psychological and behavioural implications of excessive use of smartphones and suggests the need for structured interventions. Tuco et al. (2023) argue that the prevalence of nomophobia among various demographic data, particularly university students, emphasises a collective struggle with technology addiction. The results indicate a correlation between nomophobia and high anxiety levels, suggesting that the constant presence of smartphones generates a state of psychological suffering.

Smartphone dependencies are crucial, affecting not only the individual user but also their social circles. To examine this issue, the inquiry must begin by understanding the dimensional differences between the terms of *smartphone dependency* and *smartphone addiction*. This is due to the overlapping definitions between these two concepts, which often lead to confusion in interpreting the phenomenon. Kim et al. (2023) define smartphone dependency as the active use of smartphones by users to fulfil daily life needs. Based on the Media System Dependency (MSD) Theory by Ball-Rokeach (2008), individuals rely on communication technology to achieve specific goals in their daily lives. These goals include understanding situations, forming communicative relationships with others, and fulfilling the desire for entertainment. This dependence can also lead to digital toxicity, where individuals get involved in negative behaviours such as cyberbullying or social isolation.

In contrast, several researchers have discussed the issue of smartphone addiction (Ratan et al., 2021). According to Fryman and Romine (2021) Specific diagnostic criteria for smartphone addiction have yet to be clearly established. In fact, the use of the term *addiction* to describe excessive smartphone use has sparked various controversies, particularly in the field of health. Shoukat et al. (2025) classifies this addiction as a condition that affects users' psychological and physical well-being, which includes sleep disorders, anxiety, loneliness, fear, and depression.

Consequently, there is a need to explore the concept of a placebo smartphone, which offers intriguing potential in relieving issues associated with nomophobia and smartphone dependency. The placebo effect, traditionally understood in the context of medical treatments, indicates that belief in the effectiveness of non-active intervention can produce tangible benefits (Bartra, 2024). In the domain of smartphone use, a 'smartphone placebo' can be designed to create a technological engagement appearance by minimising real device dependence. Earlier, Padmavathy (2023) proposed the potential of Artificial Intelligence (AI) in nomophobia detection and management. By leveraging advanced technologies, it is possible to identify smartphone dependence patterns, allowing targeted interventions that aim to mitigate the psychological toll of excessive use of smartphones.

Although the concept of a placebo smartphone has a new perspective, it raises questions about the ethical implications of such interventions. As highlighted by Sanna (2024) Understanding the nuances of addictive disorders is fundamental, especially when considering new methodologies for treatment. It is crucial to sail the fine line between providing relief from anxiety and promoting an environment in which individuals feel more dependent on technology. There are a lot of digital detox applications that help with nomophobia and smartphone dependency issues. However, Ferrucci (2025) suggests that psychotherapy can help individuals to navigate their relationship with technology, promoting inner freedom from harmful behaviours. This feeling resonates with the need for a holistic approach that incorporates therapeutic structures along with technological solutions.

The discussion about being overly attached to smartphones is crucial to completely addressing the interconnectivity of nomophobia, dependence and toxicity. Despite growing awareness of smartphone dependency and its psychological implications, including anxiety, social isolation, and digital toxicity, existing interventions primarily focus on behavioural therapies or digital detox apps. However, limited empirical research has examined non-digital, perceptual-based interventions such as the smartphone placebo as a tool to mitigate nomophobia and excessive smartphone engagement through a natural process. While the placebo effect has been widely studied in medical contexts, its application within the domain of smartphone dependency remains underexplored, particularly through experimental designs. Additionally, there is a lack of distinction and clarity between smartphone dependency and addiction, which often leads to conceptual confusion in intervention design. Therefore, this study addresses a critical gap by employing a quasi-experimental design to evaluate the effectiveness of a smartphone placebo intervention in reducing smartphone dependency and toxicity among undergraduate students. It also contributes novel insights by integrating experimental approaches, communication dependency models, and placebo effect frameworks into a single, testable approach.

LITERATURE REVIEW

Nomophobia

The concept of nomophobia was first used in 2008 to define the anxiety of not having a smartphone (Notara et al. 2021). Specifically, the word nomophobia is referred to as a modern phobia and has contributed to the study in communication, psychological and social perspectives. This phenomenon is alarming to the issue of technology dependency, where it has strong correlation between anxiety, dependency and insomnia system (Daraj et al., 2023). Young adults, particularly university students, are among the majority groups who face the issue of technology dependence and distress (Abdoli et al., 2023). Four dimensions of nomophobia conceptualised by Safaria et al. (2022) include inability to communicate, missing connectedness, inability to access information, and giving up convenience.

In the 21st century, smartphone used not only as communication tools but also for social interaction, entertainment and information searching. This has contributed to the anxiety of not having a smartphone, with the intention of staying connected to the social network society (Silmi & Lailiyah, 2024). The continuation of social connectivity through smartphones validates for some users to have anxiety associated with the thought of being disconnected. Specifically to university students, this modern phobia can affect their daily routine as students, as it give implication towards focus span and academic performance (Aslani et al., 2025).

Users with nomophobia issues usually face difficulties in concentration and increased levels of stress and irritability when they are disconnected (Jahrami et al., 2024). This constant dependency contributes to an illusion of security while simultaneously inducing an anxiety which considerably affects physical interaction and well-being. According to Daraj et al. (2023) Being offline, encouraging face-to-face interaction and getting connected to real life are among the ways to avoid nomophobia symptoms.

Smartphone Dependency

The history of the mobile phone industry is important to forecast the relevant solutions related to smartphone dependency. Goggin (2021) highlights the invention of mobile phone technology, which started in the early twenty-first century, when the technology replaced fixed telephones. It went through over 70 years of transformation before smartphones became among the primary tools in communication technology. Earlier, the size and functionality were limited for mobility functions (Oppegaard, 2022). However, with technological advancements and Internet penetration, smartphones have become practical to facilitate human communication in everyday life activities. Users connected to smartphones to get news, information and data. These goals are considered basic needs that contribute to the dependency of users on smartphones to fulfil their life goals (Ball-Rokeach, 2008).

This situation is classified as 24/7 consumption, which Crary (2022) argue

as a digital capitalism phenomenon around the clock. The word omnipresent is used by Harmon and Duffy (2022) is relevant to this phenomenon where the ability of smartphones to function anywhere and at any time, representing human communication non-stop. Hammoud et al. (2021) argue that this situation has a direct relationship to time and space, where smartphone technology and Internet usage allow users to be dependent anywhere and at any time.

Digital Toxicity and Smartphone

Overly connected to communication technology like smartphones not only contributes to dependency issues, but also raises concerns in the form of digital toxicity. Kaun (2021) argue that users should have the freedom to disconnect from technology usage to stop the intoxication of technology from becoming toxicity. The advancement of technologies, which includes the integration of Artificial Intelligence, augmented reality, virtual reality and mobile applications, has resulted in users having difficulty disconnecting from technology like smartphones (Findlay, 2023). Earlier Bull (2007) used the term toxicity to define negative effects and moments that occur when a user is overly connected to technology.

However, Bull (2007) was suggesting that toxicity should be explained carefully, as it can also be defined positively. Playing video games has frequently been described as compulsive behaviour, which need not be equated with any detrimental social attribute or harmful effect. For example, the idea of inability to stop reading a novel can be considered as toxicity from a positive perspective. There are three elements of negative toxicity suggested by Bull (2007). The first form of toxicity is the inability of a user to stay away from the device. The second form of toxicity is the situation in which users do not view their tethering to their device as a problem. Third, toxicity can refer to the damage of a physical nature that can occur by privatising public spaces (Leclercq & Pojani, 2023).

Smartphone Placebo

As a reaction to the phenomenon of being overly connected, Bartra (2024) used the placebo effect term as an intervention for addiction and technology dependency. From a medical perspective, a placebo can be defined as a situation in which an individual's physical or mental state appears to improve after experiencing a dummy treatment (Benedetti, 2021). From a communication perspective, the term ‘smartphone placebo’ can be conceptualised as a psychological phenomenon where users experience a perceived improvement in their well-being or cognitive abilities due to the belief that they are using a functional smartphone, even if the device is not actually operational or connected to a network.

This concept is related to the placebo effect, which is a psychological phenomenon where a person experiences a real improvement in their symptoms or condition simply because they believe they are receiving treatment, even if the treatment has no therapeutic effect.

In the context of a smartphone placebo, users may feel more secure, connected, or productive simply by having a smartphone in their hands, even if the phone is dummy and not capable of making calls, accessing the internet, or performing other typical functions. (Stalujanis et al., 2021). The placebo effect in this scenario can be attributed to the psychological association people have with smartphones in terms of communication, social connection, and productivity.

Placebo interventions are commonly argued through different areas of expectancy and mechanisms. From the perspective of behaviour, Benedetti (2021) argues that humans may experience behavioural or psychological changes when they believe that a particular intervention has the possibility of producing an outcome. This situation applies even when the process itself contains no active therapeutic element. In this context of smartphone dependency, the smartphone placebo may function as a symbolic substitute smartphone that can satisfies users who perceived need for smartphone usage and connectivity. The physical presence of this smartphone placebo may give effects to reduce the fear of being away from a real smartphone that also associated with the issue of nomophobia and smartphone dependency. This has a significant relation to the concept of digital detox (Radtke et al., 2022).

The concept of digital detox has been viewed as an important reaction to this phenomenon, so that the term became an official phrase and was added to the Oxford English Dictionary (OED) in 2013. As defined by Hager et al. (2023), the phrase " digital detox can be explained as a period of time during which users decide to disconnect from using electronic devices such as smartphones, to reduce stress or focus on social interaction in the real world. Suggested by Kocoglu et al. (2024) As a digital diet, this concept is not about totally cutting out the use of technology, but it is one of the healthier approaches in helping users to control their dependency on digital technology. Similarly, Brubaker (2022) used the term disconnectionist to describe the desire for authenticity and to be real.

METHODOLOGY

This study used a combination of experimental and quantitative methodologies, which are appropriate to measure the objective of this research in examining the effectiveness of a smartphone placebo in reducing smartphone dependency and smartphone toxicity among university students during lecture sessions. Both variables, which were conceptualised as smartphone dependency and toxicity, were quantitatively measured using a structured questionnaire. By employing a quasi-experimental design, this research design involved two groups of participants. The first one is referred to as an experimental group, and the second one is referred to as a control group, with the intention of comparing the outcomes (Creswell, 2002).

A total of 200 undergraduate students from the Faculty of Communication and Media Studies, Universiti Teknologi MARA (UiTM), were involved as participants

for this study. They were representing eight classes from various communication subjects. UiTM students were chosen based on both convenience and relevance to the research focus. As one of Malaysia's largest public universities with a digitally active student population, UiTM offers access to a demographic that is highly integrated into mobile technology culture.

Initially, participants were randomly assigned to a different set of groups, either representing the experimental or control group, based on class allocation. To control the procedures, there were four classes designated as the experimental group, while the remaining four were categorised as the control group. Students in the experimental group were given a smartphone placebo and were required to place their actual smartphone in a designated box during lecture sessions. In contrast, the control group continued with their lectures without any intervention of a smartphone placebo.

In the process of measuring both variables, three time points were employed and referred to as (i.e., Baseline Time), (i.e., Follow-up Time) and (i.e., Evaluation Time). Baseline Time refers to the initial day of the lecture session, where subsequent measurements were taken at two-week intervals, which are referred to as Follow-up Time and again at four weeks to assess changes over time, referred to as Evaluation Time. To measure both variables, a structured questionnaire was employed. Smartphone Toxicity was assessed using 20 items, while Smartphone Dependency was measured with 10 items. All items used a 7-point Likert scale ranging from 1 ("Extremely Disagree") to 7 ("Strongly Agree"). Summated scores were calculated for each variable: Smartphone Toxicity scores ranged from 20 to 140, and Smartphone Dependency scores ranged from 10 to 70. Higher scores indicated greater levels of smartphone toxicity or dependency, respectively.

For the statistical analysis, a Mixed Design ANOVA was employed to assess the effects of three time points (i.e., Repeated Measures Element), group effects (i.e., Cross-Sectional Element), as well as interaction effects simultaneously (Field, 2009). As the study involved two main variables, two separate Mixed Design ANOVAs were conducted, following the approach suggested by Ahmad Sharoni et al. (2018). According to Montgomery (2017) When sample sizes exceed 30, data can be considered approximately normally distributed by using the Central Limit Theorem. Thus, with each group comprising 100 participants, the data in this study can be assumed to follow a normal distribution. Moreover, Mixed Design ANOVA is generally robust to violations of normality assumptions, as it is grounded in the principles of ANOVA (Montgomery, 2017). To assess the equality of covariance matrices, Box's Test was conducted (Field, 2009). However, Mixed Design ANOVA is also considered robust to violations of this assumption when group sizes are equal. Given that both the experimental and control groups included 100 participants each, the results of the analysis can be considered statistically valid.

RESULTS AND DISCUSSION

Findings of the Study

Table 1 shows the test-retest reliability analysis for both variables by using correlation analysis. This type of reliability assessment examines the consistency of the relationship between variables across different time points. The instruments used to measure both variables demonstrated good reliability over time, as the correlation coefficients indicated a strong relationship (Cohen, 2013). Additionally, Cronbach's Alpha reliability analysis was conducted for both variables across the time frames. As shown in Table 2, all Cronbach's Alpha values exceeded .70, suggesting that the instruments used were acceptably reliable across time (Cronbach, 1971).

Referring to Table 3, the descriptive analysis indicates that the scores for both variables decreased from the baseline to the follow-up period and continued to decline from the follow-up to the evaluation period. These decrement values occurred for the experiment group, where the Smartphone Placebo was implemented for each respondent. In contrast, the scores for both variables in the control group remained consistently high, with only minor variations across the three time points. Figure 1 and Figure 2 illustrate the linear plots of time effects for each variable across both groups.

Table 4 shows the summary results of the equality of error variance test using two methods, which are Levene's Test and Hartley's F-Max Ratio Test. Based on Levene's Test, it can be considered that the majority of variables with respect to their time group do not have an equal error variance across the experiment and control groups since Levene's statistic was significant at least at 5% of probability.

Table 1
Test-retest reliability analysis using correlation analysis

	Baseline Time	Follow-up Time	Evaluation Time
Baseline Time	**1**		
Follow-up Time	0.796** (0.633**)	**1**	
Evaluation Time	0.748** (0.639**)	0.783** (.690**)	1

Note. The bracket values refer to the correlation coefficient for the Smartphone Dependency, whereas values without brackets refer to the Smartphone Toxicity correlation coefficient; n = 200; **p <.01

Table 2
Cronbach's alpha reliability analysis

	Smartphone Toxicity	Smartphone Dependency
Baseline Time	0.752	0.736
Follow-up Time	0.789	0.745
Evaluation Time	0.796	0.765

Table 3
Descriptive analysis of baseline-test, follow-up-test, and evaluation-test for the variables

Variable	Group	Baseline (M ± SD)	Follow Up (M ± SD)	Evaluation (M ± SD)
Smartphone Toxicity	Experiment	122.23 ± 9.30	80.70 ± 8.61	77.22 ± 7.11
	Control	124.27 ± 8.90	129.58 ± 5.24	129.38 ± 4.43
Smartphone Dependency	Experiment	59.24 ± 5.41	49.54 ± 5.40	38.91 ± 3.08
	Control	60.55 ± 4.45	61.03 ± 3.94	61.78 ± 3.90

Note. M = Mean; SD = Standard Deviation; n (Experiment) = 100; n (control) = 100

Table 4
Test of equality of error variance for group effect test

Variable	Time	Hartley's F-Max Ratio[a]	Levene's Test (p-value)
Smartphone Toxicity	Baseline	86.462 / 79.149 = 1.092	1.112 (.293)
	Follow Up	74.091 / 27.458 = 2.698	28.353 (<.01)
	Evaluation	50.476 / 19.652 = 2.568	29.010 (<.01)
Smartphone Dependency	Baseline	29.255 / 19.785 = 1.479	5.921 (.016)
	Follow Up	29.200 / 15.504 = 1.883	12.202 (.001)
	Evaluation	15.224 / 9.477 = 1.606	1.534 (.217)

Note. [a]It is a ratio of the variance between the group with the biggest variance and the group of the smallest variance, where the groups are Experiment and Control

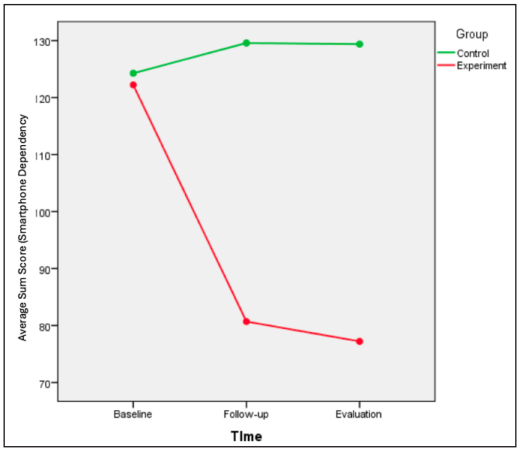

Figure 1. Linear plot of time versus average sum score of smartphone toxicity across experiment and control groups

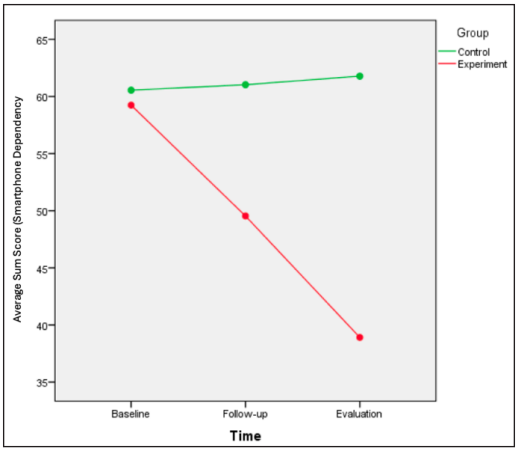

Figure 2. Linear plot of time versus average sum score of smartphone dependency across experiment and control groups

However, according to Pallant (2010), this Levene's Test was a sensitive test. According to them, Hartley's F-Max Ratio test statistic can be considered to produce a more robust test when the sample size is large. Based on Hartley's F-Max Ratio test, all the interested variables can be considered to have an equal error variance across the groups for each time effect, since the ratio was less than 3.00 for large sample sizes (Field, 2009). Therefore, it can be concluded that the error variance for each variable in each time factor can be considered equal across groups.

Table 5 shows the summary results of the mixed designs ANOVA analysis. The assumption of sphericity using the Mauchly's test indicated that, the sphericity assumption was not met for the Smartphone Toxicity (Mauchly's Statistics = 0.538, $p < .01$), and Smartphone Dependency (Mauchly's Statistics = 0.918, $p < .01$), hence Greenhouse-Geisser test statistic adjustment was used since the Mauchly's statistic was below than 0.75, but Huynh-Feldt test statistic adjustment was used if the Mauchly's statistic was above than 0.75 (Coakes et al., 2009). On the other hand, the group effect analysis, the conventional F-test was used since the assumption of equality of error variance across experimental and control groups was met (i.e., refer to Table 4).

Based on the results reported in Table 5, the Smartphone Toxicity scores showed statistically significant changes across the three-time effects (Smartphone Toxicity = 22.39, $p < .01$, $\eta^2 = .775$). Besides that, the analysis also indicated that the interaction effect between Smartphone Toxicity and Group (Smartphone Toxicity *Group = 23.24, $p < .01$; $\eta^2 = .848$), hence it is indicated that the Smartphone Toxicity score differed in experiment and control groups across the time effects. In addition, the group effect was also significant (Group Effect = 25.27, $p < .01$; $\eta^2 = .902$). Hence, the Smartphone Toxicity score for both groups was statistically significant differ.

In terms of Smartphone Dependency, the mixed designs ANOVA indicated that the Smartphone Dependency score was also significantly changed across these three-time effects (Smartphone Dependency = 39.06, $p < .01$; $\eta^2 = .840$). Besides that, the Smartphone Dependency also differed in experiment and control groups across time effects, since the interaction effect between Smartphone Dependency and Group effect was significant (Smartphone Dependency*Group = 32.79, $p < .01$, $\eta^2 = .870$). Besides that, the Smartphone Dependency score was also statistically significant differ between the experiment and control groups since the group effect test was significant (Group Effect = 25.41, $p < .01$; $\eta^2 = .680$).

Table 6 shows the specific analysis in terms of comparison analysis among the time effects. The analysis indicated that all variable scores were statistically significant decrease (i.e. all p-values < .05 and 95% confidence interval does not include zero). Hence, the reduction scores from baseline time up to evaluation time, follow-up

score to evaluation score were statistically significant. Therefore, it can be concluded that the Smartphone Placebo intervention can be described as an effective method for reducing the levels of Smartphone Toxicity and Smartphone Dependency.

Table 5
Result of mixed-design analysis for the variables

Variable	Mauchly's Test of Sphericity	Test Statistics[a]	Effect Size[b]
Smartphone Toxicity	0.538**	22.39**	.775
Smartphone Toxicity *Group		23.24**	.848
Group Effect	N/A	F (1,198) = 25.27**	.902
Smartphone Dependency	0.918**	39.06**	.840
Smartphone Dependency *Group		32.79**	.870
Group Effect	N/A	F (1,198) = 25.41**	.680

Note. [a]Since Mauchly's Test of Sphericity was significant, the Greenhouse-Geisser test statistic adjustment was used if the value of Mauchly's estimates of sphericity was less than 0.75, whereas the Huynh-Feldt test statistic was used if the value of Mauchly's estimates of sphericity was above 0.75. For the Group Effect test statistics, the conventional F test was used; [b]The Partial Eta Square (η^2) was used to estimate the effect size of the test; N/A = Not Applicable; **p <.01; *p <.05

Table 6
Multiple comparison analysis for pairwise comparisons

Variable	Multiple Comparison Analysis[a]			95% Confidence Interval[a]		
	Baseline - Follow Up	Follow Up - Evaluation	Baseline - Evaluation	Baseline - Follow Up	Follow Up - Evaluation	Baseline - Evaluation
Smartphone Toxicity	18.11**	1.84**	19.95**	(16.47, 19.75)	(1.021, 2.659)	(18.25, 21.65)
Smartphone Dependency	4.61**	4.94**	9.55**	(4.15, 5.07)	(4.46, 5.42)	(8.98, 10.12)

Note. [a]The Bonferroni Adjustment method of multiple comparison analysis was used; [a]Value reported in the multiple comparison analysis is a mean difference value; **p <.01

Discussion of the Study

Therefore, it can be suggested that employing the smartphone placebo intervention serves as an effective strategy for addressing nomophobia concerns and plays a role in reducing both smartphone dependency and smartphone toxicity among university students. The study underscores the importance of understanding toxicity in relation to the various forms of consumption and technology represented by smartphones among university

students. In the modern age, where internet connectivity is integral to daily life, users are expected to be closely connected to technology, contributing to the always-on culture.

The findings are consistent with previous studies on placebo psychology and digital behaviour interventions. According to Benedetti (2021), placebo effects may influence behavioural outcomes through various psychological mechanisms, even when the intervention itself contains no active therapeutic element. In the present study, the smartphone placebo served as a symbolic intervention rather than an active treatment. The findings suggest that the smartphone placebo may have provided participants with a perceived sense of connectivity, thereby reducing the anxiety associated with smartphone separation. This explanation supports the notion that psychological reassurance and expectancy effects may contribute to reductions in smartphone dependency and digital toxicity. Similarly, this condition is also consistent with the findings by Radtke et al. (2022), which the findings suggested that interventions encouraging reduced smartphone engagement can improve awareness of technology use and support healthier digital habits.

The transformation of conversation into connection has privatised public space, challenged the notion of separating offline and online worlds and given rise to the concept of Smartphone dependency. In the context of a smartphone placebo, university students may experience a sense of security, connection, or productivity simply by holding a non-functional phone, attributing this placebo effect to the psychological association with smartphones in terms of communication, social connection, and productivity, which aligns with the concept of digital detox. Consequently, the placebo effect works to improve users' cognitive abilities due to the belief that they are using a functional Smartphone, even if the device is a dummy or not actually operational or connected to a network.

Living in a society surrounded by network advancements and softwarisation, users who disconnect may eventually seek to reconnect. Digital detoxing, while seen as a reaction to reassess one's relationship with technology, does not necessarily lead to greater authenticity. Users actively participate in this situation, and they must be mindful of their technology usage to avoid becoming excessively tethered to it. As technologies like smartphones are not neutral objects that can be easily detoxed from, users play a crucial role in managing their relationships with these devices in everyday life. With the convergence of the Industrial Age, Information Age, and AI, users must be attentive to their technology usage in this evolving landscape. They should recognise when it is appropriate to disconnect and return to real-life interactions, where genuine human connection takes place.

The prevalence of smartphone dependence among university students emerged as a significant concern for educators, mental health professionals,

and advocates to consider smartphones as a placebo intervention to this problem. These interventions provide an innovative approach to improve digital well -being, while mitigating the negative effects of the excessive use of smartphones.

The intervention often takes on the form of smartphone applications that simulate the functionality of existing smartphone applications without the typical distractions associated with social media and games. However, this study has demonstrated through a non-pharmacological alternative approach to help students manage smartphone dependency. Through an application of smartphone placebo as a symbolic intervention, this research contributes to novel findings, which include a practical method of mitigating smartphone dependency and digital toxicity in the form of smartphone placebo.

By providing a controlled environment, these interventions allow educators and mental health professionals to teach students the boundaries of healthier usage of communication technology. Students can perceive this intervention as authentic tools, thus encouraging a change in their relationship with technology. This perception allows a reconfiguration of addiction in a more manageable paradigm, promoting resilience against the impulse to abuse smartphones in university.

The sample used was limited to a group of undergraduate students from a single public university. This setting may affect the generalisability of the findings to other sets of populations, such as young adults in different contexts of institutions. Considering this, future studies should extend to a more diverse set of samples across different sets of demographic backgrounds with the objective of enhancing external validity. Overall, future research should also aim to refine the intervention model, explore its adaptability in different environments, not limited to the university context, and examine its integration with other psychological or behavioural therapies for digital wellness.

CONCLUSION

Smartphone technology and its consumption need to be understood in relation to the issue of nomophobia. By analysing the critical theorisation and understanding the relevant literature on the consumption of smartphone technology, this study has expanded the concept of nomophobia, smartphone dependency, smartphone toxicity and smartphone placebo in mobile network society. Living in today's digital world with massive connectivity has created an expectation for users, especially university students, to be connected 24/7, and this has caused users to be affected by nomophobia. Since more devices are and will be connected to the Internet, exceeding the population, the absence of smartphones in the classroom might result in users experiencing the feeling of missing out on their networked society. While the findings mostly portray negative experiences, these only apply to users who are overly attached to their smartphones. This strengthens a statement of smartphone

toxicity in which users do not experience being overly connected as an issue, but they view it as pleasurable.

Indeed, users need to reflect and get the awareness to disconnect from the digital environment at appropriate times and reconnect with face-to-face interactions. By applying this placebo effect, users will be able to revisit their relationship with technology usage by fostering an authentic human relationship. This intervention helps users to have a conscious shift back to offline communication, which is now crucial in preventing social detachment and emotional fatigue contributed by excessive digital dependency. This study offers practical implications for digital well-being programs in higher education, suggesting the use of symbolic substitutes to manage nomophobia and improve smartphone dependency. The findings contribute to the growing field of digital behaviour intervention by providing evidence for low-cost, non-technological alternatives to digital detox strategies.

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Bottom-up Collaborative Governance of Street Vending in Bangkok

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ABSTRACT

Street vendors influence the informal economy of low- and middle-income countries, as many customers depend on them for essential goods. Conventional top-down governance strategies often fail to address the distinct requirements of street vendors, resulting in policy inefficiencies and ongoing discord between vendors and municipal authorities. This qualitative research examines the collaborative, bottom-up governance framework of street vending in Bangkok, focusing on how inclusive governance may more effectively support informal economies. Data was gathered through comprehensive interviews with street vendors, municipal officials, and civil society representatives based on 28 stakeholder interviews and field observations. Results are that vendor-led initiatives have promoted communication among different stakeholders, helping to develop responsive, effective urban policies to increase vendor participation and equity. Bottom-up governance structures boost inclusivity and support sustainable urban development by addressing operator needs in the informal economy. Therefore, municipal authorities, street vendors, and stakeholders should adopt collaborative governance to enhance engagement and heed the voices of marginalised groups. In this way, the informal economy, urban equity, and sustainable economic growth will be bolstered, especially for low- and middle-income workers.

Keywords: Bangkok, bottom-up policy, collaborative governance, street vendor, urban governance

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INTRODUCTION

Informal employment is a significant element of labour markets worldwide, sustaining millions, particularly in developing economies. The International Labour Organisation (2023) reported that informal workers make up 58% of global employment, with even higher percentages in lower-income countries.

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The share of informal employment is 89% in low-income countries, 81.6% in lower-middle-income countries, and 50% in upper-middle-income economies. These statistics highlight the persistence of informality in the global economy, in which street vendors, domestic workers, and the self-employed face daily economic uncertainty.

Since 2011, in the middle-income trap, Thailand is among the nations with a high ratio of informal workers (World Bank, 2023). The National Statistical Office defines informal workers as unintegrated into any social protection system without adequate labour protection. As of 2024, the working-age population numbered 40 million, 21.1 million of whom, or 52.7%, were informally employed (National Statistical Office, 2023).

Street vendors in Thailand are among the most visible informal workers, as they tend to operate in bustling urban areas (Batréau & Bonnet, 2016; Pulliat et al., 2024; Renwick, 2021; Yasmeen & Nirathron, 2014). They contribute significantly to the economy by providing opportunities for easy income and helping individuals get through difficult times. They serve a wide range of urban residents by providing convenient and affordable goods that many people rely on in their daily lives. This function is considerably more potent in the Bangkok metropolitan city. The city remains Thailand's economic hub, accounting for over 46.6% of the nation's total production in 2022. In 2023, households in Greater Bangkok made almost 35% more than the national average (National Statistical Office, 2024). Due to these economic disparities, a large number of people from neighbouring provinces come to the capital, increasing the prevalence and visibility of street vendors.

Street vending management generally aims to organise and embellish the city. But due to its conspicuousness in public spaces and informality, street vending is often seen as a source of urban disorder, squalor, and an obstacle to pedestrian and driver rights (Meneses-Reyes & Caballero-Juárez, 2014). It has often been subject to interventions pertaining to the urban landscape (Bromley, 2000; Roever, 2016; 2020).

From 2014 to 2021, the National Council for Peace and Order (NCPO), representing Thailand's recent military junta government, implemented a stringent social orderliness policy. It eliminated informal economic activities, including street vending, from urban areas. The revocation of designated vending locations in Bangkok has impaired the sustenance of displaced vendors, lower-income consumers who depend on their offerings, and associated supply chain producers and workers.

Previous studies on street vendor management mainly focus on strict authoritarian control (Batréau & Bonnet, 2016; Boonjubun, 2017; Nirathron & Yasmeen, 2019); challenges faced by vendors (Langill et al., 2022; Trupp, 2015; Wattanawanyoo, 2024); and potential solutions for disputes (Boonjubun, 2017; Forkuor et al., 2017; Recio, 2022). By contrast, this article centres on street vendor governance in the framework of socioeconomic changes in Bangkok from 2014 to 2023. Instead of a passive response to external governance, vendors have shown

proactivity in leadership initiatives for diverse stakeholders to formulate Bangkok's urban policies. A bottom-up governance model is proposed by analysing successful collaborative efforts by vendors. The model underscores the potential for marginalised groups to lead inclusive, equitable urban development. Practical suggestions for rapidly urbanising regions are also offered to promote sustainable growth and social cohesion.

LITERATURE REVIEW

Theoretical Framework of the Study: Collaborative Governance, Context, Stakeholders, Process, and Outcome

For over thirty years, administration and management have collaborated extensively on national governance in democratic countries (Agranoff & McGuire, 2003; Ansell & Gash, 2007; Emerson et al., 2012; Ostrom, 1990). Collaborative governance is a methodological concept for developing and managing public policy through cooperation from governmental entities, private sector organisations, social groups, and civil society stakeholders.

Scholars describe collaborative governance concepts differently. For instance, it is characterised as the relationship established to address specific issues through engagement and processes involving independent actors or stakeholders participating in collaborative initiatives (Agranoff & McGuire, 2003). Collaborative governance refers to the management approach in which one or more public agencies, along with non-public groups, engage in the formal processes of public policy decision-making. This consensus-oriented method permits flexible public policy development, implementation, management, and public resource stewardship (Ansell and Gash, 2007; Emerson & Nabatchi, 2015). A fuller view of collaborative governance depicts it as an institutional framework created through participatory public administration, incorporating diverse stakeholders. It operates not solely through government agencies but encompasses efforts engaging many sectors and stakeholders to manage and administer policy processes (Emerson & Nabatchi, 2015; Emerson et al., 2012).

This research uses the definition of collaborative governance by Emerson et al. (2012) to substantiate findings in Thailand. The concept is that collaborative governance represents a participatory framework comprising stakeholders from diverse sectors.

There is explicit concentration on implementation in the framework of bottom-up collaborative governance. The primary focus is on analysing grassroots collaborative processes, especially among street vendors representing the informal workers essential for urban economies. Collaborative governance is a process whereby multiple stakeholders jointly formulate policies and address challenges or develop policies to resolve different needs.

Bottom-up collaborative governance emphasises the centrality of local or less powerful stakeholders, such as street vendors, in fostering participation. This study investigates how these stakeholders

cultivate a collaborative environment to promote more equitable management of street vending in Bangkok.

Street Vending Context in Bangkok

Street vending in Thailand is shaped by two interrelated factors: national and local legal frameworks and public policy. The two key laws are the Public Health Act, B.E. 2535 (1992), and the Act on the Maintenance of the Cleanliness and Orderliness of the Country, B.E. 2535 (1992) (Bangkok Metropolis Administration, 2024). The Public Health Act, enforced nationwide, requires licensed street vendors to comply with hygiene and safety regulations stipulated by public health officers. The Maintenance Act empowers municipal authorities to regulate public space usage and determine whether street vending is permitted in specific areas. While these laws establish a basis for controlling informal trade, Thailand lacks any legal or regulatory framework explicitly promoting or supporting street vending as a viable, dignified livelihood.

Public policy, particularly decisions made at national and local administrative levels, largely shapes how street vending is managed. National urban policy agendas can impact policy implementation, such as modernising or boosting an international image and tourism. These broader national objectives often guide local enforcement practices, even when formally unlegislated. Thailand's street vending policy reflects an ongoing effort to balance the socioeconomic importance of informal trade with imperatives of urban order and public space management. A balance between economic necessity, urban governance priorities, and broader social policy concerns shapes the complex relationship between vendors and regulatory authorities. Over the past two decades, the number of street vendors in Bangkok has fluctuated in response to shifting policy orientations and political leadership. These shifts are linked to the designation or removal of permitted vending zones (locally known as 'joot phonphan') and hawker centre management in Bangkok (Figure 1).

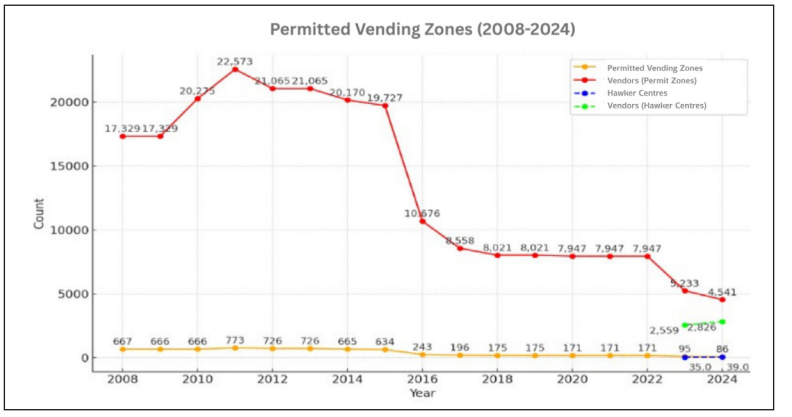

Figure 1. Number of street vendors permitted annually in Bangkok vending zones and hawker centres from 2008 to 2024 (Bangkok Metropolis Administration, 2023; 2024)

METHODS

This qualitative research adopts a case-study approach to examine street vending governance in Bangkok between 2014 and 2024, drawing on data collected from February 2022 to January 2024. During these years, the Thai government and Bangkok Metropolitan Administration (BMA) implemented an urban governance policy that impacted public vending space management. Street vending policy and its implications for the public and key stakeholders were examined. Since 2016, the BMA has begun eliminating permitted vending areas in Bangkok; longitudinal field engagement has been conducted, including document collection, semi-structured interviews, and field observation. The initial fieldwork phase explored the role of enforcement officers and the lived experiences of vendors relocated to peripheral areas. The findings examined the effects on their livelihoods, including income, expenses, and other impacts. Results adumbrated a decreased income, by over 50%, for many vendors. Some vendors had to close their businesses due to insufficient pedestrian trade in new locations (Komin & Subsing, 2017).

Evictions spread, affecting many vendors throughout Bangkok. In 2018, vendors began to appeal for assistance from relevant authorities, including the government and politicians. During this time, they were introduced to non-governmental organisations (NGOs) and academics working on informal labour and street vending issues. These connections led to consultations and discussions to improve the street vending policy.

Participatory observation of mobilisation efforts by street vendor groups and their allies was performed by liaising between vendors and government officials, academics, and politicians to facilitate consultative opportunities. Significant events were witnessed and documented, including negotiations, public meetings, and street vendor and stakeholder protests. These firsthand observations enriched the formal data collection, offering insights into stakeholder dynamics. The following section explains more about data procedures and the methodical rationale.

Data Collection

In-depth Interview

Field data were collected over two years, from February 2022 to January 2024, using semi-structured interviews and field observations. Participants were purposively selected to capture the perspectives of the seven stakeholder groups directly involved in the governance of street vending in Bangkok. The key informants were purposively selected to represent seven stakeholder groups directly involved in street vending governance in Bangkok. Comprehensive interviews with 28 key informants were deliberately selected to ensure adequate representation from relevant stakeholder groups involved in street vending governance. The stakeholders comprised policymakers, municipal officials, vendor leaders, NGO representatives, and academics, all of whom helped formulate

the street vending policy (Table 1). After the twenty-eighth interview, no additional themes emerged, indicating a sufficient sample size.

Interviews were conducted in person or online, depending on participant availability and scheduling. However, despite the ongoing Coronavirus disease 2019 (COVID-19) pandemic, only three informants were contacted online. Each was interviewed for 45 to 60 minutes and audio-recorded with the participant's consent. The transcriptions were later checked for recurring themes about collaborative governance, policy negotiation, and stakeholder engagement.

Observations

Direct field observations were made at key street vending locations in Bangkok to supplement interview data. Vendor-government interactions, law enforcement practices, and negotiations with authorities were observed. Real-time field notes were captured of verbal and non-verbal interactions. The observational data validated interview findings and provided additional insights into governance processes affecting street vendors. Systematic field notes were maintained to document events accurately and impartially. Additionally, a reflexive journal recorded personal reflections and emotional responses, fostering self-awareness and a commitment to introspection and methodological rigour, which is essential in engaged qualitative research.

Study Area

Street vending governance in Bangkok was examined from the perspective of different stakeholders in this prominent informal economy sector. Bangkok has about 10 million permanent and transient residents of diverse origins, representing many professions and economic backgrounds. Consequently, Bangkok has a large concentration of informal workers, including street vendors. This article analysed substantial governance and management transformations of street vending in Bangkok from 2014 to 2023, concentrating on stakeholder collaboration and developing policies for municipal benefit (Figure 2).

Population and Key Informants

This study used structured guides to conduct in-depth interviews with 28 direct stakeholders in street vending governance in Bangkok between 2014 and 2023. Participants were classified into seven key stakeholder groups according to background and experience working with street vendor policy and implementation. These key informants were chosen purposively based on experience in street vending governance from 2014 to 2023; only individuals with experience during these years of street vending management were selected. The table below presents key informant details. The research team kept reflexive journals and engaged in team debriefings to mitigate potential bias due to close stakeholder engagement. The distribution of key informants is shown in Table 1.

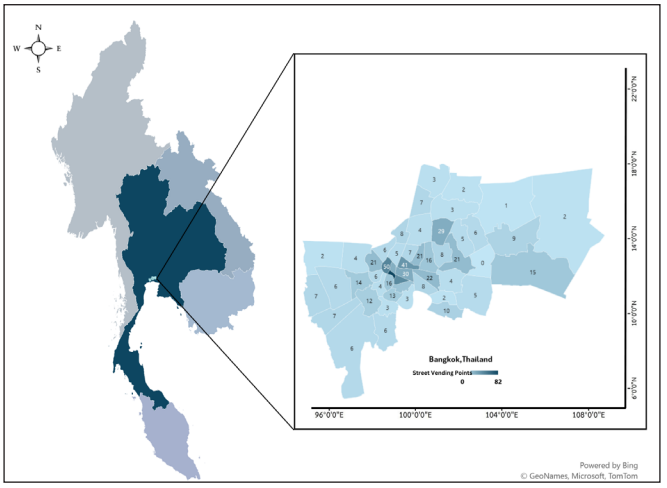

Figure 2. Map of Bangkok, the study area

Table 1
The distribution of key informants

No.	Stakeholders	Number of Informants
1.	Street Vendors	8
2.	Leaders of Street Vendor Groups	4
3.	Prime Minister's Office	2
4.	Government Officials (BMA)	3
5.	Representatives from State Advisory Organisations and the BMA Health Assembly	3
6.	Civil society members (NGOs, academic institutions)	4
7.	Representatives from community organisations, public space users, and business owners	4
	Total	28

Research Instrument

Semi-structured interview guides were designed for key informants from diverse stakeholder groups. Question development was informed by a review of the literature on street vending governance, informal economy dynamics, and stakeholder roles. Each guide was designed to capture specific experiences in, practices of, and perspectives on implementation, policymaking, and support. During the longitudinal case study, interview questions were reviewed and adjusted to reflect evolving policy changes, administrative restructuring, and shifting roles of actors involved in street vending governance in Bangkok. This adaptive approach ensured that questions remained responsive to real-time developments while maintaining consistency in core themes.

Analysis

Creswell and Poth (2016) established that a qualitative data analysis framework was adopted to entail a systematic process. This involved preparing data by transcribing in-depth interviews and observational notes from street vendors and stakeholders and organising them into categories such as vendor challenges, government enforcement, stakeholder relationships, policy responses, and collective action forms. The data were subsequently coded, and key themes were identified and labelled to address the research question. Finally, analysis results were presented in a structured format, summarising insights about stakeholder experiences, relationships, and strategies for Bangkok street vending governance. This rigorous analytical approach enabled a comprehensively reliable examination of qualitative data.

Ethical Considerations

This study adhered to ethical research principles, ensuring that all participants provided informed consent before participation. Interviews were conducted confidentially, and pseudonyms were assigned to uphold anonymity. Ethical approval was obtained from Mahidol University, ensuring adherence to ethical guidelines for human subject's research. Participants were informed of their right to withdraw at any time without repercussions.

RESULTS

Between 2014 and 2024, shifting political and economic conditions shaped street vending in Bangkok. After the 2014 military coup, the NCPO imposed a top-down governance structure emphasising urban order, which displaced many vendors and restricted their negotiating abilities. As Thailand transitioned to an elected government, the political climate became more open, enabling vendors, many struggling with unemployment, to mobilise and petition authorities for support. The onset of the COVID-19 pandemic further intensified economic hardship among street vendors, bringing renewed attention to their urban resilience. These evolving conditions created constraints and opportunities for stakeholder engagement, ultimately laying the foundation for the emergence of collaborative governance practices, which is the focus of this article.

The Bottom-up Collaborative Approach to Street Vending Governance

From 2014 to 2023, the NCPO collaborated with military and law enforcement agencies to regulate street vending in Bangkok, aiming to organise vending areas nationally. This initiative unexpectedly fostered participatory governance, as displaced vendors engaged with different stakeholders, including civil society, academia, and the media. This indicated a shift from unilateral enforcement to collaborative policy formulation, embracing inclusive governance principles.

This study delves into the participatory processes' specifics and outcomes, concretely illustrating collaborative governance in Bangkok's street vending policy from

2014 to 2023. The analysis is framed by collaborative governance models proposed by Ansell and Gash (2007) and Emerson and Nabatchi (2015), offering a broad perspective on street vendors and related stakeholders, their administrative processes, and policy impacts.

Over time, the rigid enforcement environment prompted street vendors to respond strategically. As they adapted to new constraints, they began initiating bottom-up actions that exemplified collaborative governance in practice. The following subsections detail five key strategies street vendors employ in this context, beginning with efforts to build internal solidarity.

Connected with Peers and Leaders

The restrictive street vending management policy was implemented without warning. This sudden upheaval left vendors uncertain about career prospects and concerned about the impact on living conditions and the duration of imposed restrictions. Street vendors in targeted trading areas sought information about the ban and ways to return. Those who had traditionally operated independently formed connections with peers. These new interactions encouraged discussion, with vendors sharing information and strategies for resolving their situation. In areas where leaders were established, they coordinated and represented fellow vendors, connecting vendors and governmental or regulatory bodies. However, in areas lacking experienced leadership, the effort to address grievances caused by vending policies had greater obstacles. The absence of leadership compounded vendor difficulties in mobilising responses to policy changes. This case illustrates the importance of leadership and community in resolving issues due to abrupt regulatory changes. It highlights vendor resilience and adaptability in seeking solutions and advocating for their rights amidst difficulties.

Street Vendors' Appeals and Complaints to Government Agencies

As street vendor groups impacted by the vending policy began to cope with the challenges caused by these regulations, their initial lack of connections with organisations or other vendors drove them to seek support from familiar district offices overseeing their areas. Although these district offices had previously assisted street vendors, management legitimacy was determined by broader governmental and BMA policies rather than local approaches. So, vendors appealed for help from the Government House at the Prime Minister's Office Complaint Receiving Centre (CRC). Data from the centre indicate a surge in complaints about the street vending ban, from 68 in 2013 to 540 in 2014 and 687 in 2015, representing an annual increase of about 455.1%.

Additionally, some street vendors sought assistance from potential allies, such as local and national politicians. One member of the governing political party connected vendors with the party and served as an intermediary between them and high-ranking politicians. He expedited vendors' CRC visits to executive administrators and

coordinated with party administrators to support them.

Prime ministerial recognition of the vendors and their grievances was key as they presented their cases at the CRC. This heightened visibility compelled the Prime Minister's Delivery Unit (PMDU) to advocate for the BMA to ensure effective responses. Engaging with politicians and policymakers was needed to catalyse policy reforms that could improve vendor conditions.

Building Allied Networks

As vendors connected, they also established relationships with supportive groups, including politicians, development practitioners, and academic institutions. This fostered mutual understanding as other social networks gained more profound insights into the circumstances and operations of the vending community.

In 2016, when the BMA cancelled the temporary permissions for trading locations in different areas, affected vendors convened at the CRC. There, they became acquainted and exchanged contact information. Later, they reconnected and shared knowledge and experiences, eventually leading to a gathering of network member representatives on 14 March 2018. The first assembly, or street vendor network for sustainable development (SVNS), included traders from 21 districts, covering 27 Bangkok-permitted vendor areas.

In 2020, some SVNS members founded a confederation of street vendors in Bangkok (CSVB), focusing on sellers in five designated areas. This group eventually joined the Federation of Informal Workers Thailand (FIT), a collective grouping of domestic workers, motorcycle taxi drivers, and home-based workers. FIT advocates policy recommendations to support the development of the informal workforce.

Street vendors also sought guidance from the Foundation for Labour and Employment Promotion (FLEP), an NGO supporting informal workers. This organisation defends the rights and welfare of informal workers nationwide. FLEP collaborates with Women in the Informal Economy: Globalising and Organising (WIEGO), a global advocacy group for diverse informal worker populations, including street vendors. FLEP contacted academics who became allies and strove to support street vendor networks through communication and advocacy.

Public Communication and Advocacy

Street vendor networks and allies have worked closely through public communications, seminars, and discussions involving key stakeholders, such as government bodies, the BMA, and other labour organisations. In 2018, several press conferences and academic seminars were held, uniting different stakeholders in public venues such as Chulalongkorn University. Public communication is vital for advocating policy change, regardless of perspective. Vendor networks and their allies encourage public awareness and understanding of professional details, administrative policies, and impacts by recommending improved governance and management.

Mainstream media outlets, including online newspapers and digital television channels, have regularly highlighted street vending issues, often shaping public opinion in a way that helps vendors negotiate with power structures. Typically, vendors' attempts to contact powerful politicians were limited until media coverage of issues. Fearing public scrutiny, government agencies heeded vendor claims, enabling negotiations between vendors and government authorities.

Academic groups supporting fair street vending policies have been critical for creating content and public communication spaces. This network has organised academic activities, seminars, and conferences on vending policy, with mass media platforms following network communication strategies. This boosted public awareness and understanding of information and data on Bangkok street vending. The academic network engaged government agencies authoritatively in seminars, creating a place to exchange ideas and advice to innovate policy suggestions.

Negotiation Policy Reform

Complaints and data about the public impact of the street vendor ban policy enlisted many stakeholders to ask the BMA to revise vending policies: complaint centres, the Government House, national and local politicians, Interior and Labour Ministry committee representatives, as well as government and Senate advisory boards. However, under the NCPO-appointed governorship, the BMA continued policies regulating street vendors as necessary for a hygienic city. The NCPO period was the first time that total elimination occurred without major resistance from vendors and their supporters. The BMA added that it provided trading spaces for evicted vendors to continue operating, although most rejected them. From 2014 to 2018, the number of permitted Bangkok Street vendors halved from 20,170 to 8,021.

After the national election, a new premier declared nine urgent policies to "solve the country's economic problems for the people" (Prime Minister's policy statement to Parliament, 25 July 2019). One was to review street vending management in Bangkok, with the premier assigning a Prime Minister's delivery unit (PMDU) to implement the policy.

After review, the PMDU officer found that all laws and regulations fail to support street vending activities: 1) Act on the Maintenance of the Cleanliness and Orderliness of the Country B.E. 2535 (1992); 2) Public Health Act B.E. 2535 (1992); and 3) Land Traffic Act, B.E. 2522 (1979). Thailand also has no law assigning principal responsibility for supporting street vendors. Additionally, the PMDU collaborated with academics and non-profit organisations to study the issue and opportunities for advancing policy. Later, the PMDU joined the Committee for Local Administration and Orderliness, which created a policy for Bangkok Street

vending management. Supported by the premier's consultant, the committee drafted guidelines, methods, and conditions for designating street vending areas, which were issued on 28 January 2020.

However, the COVID-19 pandemic delayed the implementation of new guidelines after 2022. Yet street vending governance stakeholders reiterated the employment hardship experienced by Bangkok vendors due to pandemic-related bans. Simultaneously, allies expanded to include special agencies and independent bodies, such as the COVID-19 Economic and Social Rehabilitation Committee (a governmental advisory body convened to lessen the pandemic's impact) and the National Health Assembly (NHA, an advisory organisation compiling stakeholder issue viewpoints for the government and society). Both have proposed rapidly reinstating street vendor livelihoods impacted by governmental clearing of trading spaces. However, as merely advisory organisations, they were informed by the City Law Enforcement Department Bangkok, that the BMA had done its best and could not change policy. So, street vendors have not resumed trading as they did previously.

In late 2021, before the Bangkok gubernatorial election, one candidate sought feedback from stakeholders and used street vendor-related recommendations in five of his 215 proposed policies: 1) promoting job security; 2) fostering participation from traders, the public, and the private sector in managing vending areas; 3) registering and monitoring operations; 4) preparing vending area infrastructure support; and 5) identifying private or government land for food vending areas (hawker centres).

The newly elected governor assigned advisors to revise the street vending policy. They coordinated with management stakeholders, including the CSVB and the Network of Thai Street Vendors for Sustainable Development, NGOs, and academics, to devise a governance strategy. By 2023, the BMA appointed a new Committee for Local Administration and Orderliness to decide on the issue. Comprising three experienced pillar academics, an economist, an architect, and a social welfare expert, the committee and a governmental body issued guidelines in 2023. They approved a Bang Khun Thian trading area, responding to the demands of street vendors and their allies.

Bottom-up Collaborative Governance Model in Bangkok

Collaborative governance is a strategic methodology for addressing complex challenges, including wicked problems. Historically, ongoing scrutiny, conflicts, and disputes have shaped policy decisions regarding the management of street vending in Thailand. This study has recognised a bottom-up, or grassroots, collaborative approach in the street vending sector. The model identified in this study can be delineated in Figure 3.

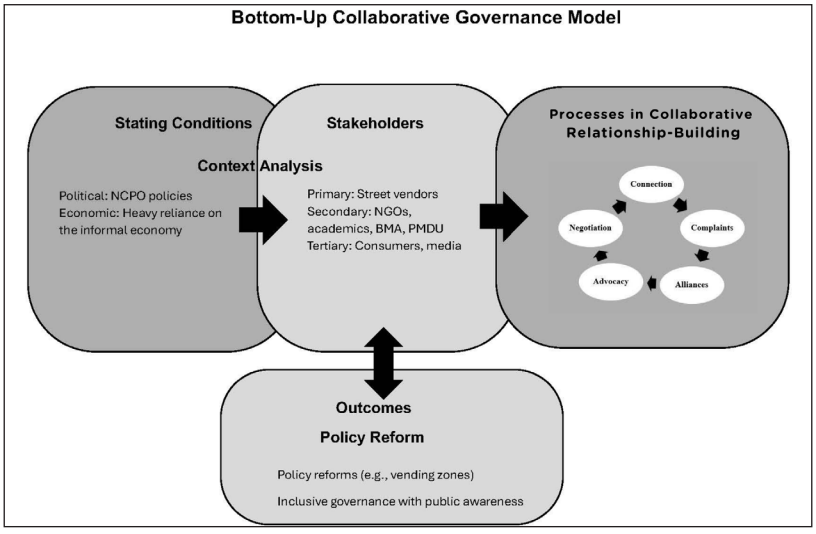

Figure 3. The bottom-up collaborative governance model

DISCUSSION

Comparative Lessons for Broader Application

Nations adopting vendor-friendly policies include India, with the 2014 Protection of Livelihood and Regulation of Street Vending Act (Baud & Nainan, 2008; Roever & Skinner, 2016; Salès, 2018). This law was due to efforts by the Self-Employed Women's Association (SEWA), a grassroots, informal worker member-based organisation founded in 1972. The street vendors group and their allies negotiated with the government and local bodies to defend sellers' rights to a livelihood. In 2009, the Supreme Court of India duly recognised street vending as a legitimate livelihood. After this decision, the government set a National Policy on Urban Street Vendors (NPUSV), which was prepared for the Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act 2014. It recognised street vending as a valid occupation for Indian citizens, requiring local governments to establish town vending committees (TVCs) to license vending and specify zones for urban trading. These committees comprised related stakeholders, including administrators, civil servants, street vendors, community groups, and public sector organisations (Roever & Skinner, 2016; Salès, 2018).

India's regulatory strategy validated the profession nationally. Nationwide management relied on long-term collaboration between stakeholders, including vendors, labour organisations, and governmental agencies (Kumar, 2012; Kumar & Singh, 2018).

Similarly, Warwick Junction in Durban, South Africa, manages street vending collaboratively through stakeholders and urban planning. Initially, Warwick Junction was a traditional trading area

lacking development or access to water and electricity. In 1994, a Self-Employed Women's Union (SEWU) modelled after India's SEWA led Warwick Junction vendors to coordinate, negotiate, and collaborate with the Durban city municipality to renovate the area's physical environment. This resulted in a renowned participatory approach to street vending management, with the involvement of the sellers as the most affected stakeholders (Alfers et al., 2016; Roever, 2016; Skinner, 2008; Skinner, 2009).

However, like urban management globally, Warwick Junction encountered impediments. In 2009, a newly elected mayor proposed transforming the Warwick Junction district into a contemporary shopping complex, threatening the economic stability of local street vendors and labourers. In response, sellers, transportation employees, SEWU members, and academics formed a coalition to oppose, negotiate with, and influence municipal government. This effort led to a withdrawal by commercial interests, cancelling the Warwick Mall project.

As with India's bottom-up collaborative governance model, efforts by the SEWA, media representatives, academics, and legal experts were needed. Likewise, Warwick Junction required sustained advocacy from SEWU and its partners to convince businesspeople to yield to public opinion.

Policy and Structural Challenges in Advancing Bottom-up Governance

For bottom-up governance, vendor networks and associates have relatively little experience in organising, negotiating, and advocating compared to SEWA or SEWU. The spatial fragmentation of Bangkok market areas obstructs unity and independent collective bargaining power. The dominant neoliberal approach to urban development also empowers the private sector over the government, further preventing policies supporting low-income workers in high-value urban areas.

The principle of collaborative governance enhances the representation of less powerful stakeholders, as well as non-governmental organisations and academia that provide historical support. However, vendor representatives have not achieved formal recognition at the decision-making level, resulting in a lack of complete stakeholder agreement on the Bangkok policy. Bottom-led governance is also vulnerable to political cycles, limited during political instability or coups when public participation declines. Conversely, this governance model augments during democratic transitions, especially when elected officials seek support from a diverse electorate. To advance inclusive urban governance, weaker groups must connect more with peers and receive organisational assistance.

CONCLUSION AND IMPLICATIONS

This research investigated the collaborative governance of street vending management in Thailand, emphasising how the bottom-up approach cultivates an inclusive policy framework. Although this collaborative

process is promising, its policies remain unachieved as stakeholder demands remain to be addressed. One principal challenge is to level stakeholder power disparities. To manage street vendors and informal workers in competitive urban areas, policymakers must add opportunities for weaker stakeholders to express their viewpoints. Building the collaborative process produces a more inclusive, sustainable urban management approach.

Limitations of the Study

This article is based on a qualitative case study of street vending governance in Bangkok. It may not fully represent the broader context of nationwide street vending governance. In-depth interviews were done with purposefully selected participants as representatives of key stakeholder groups. The results may not fully encompass diverse stakeholder perspectives and may not yield generalizable or quantitative conclusions. Any potential bias in interpreting data was mitigated by measures to document field observation, reflexive journaling, data triangulation, and systematic reflections.

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Review Article

English-speaking Anxiety Among Primary School Learners in Malaysian Vernacular Schools: A Systematic Literature Review

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ABSTRACT

In this review, the anxiety faced by students in primary vernacular Tamil schools in Malaysia when having to speak in the English language is the focus. The primary target for the study is students at the Tamil vernacular schools known as the Sekolah Jenis Kebangsaan Tamil (SJKT) in Malaysia. A decade-long window has been used to extract studies and draw conclusions from the results of the studies published between 2015 and 2025. The review analyses both quantitative and qualitative findings, allowing for a more comprehensive and detailed account of the language anxiety phenomenon. It is found that most studies have focused on the impact of language anxiety on the students' willingness to communicate (WTC) in English. The review uncovered several factors that contribute to speaking anxiety, including psychological, social, and pedagogical factors, as well as fear of negative evaluation, peer judgement, and limited exposure to English outside the classroom. The review also examined strategies such as task-based learning, peer-assisted learning, and mindfulness techniques, which were found to be effective in reducing anxiety and increasing WTC. The review highlights the need for contextually grounded strategies that address the unique challenges faced by students, particularly those in vernacular schools. Several recommendations for future research emerged from the synthesis. These include the need for

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design-based studies in vernacular schools, longitudinal tracking of anxiety levels, and the validation of anxiety measurement tools for students in the Southeast Asian setting.

Keywords: English-speaking anxiety, language anxiety, mindfulness interventions, peer-assisted learning, primary school students, task-based learning, vernacular schools, Willingness to Communicate (WTC)

INTRODUCTION

Primary school students need to master the English language because at the primary level, it is more effective for the students to be exposed to the basics of the language and enhance their level of proficiency. Unfortunately, students from vernacular schools like the Tamil vernacular schools or Sekolah Jenis Kebangsaan Tamil (SJKT) in Malaysia, have been facing the mountainous challenge of speaking anxiety when it comes to the English language. When these students avoid English-speaking situations, it is not a trivial or childish reaction; rather, it reflects genuine anxiety and a deep emotional response associated with speaking the language. These learners are from unique sociodemographic backgrounds, and from their perspective, learning a second language is challenging. This is mainly because there are significant cultural and linguistic differences among these learners (David et al., 2017). Many questions and gaps remain in the literature regarding how anxiety affects students in Tamil vernacular schools, largely because most research has focused on secondary and tertiary education (Toyama & Yamazaki, 2021). Recent evidence from the Malaysian SJKT context confirms that English-speaking anxiety is prevalent among these primary learners and warrants dedicated investigation (Shanmugan et al., 2025).

That has provoked the systematic review, which addresses the gap through a thorough investigation of research work that has studied English-speaking anxiety among primary school learners, particularly in Southeast Asia. The review aims to discover research work that has also emphasised studying the phenomenon in Tamil vernacular schools in Malaysia. There is a specific focus towards certain mediating factors, such as psychological, social and pedagogical factors that may cause the speaking anxiety (Hangyu Zhang & Hazel Tan, 2024)). At the same time, a proper analysis of past studies will result in the acquisition of interventions and strategies that have been used in handling the challenges of English-speaking anxiety. Ultimately, by systematically analysing and breaking down past studies, evidence-based recommendations can be made to the entire education fraternity and improve how English is taught in the second language classroom, especially. It has been proven that modifications of teaching and learning strategies can be effective when it comes to handling the problems of language anxiety (Alnuzaili & Uddin, 2020; Toyama & Yamazaki, 2021). Ultimately, this work aims to contribute to the greater body of literature on language anxiety in primary schools and, as a result,

continue to offer valuable inputs on effective teaching practices in vernacular schools.

Subsequently, the outcome from the review is expected to further develop the understanding of the problems faced by Tamil school students. Simultaneously, the review is expected to provide valuable input that will improve language education by focusing on specific classroom strategies suitable to the Tamil school setup. This study is eventually in line with the goals of Malaysia's Ministry of Education (MOE), especially in terms of providing quality education and equal access as well as learning opportunities for all students regardless of their background (Ministry of Education Malaysia, 2016).

BACKGROUND OF THE STUDY

Traditionally, in Malaysia, a person's proficiency in English is vital for academic and professional advancement. However, when students are forced to face speaking anxiety, a hurdle appears, especially for students from Tamil schools in Malaysia. These students come from households which are not exposed to the daily use of the English language. This may be one of the most foundational reasons for the anxiety they face when they must use the language to speak. Nevertheless, this should not prevent the school from employing strategies that can help it address the anxiety. In Malaysia, educational reforms are taking place rapidly. The introduction of the Common European Framework of Reference for Languages (CEFR) is a major step towards enhancing English education in Malaysia. Despite such aggressive reforms, students in Malaysia are facing anxiety when having to use the language to speak (Alnuzaili & Uddin, 2020; Toyama & Yamazaki, 2021).

There is comparatively little research that explores language anxiety among primary school learners, especially students in vernacular schools in Malaysia. This is not the same for secondary and tertiary education sectors, where vast research on language anxiety has been conducted and reported (Shanmugan et al., 2025). Students in Tamil schools mostly do not use English daily outside the classroom because their communication is dominated by the mother tongue, which is Tamil. This habit is then practised in the school too, especially during periods where students get to interact with one another. Observing their interactions during recess at the school canteen or when they play football together, it is obvious that the preferred language for communication is Tamil. When there is a gap in practical use, the entire learning process of the English language is complicated for these students. This certainly increases speaking anxiety (Kumaran & Krish, 2021).

Therefore, this review serves the purpose of reviewing literature on the phenomenon of English-speaking anxiety in primary school learners. The review gives a specific focus on students in Tamil vernacular schools in Malaysia. The synthesis, which involves studies over the span of ten years (2015-2025), evaluates the prevalence and causes of anxiety and further proposes interventions to reduce it. The findings will contribute to improving

teaching practices and policy development, offering practical recommendations for enhancing English learning in multilingual classrooms.

English Language Anxiety Research Globally

All over the world, anxiety faced by second language learners and foreign language learners is being researched extensively. However, most studies have focused on the issues faced by students at a higher level. One such study is the study conducted by Hu et al. (2024), where 631 primary school students in a province in China took part in the foreign language anxiety scale survey. Hu et al. (2024) found that the anxiety level of the students was inversely correlated to the foreign language achievements. Students were given examination-based tests to evaluate their language achievements. It was found that the achievements only increased when anxiety was lowered. Another study by Sosas (2021) with foreign language learners at a university in Indonesia also reported similar findings. The students at the university performed better in the English-speaking test when their anxiety levels were lowered. However, it also suggested an intervention where an application was developed to help students lower their language anxiety.

Anxiety faced by the students when having to speak in English is also related to their self-confidence, as established by Azimova (2020). Using a qualitative methodology, Azimova (2020) probed five university students to understand how the anxiety they faced when having to speak in English affected their level of self-confidence. The case study with primary school students in Russia revealed that students' level of self-confidence is indeed affected by the high level of anxiety they face when having to speak in the English language. Subsequently, Alam et al (2021) also reported that students' level of speaking in English can be increased through motivation and proper strategies. Anxiety caused by unpleasant situations, however, can be a reason that affects their self-confidence in speaking the language (Alam et al., 2021).

However, a study by Ariyani and Yosintha (2022), who explored how anxiety impacted the level of self-confidence, reported that anxiety and self-confidence are only weakly related. The in-depth analysis based on 40 university students who completed the survey instrument showed that there was only a very vague relationship between anxiety and self- confidence. Ariyani and Yosintha (2022) further commented that individual differences can be a factor since different people respond differently to anxiety. However, Ariyani and Yosintha (2022) conducted the study with university students. This has implications for the results of their study, and it is not entirely like the situation in primary schools, especially Tamil schools in Malaysia. Some classrooms in Tamil schools may have certain traditional practices when it comes to learning languages.

It is also equally important to understand the current context of the study, which is the

situation in vernacular Tamil schools in Malaysia. Some past studies in Malaysia have focused on the anxiety faced by students in Tamil schools when it comes to speaking in the English language. Raadha Krishnan and Sharmini (2024) specifically reported how students in Tamil schools in Malaysia are now facing difficulties in speaking the language because of the lack of exposure and encouragement in the school environment. Using a qualitative methodology, Raadha Krishnan and Sharmini (2024) found that students feared using the language because they were not given many opportunities to use the language during daily activities. Nair et al. (2021), on the other hand, reported that the anxiety when using the English language is primarily because of mother tongue interference. Nair et al. (2021) added that students in Tamil vernacular schools are employing various strategies to learn the language better, and most of the strategies involve reducing the anxiety they face.

Research on anxiety for English language speakers has been conducted extensively. It has been found that a lot of research has been dedicated towards students' problems when they must face the English language. In Malaysia, extensive research has been conducted to explore how anxiety affects students in terms of English language speaking. It has made learning the English language very complicated in the classroom. When the Ministry of Education (MoE) initiated the Highly Immersive Program, it was motivated by a series of studies which explored the issues faced by learners in Malaysia when they had to speak in English. For decades, research has contributed to various programs and strategies from the MoE. However, the focus of the studies varies according to different contexts and needs. On the other hand, there is a need to review the latest studies, mainly studies that have been published in the last five years. This is to refresh and review the latest findings related to anxiety in English language speaking. The latest findings from these studies are vital to understanding how students in schools are currently facing the phenomenon of anxiety. The study will also help in understanding how teachers can employ strategies to tackle the issue of anxiety in English-speaking.

Application of Spielberger's State-trait Anxiety Theory to English-speaking Anxiety

While many theories explain the foundations of anxiety in human beings, Spielberger's theory suits the needs of the current study, which explores the anxiety faced by learners in an academic setting. Spielberger's State-Trait Anxiety Theory (1966) was founded on the situations faced by learners in the real-world classroom setting. The earliest experiments conducted with students found that individuals have different responses to situations that pressure them or compel them to do certain things (Bijulakshmi & Kumar, 2024). Upon experimenting with the responses of different individuals, Spielberger (1966) theorised that two types of anxiety can be observed in individuals. According to Spielberger (1966) , anxiety that produces spontaneous, situation-specific responses is termed state anxiety.

Raadha Krishnan and Sharmini (2024) explained that state anxiety is obvious when vernacular Tamil school students are observed in situations where they must suddenly speak in the English language. The spontaneous reactions and pressure students feel now that they are required to speak English clearly exemplify the state anxiety category (Raadha Krishnan & Sharmini, 2024).

In relation to the findings of Raadha Krishnan and Sharmini (2024), reports and explanations from Huang et al. (2025) elaborate further on the characteristics of state anxiety, which is defined as unpredictable, uncontrollable and sometimes dangerous depending on the situations faced by individuals. On the other hand, as proposed by Spielberger (1966), trait anxiety is a more stable and predictable response towards situations that induce anxiety. Individuals with trait anxiety are more prepared and appear calm and composed when they face certain pressing situations (Huang et al., 2025). A more recent in-depth experiment on the behaviours of different individuals when they must face anxiety uncovered that there are indeed individuals with two different types of anxiety responses. Han et al (2020) further confirmed that the theory by Spielberger (1966) is valid even in the current settings when they experimented with university students at the higher level. It is important to note that Spielberger's State-Trait Anxiety Theory was originally developed for adults. In this case, it is applied to young learners. However, the foundation of the theory remains relevant because it distinguishes between situational and dispositional responses. Adaptations in recent child-focused studies show that children exhibit both state and trait patterns, validating its use in primary education contexts. Applied to the present review, the state–trait distinction provides an analytical lens for interpreting the findings: the recurring reports of nervousness, stuttering, and avoidance when learners are suddenly asked to speak (Shanmugan et al., 2025; Yahaya et al., 2021) reflect state anxiety, whereas the persistent, classroom-wide reluctance documented in Tamil vernacular settings points to a more stable, trait-like disposition. Distinguishing the two is essential for selecting interventions, since situational anxiety responds to low-pressure task design while dispositional anxiety requires sustained confidence-building.

This theory is vital in understanding the presence of anxiety among English language speakers, especially among school students in Tamil schools. When English language teachers face students in Tamil schools, the theory of anxiety helps teachers understand why certain students respond in a certain way to specific situations. This is a serious phenomenon which can go up to the level of classroom bullying, mainly because some students cannot handle sudden situations which require them to speak in English (Rahmawati et al., 2021). Some students may stutter, some may even laugh, and some students cry, and sometimes, in worst cases, students might choose not to come to school, and these are all signs of anxiety towards English language speaking (Rahmawati et al., 2021).

State-Trait Anxiety Theory, originally proposed by Spielberger (1966), provides a foundational framework for understanding the emotional and psychological dimensions of language anxiety. According to this theory, anxiety can be viewed in two forms: state anxiety, which is a temporary emotional response to a specific situation, and trait anxiety, a more stable, personality-based tendency to experience anxiety across situations. It is important to identify the two types of anxieties. The state anxiety, which may be observed when an individual is facing a specific task of communication, and the trait anxiety, which can affect overall classroom interaction, are both very different, and teachers must be aware of these differences (MacIntyre & Gardner, 1994).

Subsequently, a newer, upgraded concept known as the Foreign Language Classroom Anxiety (FLCA) was developed by ato conceptualise the elements of fear and nervousness in the language learning environment. The FLCA is more relevant to the situation faced by learners in the SJKT setting, where students are further burdened by anxiety because they do not get enough exposure to English outside the classroom (Alnuzaili & Uddin, 2020; Toyama & Yamazaki, 2021). These learners are often facing the continuous fear of being judged by their peers and the fear of negative evaluation. This is the crux of the FLCA, which defines the reality faced by vernacular school students when speaking in English.

L2 Willingness-to-Communicate (WTC)

Willingness-to-Communicate (WTC), proposed by MacIntyre et al. (1998), is an expansion of the foundational concept of anxiety in second language acquisition. WTC focuses on an individual's readiness and capacity to communicate, and it is closely tied to second language acquisition because communication is central to learning. WTC suggests that psychological, social and contextual factors are all interrelated and contribute to the willingness of an individual to communicate in a certain language. When WTC is low, anxiety is higher, which translates to an inverse relationship between the two elements. Tamil school students in Malaysia may therefore exhibit low WTC as a direct consequence of high speaking anxiety. This relationship directly frames one of the review's central objectives, namely, to examine how anxiety suppresses willingness to communicate, and it explains why several of the reviewed interventions succeed precisely by raising WTC through safer, more learner-controlled speaking opportunities (Rajendran & Yunus, 2021; Shanmugan et al., 2025).

Control-value Theory of Classroom Emotions

In the Control-Value Theory, Pekrun (2006) proposed how classroom emotions can be further understood and explored. The theory provides a detailed model that evaluates students' ability to control situations and the value they place on a certain interaction or task.

There are two variables in this model, which are control and value. Control refers to how individuals perceive success or their ability to achieve certain goals. Value, on the other hand, refers to the significance of certain achievements. In the context of language learning, when students have limited exposure to and training in a language, they perceive low control, and this low control gives rise to negative emotions such as anxiety. Within this review, the theory helps explain why limited out-of-class exposure, a factor repeatedly identified in the SJKT context, lowers learners' perceived control and thereby amplifies anxiety.

It somewhat summarises how students in Tamil vernacular schools in Malaysia feel. They feel that they have little to no control over their proficiency because they do not get the chance to use the language sufficiently. As a result, they value English learning differently and, in most cases, the value is lowered. Eventually, they do not see the relevance of learning English because they no longer value it. (David et al., 2017) proposed that control can be enhanced with learning activities that incorporate interactivity, peer support and task-based learning.

Linking Theories to Moderators in Vernacular School Contexts

The constructs drawn from these theories function as moderators in the context of Tamil vernacular schools. Firstly, WTC suggests that a stronger classroom climate that focuses on emotional support and peer coaching can improve the learning of the English language (Toyama & Yamazaki, 2021). On the other hand, an important element that can be drawn from the theories is the opportunity element. The key aspect to practice English effectively is the opportunity to use English beyond the classroom. As stated by (Fragoulis & Tsiplakides, 2009; Putri Astawa et al., 2017), authentic speaking opportunities and project-based learning increase the sense of control, reduce anxiety, and eventually result in better English proficiency. It is important to note that most studies did not quantify the value in the control-value theory directly. These components must be defined either quantitatively or qualitatively. The integration of these frameworks is vital in creating a better understanding of the psychological aspects underlying English-speaking anxiety in the context of vernacular Tamil schools.

Understanding English-speaking Anxiety in Primary School Learners

It is widely accepted and reported that English-speaking anxiety is a psychological barrier that impacts language learners, especially second language learners. When Horwitz et al. (1986) proposed the Foreign Language Classroom Anxiety Scale (FLCAS), it was widely accepted, and it was used as the primary scale to measure emotional problems experienced by students when speaking a foreign language. In the Tamil school setting, the same emotional problems are observed when students are facing anxiety about speaking in the English language.

More recent research has documented how language anxiety among primary school students not only impacts their speaking skills but also causes a negative effect on their overall academic performance (Alnuzaili & Uddin, 2020; Toyama & Yamazaki, 2021). Most Malaysian students learn the English language as a second language. The process of learning is often filled with fear of making mistakes, bad peer support, lack of confidence and rejection (Fragoulis & Tsiplakides, 2009; Putri Astawa et al., 2017).

Factors Contributing to English-speaking Anxiety in Vernacular School Contexts

First and foremost, low self-esteem and fear or embarrassment of negative perception or feedback are key psychological factors that create speaking anxiety among primary school students (MacIntyre & Charos, 1996). In the context of Tamil vernacular schools, the extent of speaking anxiety is further amplified because English may be the third or fourth language. Therefore, the lack of proficiency is more severe, and it becomes a major cause for anxiety. Students become insecure about their use of English, and eventually, they push the language away (Kumaran & Krish, 2021; Shanmugan et al., 2025).

Additionally, research has indicated that teaching and learning practices also contribute to speaking anxiety. Language teachers who refuse to adapt to changes and continue to apply teacher-centred approaches increase the rate of anxiety among students because traditional methods limit interactivity. The teacher is influential when it comes to creating effective learning opportunities that can combine a wide range of activities that promote positive communication (David et al., 2017). The high levels of anxiety that students in Tamil vernacular schools have can be attributed to the lack of creative and innovative pedagogical interventions in the classroom.

Interventions to Address Speaking Anxiety

When it comes to addressing speaking anxiety, many interventions have been proposed. The past studies have shown that speaking anxiety can be managed effectively when there are interventions that can encourage stronger teacher-student relationships and a supportive classroom environment. The focus is to create classroom activities that can create a non-threatening environment where mistakes are not highlighted but used as opportunities to learn together (Venkatesan & Ganesan, 2021). Activities that promote meaningful collaboration among students create better opportunities for the use of English in a real-life context (Alnuzaili & Uddin, 2020; Toyama & Yamazaki, 2021).

Technological advancement in teaching and learning has impacted language learning. Digital tools like language learning apps and other platforms are seen as great innovations that can help students face anxiety issues because the technologies provide personalisation and self-paced learning activities (Kumar & Zain, 2019).

In the context of SJKT, using technologies by language teachers can help students to use the language more engagingly.

Plus, it has also been found that interventions based on the concept of mindfulness have been able to reduce anxiety. Students in schools have been exposed to techniques such as breathing exercises, relaxation, and positive visualisation (Toyama & Yamazaki, 2021). However, these techniques have been tested for students in the higher level, and the effects towards students in the primary school setting remain untested.

Language Anxiety in Malaysian Vernacular Schools

Vernacular school students often face the challenges of learning languages because they must encounter learning at least three different languages, including their mother tongue which is very dominant (Kumaran & Krish, 2021). In the vernacular Tamil school setting, the dominance of the Tamil language among the students can cause a severe impact against the use of English in their daily communication.

The gap in research concerning primary school students in vernacular schools in Malaysia is a crucial area for investigation. While studies on language anxiety in secondary and tertiary students are more prevalent, the challenges faced by primary learners in vernacular schools have not been adequately addressed. Understanding the factors contributing to anxiety in these settings and exploring potential interventions tailored to their unique needs is essential for improving their language learning outcomes.

RESEARCH METHODOLOGY

This study adopts a systematic literature review (SLR) design. Among the available frameworks for conducting and reporting systematic reviews, this review uses the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 framework as its primary guideline, applying its 27-item checklist and four-phase flow (identification, screening, eligibility, and inclusion) to ensure transparency and replicability. The review was guided by three objectives: (i) to determine the prevalence and manifestations of English-speaking anxiety among primary learners in Malaysian vernacular schools, (ii) to identify the psychological, social, and pedagogical factors that contribute to this anxiety, and (iii) to synthesise interventions that have been shown to reduce anxiety and increase willingness to communicate. The literature search was conducted across five databases, namely Scopus, Web of Science, ProQuest Dissertations & Theses, ERIC, and Google Scholar, using the keyword combinations listed in Table 1. The search was restricted to peer-reviewed studies published in English or Malay between 2015 and 2025. The full screening and selection procedure, including the number of records identified, duplicates removed, records screened, reports excluded, and studies finally included, is reported in the Results section and summarised in the PRISMA flow diagram as shown in Figure 1.

Eligibility and Exclusion Criteria

The eligibility and exclusion criteria are a vital part of a systematic literature review. Using the PRISMA framework, the eligibility criteria for the current review are presented in Table 1. In ensuring that the chosen articles truly reflect the needs of ESL/EFL learners and the experiences of learners in Tamil vernacular schools, the inclusion criteria have been set very precisely. Articles selected for the review must strictly be based on research that has been conducted in vernacular schools, especially vernacular Tamil schools in Malaysia.

Table 1
Eligibility and exclusion criteria

Criteria	Eligibility	Exclusion
Population	Primary ESL/EFL in vernacular (SJKT/SJKC) schools in Malaysia	Secondary School Students Higher Education Students Preschool Students National School Students
Research Design	Quantitative (Survey, Experimental) Qualitative (Interview, Focus-group Discussions) Mixed Method	Meta-Analyses Systematic Literature Reviews Case Studies
Language	Published in English or Malay	Other languages apart from English or Malay
Focus	Anxiety related to English-speaking tasks or classroom interventions.	Learning anxiety due to external factors
Publication Timeframe	Year 2015 to 2025	Anything before 2015
Database	Scopus, Web of Science, ProQuest Dissertations & Theses Google Scholar Education Resources Information Centre (ERIC)	Any other database apart from the listed ones
Keywords	“Speaking anxiety” “nervousness” “KSSR” “English” “communication” “Foreign language classroom anxiety” “Foreign Language Classroom Anxiety Scale” “Oral communication apprehension” “L2 speaking” “primary” “elementary” “ESL”/ “EFL” “Tamil”/ “vernacular” “Malaysia”	Anything other than the listed keywords

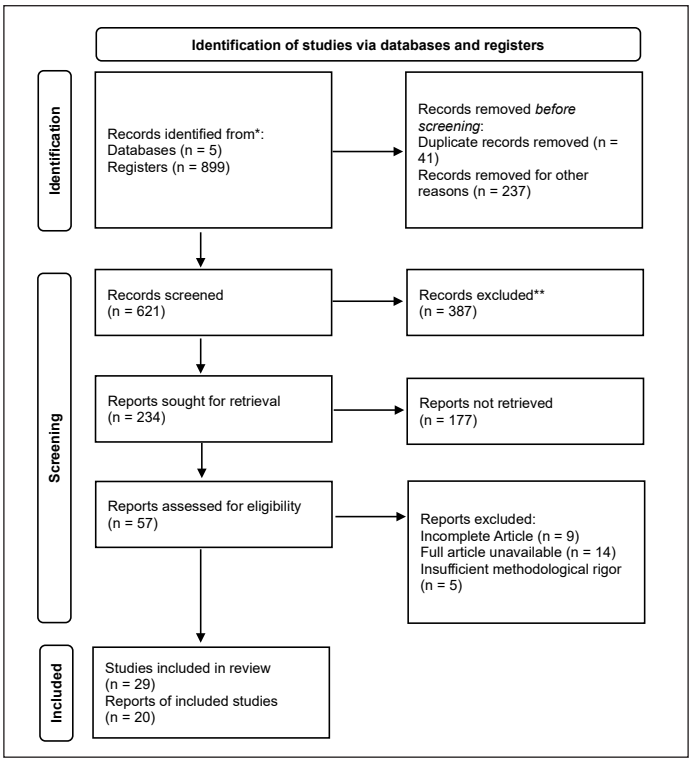

Figure 1. PRISMA flow diagram of study identification, screening, and selection process
Source: Adapted from (PRISMA, 2020)

Articles based on vernacular Chinese schools are also expected, seeing that ESL/EFL learners in vernacular Chinese schools in Malaysia and vernacular Tamil schools fall within the same category, which is under the vernacular school category. Articles selected for the review must fall within the proposed eligibility and exclusion criteria.

Plus, articles chosen were within the decade-long (2015-2025) publication window to ensure relevance to the current education situation. Focusing on articles earlier than 2015 may produce results that are not relevant to current educational needs, policies and future needs. Since the words "fear", "anxiety" and "embarrassment" may overlap if not defined clearly, precise definitions were set. 'Fear' referred to anticipation of failure, 'nervousness' to physiological responses during performance, and 'embarrassment' to self-perceived social exposure. This ensured consistency in theme development. To avoid over-generalising from studies involving non-Tamil primary learners in other Southeast Asian countries, comparative studies were included only if cultural or linguistic parallels existed.

Data Synthesis

The qualitative method of analysis is used to analyse the articles in the systematic literature review. Specifically, the thematic

analysis approach by Braun and Clarke (2019) is used to categorically segregate the articles based on several themes, which have been decided based on the needs of the systematic literature review. As suggested by Braun and Clarke (2019), the process of thematic analysis starts with familiarisation, coding, generating themes, reviewing themes, defining and naming themes and finally producing the report. Themes are developed based on the keywords that have been coded during the coding and theme generation stages. Since the study involved emotional descriptors which may carry cultural bias, cross-checking between coders was employed. Descriptors were interpreted contextually using each study's cultural framing to avoid imposing external meanings. Coding was iterative, with ambiguous terms reviewed through consensus.

Ethical Considerations

This review uses secondary data from published studies. Ethical approval was not required as all studies adhered to ethical guidelines, including informed consent and confidentiality.

Limitations

This systematic literature review is limited to English-speaking anxiety within the context of Tamil vernacular schools, which may constrain the generalisability of its findings. In addition, the small number of studies focusing specifically on SJKT primary learners means that some inferences are drawn from closely related contexts, such as vernacular Chinese schools and writing-focused studies, and should therefore be interpreted with caution.

RESULTS AND DISCUSSION

Screening and Data Selection

As suggested by the PRISMA framework, the screening and data selection process are vital procedures in a systematic literature review. In this review, the chosen framework is known as the PICOS method of screening and data selection (Mohamed Shaffril et al., 2021). The PICOS refers to population, intervention, comparator, outcomes and study design. Therefore, every selected article for the review will be analysed using the criteria of the PICOS. This makes the review more structured and comprehensible to the reader. The procedures of article selection are presented in the diagram in Figure 1. In the initial stage of identification, titles of the articles were reviewed on all five databases, and the search results indicated n=899 articles. However, duplicate records (n=41) were removed because similar articles were published in different databases. Next, n=237 articles were removed because the articles were not based on studies that were done with primary school students, especially vernacular school students in Malaysia. Furthermore, n=621 articles were screened thoroughly. At this stage, articles which were meta-analyses, reviews or case studies, together with articles that focused on external factors other than foreign language anxiety, were excluded (n = 387), resulting in n=234 articles finally sought for retrieval. N=177 articles could not be retrieved due

to various reasons such as website failures, online unavailability and copyright issues. *N*=57 reports were assessed in full. Of these, incomplete articles (*n*=9), unavailable articles (*n*=14) and articles with unreliable data (*n*=5) were excluded, leaving *n*=29 studies. After a final eligibility screening that removed a further nine studies, which did not meet all inclusion criteria, *n*=20 studies were deemed eligible and included in the final review.

Characteristics of the Study

In Table 2, the matrix provides the general information of each study. The key information includes the sample size, study design, and the main findings or focus of each study. Although all the articles chosen for the analysis are quantitative, in-depth thematic coding of the quantitative results allowed the researcher to capture emotional and psychological nuances of anxiety. Anxiety caused by language difficulties and challenges and anxiety caused by sociocultural factors have been carefully differentiated in the analysis. Studies which focused on anxiety caused by language difficulties and studies focusing on factors that cause fear and stigma have been analysed and separated using the codes analysis, which allowed the researcher to carefully categorise the studies.

Table 2
Characteristics of the studies

No.	Sample Size	Study Design	Key Findings/Focus
1	58	Quantitative	Anxiety, nervousness, fear
2	144	Quantitative	Embarrassment, lack of confidence
3	111	Quantitative	Fear, anxiety
4	238	Quantitative	Fear of embarrassment, anxiety, and lack of confidence
5	98	Quantitative	Lack of confidence
6	87	Quantitative	Learning challenges
7	105	Quantitative	Differentiated Strategies, learning anxiety
8	105	Quantitative	Anxiety, fear
9	134	Quantitative	Lack of confidence
10	64	Quantitative	Learning strategies
11	44	Quantitative	Anxiety, fear
12	58	Quantitative	Embarrassment, lack of confidence
13	122	Quantitative	Peer Pressure, anxiety
14	23	Quantitative	Nervousness, classroom bullying
15	268	Quantitative	Lack of exposure
16	302	Quantitative	Anxiety, lack of confidence
17	119	Quantitative	Lack of exposure
18	77	Quantitative	Anxiety, nervousness
19	101	Quantitative	Peer pressure, bullying
20	133	Quantitative	Lack of confidence, anxiety

The studies chosen were not specifically chosen based on the geographical settings of the schools, but the results showed that students in rural and suburban vernacular schools were more prone to anxiety when speaking English.

Anxiety, Fear and Embarrassment

Yahaya et al. (2021) conducted a study to explore the obstacles faced by primary school students in a rural district in Malaysia. The study used the explorative method to observe classroom activities that took place in a primary school in the district. The researchers also surveyed the English language teachers in the district. The results focused more on the obstacles faced by the students when they must learn the English language. One of the obstacles in learning English is the anxiety they face when they must speak in English. The observations showed how students used various strategies of avoidance when it comes to learning English, which is related to the core behaviours of avoidance when individuals must face anxiety. The survey with the teachers further revealed that students show anxiety, especially when they must speak in front of their peers in the English language. Teachers also agreed that students refuse to learn the English language because they feel uncomfortable having to face the anxiety when speaking in the language. One of the most agreed-upon items in the survey is the embarrassment faced by students when they make mistakes in the English language.

Ejeng et al. (2020) are also consistent with Yahaya et al. (2021), especially about some of the things faced by primary school students in Malaysia in the English language classroom. Although the article focuses on the use of songs to teach the English language in Malaysian primary school classrooms, it does focus specifically on anxiety related to the English language. According to the researchers, students in the primary school setting in Malaysia require creative strategies employed by teachers that can help them reduce the anxiety that they feel. The anxiety faced by the primary school students in Mukah, Sarawak, is mainly related to the strict and traditional pedagogy used by English language teachers in the classroom. The researchers proposed using songs in the English language classroom. Students were interviewed and observed before and after songs were used. In comparison to Yahaya and Madzlan (2021), the study conducted pre- and post-interviews to observe how a change of strategy can impact the level of anxiety among the students.

Ejeng et al. (2020) reported that after using songs in the English language classroom, students appeared to be happier and more confident, especially when learning in English. They let their guards down, and they seem to struggle less when songs are incorporated into the lesson. Ejeng et al. (2020) and Yahaya et al. (2021) also reported similar observations in terms of students' way of speaking when their anxiety is lower. As stated by Yahaya et al. (2021), they become more confident

in communicating their ideas successfully when they have less anxiety. The two articles agree that a change of strategy is required in addressing the issues of anxiety in English language speaking among primary school students in Malaysia.

Subsequently, a study by Rajendran and Yunus (2021) conducted a very precise study involving just five participants who were year three students at a primary school in Malaysia. The study involved the use of a mobile application in the lessons conducted by the teacher. This study took place during the Movement Control Order (MCO), which was enforced to curb the spread of COVID-19. Rajendran and Yunus (2021) conducted a semi-structured interview to evaluate how the students felt in terms of using English to speak when they used the mobile application. The crux of the study is like that of Ejeng et al. (2020), who explored how interventions and strategies could help students manage their anxiety. Rajendran and Yunus (2021) made several discoveries in the study, which included the importance of integrating mobile-assisted language learning tools to help students manage anxiety. It is like Ejeng et al. (2020), except that Rajendran and Yunus (2021) used a technological tool. Some responses from the participants showed that when they used an application, they became more confident, mainly because they had control over the speaking activity. Tamil vernacular students often respond positively to digital tools due to reduced peer scrutiny and increased control over pace. Yet, limited home internet access and parental support can restrict consistent engagement compared to national school peers.

Meanwhile, another study by Ghulamuddin et al. (2021) and Mohari and Ariffin (2021) provided an insight into the anxiety faced by Malay primary school students in Malaysia when learning the English language. Unlike Ejeng et al. (2020) and Rajendran and Yunus (2021) or Ghulamuddin et al. (2021) and Yahaya et al. (2021), who provided a better view of the realities faced by second language learners in Malaysia. The study involved year six students in a school in Malaysia. The focus, however, was on the English language writing skills. However, the challenges faced by the students can be related to their English language speaking skills as well. Ghulamuddin et al. (2021) conducted a semi-structured interview with the students to explore the challenges they faced. Some interesting discoveries were reported, and these discoveries are vital in understanding anxiety when it comes to speaking in the English language. Ghulamuddin et al. (2021) reported that the anxiety faced by the students was mainly due to the lack of mastery in the English language. When they cannot master components such as the vocabulary and the grammar structure, they become nervous when writing in the language. This is also relatable to speaking in the language.

Peer Pressure and Lack of Exposure

Like Kumaran and Krish (2021) and Ghulamuddin et al. (2021), who also explored the problems faced by Tamil

school students when it comes to writing in the English language. Although their study did not specifically focus on speaking skills, there is a lot of information on anxiety faced by Tamil school students when they must deal with the English language. Kumaran and Krish (2021) explained how the anxiety towards the English language formed the students' beliefs and perceptions towards the language in general. Compared to Kumaran and Krish (2021) and Ghulamuddin et al. (2021), who dived deeper into the problems faced by Tamil school students too. They analysed 30 essay scripts by primary school students. This study, when compared to other studies, is very different because of its specific focus on the mechanics of writing. Nevertheless, it has contributed to understanding the situation of English language learning in Tamil schools in Malaysia. The analysis discovered many issues related to spelling. More importantly, Kumaran and Krish (2021) explained that students are not familiar with the use of English terms and phrases in their daily lives. This is related to speaking skills, too, because the lack of familiarity creates anxiety among the students.

The analysis of the sentences written by the students provides an exclusive view of the students' perceptions towards the English language structure in the spoken and the written form. In this sense, it can be said that Kumaran and Krish's (2021) study provides a concrete understanding of how anxiety towards English language speaking among Tamil school students emerges from a lack of structural understanding. At the same time, Kumaran and Krish (2021) also encourage further exploration of the interference of the mother tongue. This is because strong mother tongue interference has a significant impact on the English language learning by second language speakers.

Another crucial study in understanding the use of the English language among Tamil people in Malaysia is the study by Raadha Krishnan and Sharmini (2024). It is a study that focuses specifically on the use of the English language among Tamil speakers in Malaysia. It is not specifically aimed at students in Tamil schools. However, it is very important to understand the anxiety developed by Tamil school students towards the English language. Raadha Krishnan and Sharmini (2024) surveyed 30 Tamil school teachers in Malaysia, and they reported that there are some major issues which cause the respondents to fear the use of the English language in public. As suggested in previous studies, the lack of knowledge of the main components of the English language makes speakers feel nervous and anxious. Secondly, Raadha Krishnan and Sharmini (2024) also reported that the lack of a supportive environment that promotes the use of the English language in their daily lives contributes to their anxiety when they must suddenly speak in English. Since it involved Tamil school teachers, the findings have significance to the Tamil school students who may face similar situations when having to speak in the English language.

CONCLUSION

This review set out to determine the prevalence and manifestations of English-speaking anxiety among primary learners in Malaysian vernacular schools, to identify the factors that contribute to it, and to synthesise effective interventions. In response to the first two objectives, the synthesis confirms that speaking anxiety is widespread among SJKT learners and is driven by interrelated psychological, social, and pedagogical factors, including fear of negative evaluation, peer judgement, mother-tongue dominance, and limited exposure to English beyond the classroom. Interpreted through the State–Trait, WTC, and Control-Value frameworks, these findings show that anxiety both reflects low perceived control and suppresses learners' willingness to communicate. In response to the third objective, the review identifies task-based learning, peer-assisted learning, song- and technology-mediated activities, and mindfulness techniques as promising strategies that reduce anxiety and raise willingness to communicate, particularly when they lower peer scrutiny and give learners greater control over the pace of speaking. A clear gap remains only a small number of recent studies address Tamil vernacular primary learners directly, and teacher-related anxiety is largely unexamined. The broader implication is twofold. For practice, teacher training should equip educators to recognise signs of anxiety, such as withdrawal, silence, and avoidance, and to design low-pressure, communicative speaking tasks that build confidence. For policy and research, there is a need for context-specific, design-based and longitudinal studies in vernacular schools, together with the validation of anxiety measurement tools suited to Southeast Asian primary learners. By connecting established theoretical foundations to realistic classroom strategies, this review offers an evidence-based basis for improving English language teaching in Malaysia's multilingual primary classrooms.

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Effects of Perceived Workplace Spirituality, Perceived Teamwork and Personality on Community Academic Service Performance

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ABSTRACT

This study aims to examine and explain the effects of perceived workplace spirituality, perceived teamwork and personality on faculty members' community academic service performance (CASP). An explanatory sequential mixed methods research design was employed. In the quantitative phase, the sample consisted of 390 faculty members from 38 Rajabhat Universities in Thailand, and the data were analysed using Structural Equation Modelling. Subsequently, in the qualitative phase, in-depth interviews were conducted with 12 faculty members to further explain the quantitative findings, and the interview data were analysed using content analysis. The results revealed that personality had a significant positive effect on CASP, while perceived workplace spirituality and perceived teamwork had no significant effect on CASP. However, perceived workplace spirituality and perceived teamwork had indirect effects on CASP through personality. The study sheds light on organisational management so that the executives and staff are aware of how to promote a desirable environment in workplaces, which includes workplace spirituality and teamwork in such a way that the faculty members can express personalities appropriate to community academic service.

Keywords: Community academic service performance, perceived teamwork, perceived workplace spirituality, personality

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INTRODUCTION

A hundred years ago, Person-Environment (PE) Fit Theory emerged with the assumption that people can work successfully when they are in an environment that is consistent with their values, needs, skills, interests, personalities and attributes (Milliman et al., 2017). Apart from this, adjusting oneself to suit the environment is a

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process requiring continuous development, which stimulates responses in terms of behaviours, personalities, thoughts and emotions (De Cooman & Vleugels, 2022). This is consistent with the principle of personality development, indicating that the environment, which includes cultures, social classes, families and colleagues, plays a significant role in personality development (Cervone & Pervin, 2022). Upon this basis, within the context of work at present, the workplace environment has an impact on the expression of personality among personnel and is associated with their performance.

In Thailand, apart from several universities that focus on academic excellence to become world-class universities, there are 38 Rajabhat Universities across the country with the mission to promote local development and thereby encourage faculty members to provide academic services in the communities the universities are responsible for. This is in addition to their main duties of teaching, research, and cultural preservation (Council of Rajabhat University Presidents, 2018). The performance on community academic services is hence one of the goals every Rajabhat University must urgently achieve with the purpose of sustainably improving all people's quality of life.

Based on PE Fit Theory, the personality development principle and the context of Rajabhat Universities in Thailand can be utilised to develop a conceptual framework to enhance the performance on community academic services of Rajabhat University faculty members in Thailand. This framework addresses personnel perceptions of the workplace environment, including workplace spirituality, which refers to an individual's inner life being fulfilled through doing meaningful work within a social context characterized by a strong sense of purpose, trust and respect, open-mindedness, and focus on personnel development (Robbins & Judge, 2007; Robbins & Judge, 2018), as well as teamwork, which refers to cooperation among individuals to achieve work through effective communication, cooperation, coordination, creative breakthrough, and continuous improvement components (Romig, 1996). The perception has an impact on how the personnel express their personality, including extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (Costa & McCrae, 1992), which is associated with the faculty members' performance of community academic services, consisting of work quality, work quantity (Jones & George, 2024), and work behaviour (Griffin, 2022).

The study is one of the primary works attempting to examine and explain PE Fit Theory and a personality development principle in a way that challenges the existing assumption in which most researchers explore personality as a factor influencing spirituality in the workplace and teamwork to improve personnel's work performance. This study, however, holds a different assumption that the perception of workplace spirituality and teamwork determines an expression of personality in delivering community academic services to fulfil the research gap and enrich the body of knowledge related to PE Fit Theory and the personality development principle.

LITERATURE REVIEW

Hypotheses Development

Community academic services are an arrangement of activities or projects aimed at assisting and supporting communities, societies, and the country to achieve higher potential. Along with this, people are enabled to develop skills and can rely on themselves within appropriate contexts, depending on the areas of service. Thus, the services require expertise and skills from educational institutions. The activities can be organised both inside and outside universities (Saisuwan, 2025). The community academic service performance is a result of community academic services performed by faculty members, measured through three components: work quality, work quantity (Jones & George, 2024), and work behaviour (Griffin, 2022).

According to the Person-Environment Fit Theory, people can perform their tasks successfully when they are in an environment consistent with their values, needs, skills, interests, personalities, and attributes (Milliman et al., 2017). In addition, adjusting oneself to suit the environment is a continuous process which stimulates responses in terms of behaviour, personality, thought, and emotion (De Cooman & Vleugels, 2022). In this regard, it can be established that the perception of the work environment, including workplace spirituality and teamwork, is likely to affect responses in personality associated with personnel's performance.

Workplace spirituality or spirituality in the workplace has been developed from the ideas related to values, ethics, motivation and leadership (Robbins & Judge, 2018). An organisation with a focus on workplace spirituality always realises that human beings desire to discover meanings and goals in work. They long for positive interactions with other members in the society (Fry, 2003). Workplace spirituality is an inner life of a person fulfilled by doing meaningful work under the social context, including a strong sense of purpose, trust and respect, open-mindedness, and focus on personnel development (Robbins & Judge, 2007; Robbins & Judge, 2018). Previous research revealed that workplace spirituality is an effective method in enhancing well-being, performance, appropriate staff behaviour (Lata & Chaudhary, 2021), and perceived organisational support (Nwanzu & Babalola, 2021). Meanwhile, workplace spirituality reduces the level of loneliness in work and turnover intentions of the personnel (Ghadi, 2017). With respect to the performance of university lecturers, it was found that workplace spirituality increases academic reputation, graduate employment rate, research, international recognition, Nobel prizes, research grants, resources, facilities, and community services (Sapra et al., 2022). Therefore, organisations are supposed to recognise the importance of enhancing an understanding of the benefits of workplace spirituality and designing a more meaningful work environment (Ghadi, 2017). Besides, workplace spirituality is associated with behaviour and characteristics of the personnel, such as innovative work behaviour (Chongvisal, 2020), relationship-

oriented selling characteristics (Chawla & Guda, 2013), employee silence (Chouhan, 2025) and personality traits (Tutar & Oruç, 2020; Tutar et al., 2020). It should be noted that most research primarily discovers the relationship between personality and workplace spirituality and afterwards examines the effect of personality on workplace spirituality in accordance with the assumption that personality is a distinguished trait of an individual having an impact on workplace spirituality (Tutar & Oruç, 2020; Tutar et al., 2020) as well as performance (Nam & Lan, 2023; Zell & Lesick, 2022). However, the present study relies on the assumption of PE Fit Theory and a personality development principle, arguing that personality can be adjusted based on the perception of the environment one encounters (Cervone & Pervin, 2022; De Cooman & Vleugels, 2022). The focus, as a result, is given to the effect of perceived workplace spirituality on personality and performance of the personnel to fulfil the gap existing in the previous research. Thus, the study posits as follows.

H1: Perceived workplace spirituality has a significant positive effect on community academic service performance.

H2: Perceived workplace spirituality has a significant positive effect on personality.

Currently, work in organisations requires opinions and cooperation of the personnel sometimes; teamwork is a solution to organisational problems as team members with a variety of skills gather to brainstorm and cooperate. Effective teamwork consists of communication, cooperation, coordination, creative breakthrough, and continuous improvement components (Romig, 1996). In previous research, social skills, personality traits and teamwork knowledge were found to be related to contextual performance (Morgeson et al., 2005). Teamwork skills and behaviour are positively related to teamwork performance (Siassakos et al., 2011). Systematic review and meta-analysis by Schmutz et al. (2019) indicated that teamwork is related to performance. In a teamwork context, the relationship between personality and individual behaviour depends on the perceived team's confidence (Tasa et al., 2011). Personality traits are related to teamwork self-efficacy (Schaffer & Manegold, 2024). Personality traits of extraversion and conscientiousness are related to contributions to teamwork (Curşeu et al., 2019). Personality traits of extraversion and emotional stability affect teamwork skills (Brown et al., 2017). Notably, most research primarily covers the relationship between personality and teamwork and later examines the impact of personality on teamwork in accordance with an assumption that personality is a distinct trait of a person having an impact on work at both the individual and team levels. However, the present study relies on the assumption of PE Fit Theory and the personality development principle in which personality can be adjusted based

on the perception of the environment one encounters (Cervone & Pervin, 2022; De Cooman & Vleugels, 2022), thereby considering the effect of perceived teamwork on the personality and performance of the personnel. This is to fulfil the gap existing in previous research. Hence, this study posits as follows.

H3: Perceived teamwork has a significant positive effect on community academic service performance.

H4: Perceived teamwork has a significant positive effect on personality.

Personality is an inherent attribute distinguishing one person from another. It can be expressed through internal and external characteristics when responses or interactions take place. Paying attention to the personality traits of the personnel leads to an understanding of how personality is reflected in their behaviour (Cervone & Pervin, 2022). One of the most widely recognised concepts of personality is Big Five Personality, consisting of personality traits, namely extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (Costa & McCrae, 1992). Previous research revealed that workplace spirituality and teamwork are related to personality (Schaffer & Manegold, 2024; Tutar & Oruç, 2020). Barrick et al. (2001) suggested that extraversion, openness, and agreeableness can precisely predict professional success in specific occupations, while emotional stability can predict the overall performance. Among all, conscientiousness can most reliably predict performance in all occupations. Aside from this, personality has a positive effect on positive attitudes towards working (Nam & Lan, 2023), organisational citizenship behaviour (Bourdage et al., 2012; Leephaijaroen, 2016), work performance (Nam & Lan, 2023; Tett et al., 1991), and academic performance (O'Connor & Paunonen, 2007). In addition, results from meta-analyses in more than 500 pieces of research confirm that personality has a positive effect on overall work performance (Zell & Lesick, 2022). Therefore, this study posits as follows.

H5: Personality has a significant positive effect on community academic service performance.

H6: Perceived workplace spirituality indirectly affects community academic service performance through personality.

H7: Perceived teamwork indirectly affects community academic service performance through personality.

METHODS

This study employed an explanatory sequential mixed methods design, beginning with a quantitative phase aimed at examining the effects of perceived workplace spirituality, perceived teamwork, and personality on community academic service performance among the faculty members of Rajabhat Universities in Thailand. This

was followed by a qualitative phase aimed at explaining the observed effects. The research passed the ethical review of Ubon Ratchathani Rajabhat University Research Ethics Committee, with the approval number HE682056.

Quantitative Method

Sample and Data Collection

The population of this research was 15,298 faculty members from 38 Rajabhat Universities, Thailand. Calculated using Yamane's (1973) formula at a confidence level of 95% and a ±5% margin of error, the sample size was equivalent to 390. According to the Structural Equation Modelling (SEM), an appropriate sample size ranges from 10 to 20 times the number of variables included in an analysis (Hair et al., 2019). In the present research, the number of variables was 17, and 17 times 20 equals 340. Therefore, the sample size of 390 was considered sufficient for SEM analysis. Proportional stratified random sampling was then adopted. The sample consisted of faculty members from Rajabhat Universities, which could be classified into 85 from the North, 49 from the South, 118 from the Northeast, 34 from the West, 46 from the Central part, and 58 from Bangkok. The questionnaire was distributed in paper format, and respondents were given the option of completing it online via a QR code linked to Google Forms or returning the completed questionnaire by post. A total of 390 completed questionnaires were received, resulting in a response rate of 100 per cent.

Measures

The questionnaire consisted of five sections. Section 1 covered respondents' characteristics, including gender, age, academic status, work experience, and education. For Sections 2-5, all items were measured on a five-point Likert scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree").

Section 2 measured perceived workplace spirituality (PWS) using 16 items developed based on the concepts proposed by Robbins and Judge (2007, 2018). The overall scale demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of .945. PWS comprised four dimensions: strong sense of purpose (SEN1-SEN4; α = .844), trust and respect (TRU1-TRU4; α = .927), open-mindedness (MIND1-MIND4; α = .904) and focus on personnel development (DEV1-DEV4; α = .920).

Section 3 measured perceived teamwork (PT) using 16 items developed based on the concepts proposed by Romig (1996). The overall scale demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of .963. PT comprised five dimensions: communication (COM1-COM3; α = .969), cooperation (COP1-COP4; α = .889), coordination (COR1-COR3; α = .929), creative breakthrough (CRE1-CRE3; α = .926) and continuous improvement (CONT1-CONT3; α = .917).

Section 4 measured personality (PN) using 15 items developed from Costa and McCrae (1992) and Griffin (2022). The overall scale demonstrated good internal

consistency, with a Cronbach's alpha coefficient of .852. PN comprised five dimensions: extraversion (EXT1-EXT3; α = .787), agreeableness (AGR1-AGR3; α = .764), conscientiousness (CON1-CON3; α = .861), emotional stability (EMO1-EMO3; α = .861) and openness to experience (OPEN1-OPEN3; α = .787).

Section 5 measured community academic service performance (CASP) using 9 items developed from Ubon Ratchathani Rajabhat University (2025)'s official performance evaluation form. The overall scale demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of .930. CASP comprised three dimensions: work quality (QL1-QL3; α = .815), work quantity (QN1-QN3; α = .872) and work behaviour (BH1-BH3; α = .889).

The reliability coefficients indicated that all scales demonstrated satisfactory internal consistency. In addition, the content validity of the questionnaire was assessed by three experts using the Index of Item-Objective Congruence (IOC), and all items achieved acceptable IOC values of .67 or higher. The complete questionnaire is provided in Appendix A.

Qualitative Method

To provide an explanation for the quantitative results regarding the effects of perceived workplace spirituality, perceived teamwork, and personality on faculty members' community academic service performance, in-depth interviews were conducted with 12 faculty members from 4 Rajabhat Universities (3 from each university). The selection criteria were faculty members with at least 5 years of experience in community academic service activities because they were expected to have a sound understanding of the community academic service context and be able to deliver clear explanations. Following this, the key informants were contacted to arrange interview appointments. They were given the option of participating in either face-to-face or telephone interviews, depending on their preference and convenience. Each interview lasted no longer than 40 minutes. Examples of the guiding questions included the following: "In your opinion, how does workplace spirituality (e.g., a strong sense of purpose) influence lecturers' personality traits? Please explain based on your experience." and "In your opinion, how do personality traits, such as openness, agreeableness, and emotional stability, affect community academic service performance? Please explain based on your experience." The complete interview guide is presented in Appendix B. Finally, the data were examined for credibility through data triangulation across individual sources. The data were then analysed using content analysis to identify recurring patterns and categories and to systematically synthesise the findings from the interview data (Casimir et al., 2022).

RESULTS AND DISCUSSION

Sample Characteristics

The respondents comprised 198 women (50.8%) and 192 men (49.2%). The respondents had an average age of

45.52 years (SD = 6.41) and an average work experience of 15.37 years (SD = 6.77). The respondents 47.4% were lecturers, while 45.1% were assistant professors, and 7.4% were associate professors. Most respondents (61%) completed a doctoral degree, while 39% completed a master's degree.

Variable Correlations

All 17 observed variables indicated a slight difference within the group and conformed to a normal distribution. The bivariate correlations ranged from .100 to .868, remaining well below the .90 threshold suggested by Tabachnick and Fidell (2013). Therefore, the analysis indicated no evidence of multicollinearity.

Measurement Model

Construct validity was accepted with factor loadings above .50 (Hair et al., 2019), composite reliability (CR) values above .60 and average variance extracted (AVE) values above .50 (Diamantopoulos & Siguaw, 2000). Nevertheless, according to Fornell and Larcker (1981), it is still acceptable when AVE is less than .50 if CR is higher than .60.

The results in Figure 1 are presented as follows: First, perceived workplace spirituality (PWS), consisting of a strong sense of purpose (SEN), trust and respect (TRU), open-mindedness (MIND) and focus on personnel development (DEV), demonstrated factor loadings of .992, .780, .813 and .892, respectively, with a CR of .927 and an AVE of .762. Second, perceived teamwork (PT) consisting of communication (COM), cooperation (COP), coordination (COR), creative breakthrough (CRE) and continuous improvement (CONT) demonstrated factor loadings of .744, .807, .855, .714 and .744, respectively, with a CR of .882 and an AVE of .506. Third, personality (PN) consisting of extraversion (EXT), agreeableness (AGR), conscientiousness (CON), emotional stability (EMO) and openness to experience (OPEN) demonstrated factor loadings of .549, .678, .625, .651 and .515, respectively, with a CR of .742 and an AVE of .368. Fourth, community academic service performance (CASP), consisting of work quality (QL), work quantity (QN) and work behaviour (BH), demonstrated factor loadings of .820, .876 and .850, respectively, with a CR of .886 and an AVE of .721. Therefore, the measurement model meets the specified criteria.

The Effects of Perceived Workplace Spirituality, Perceived Teamwork and Personality on Faculty Members' Community Academic Service Performance

The results in Table 1 revealed that only personality (PN) had a significant positive direct effect on faculty members' community academic service performance (CASP). Though perceived workplace spirituality (PWS) and perceived teamwork (PT) had no significant direct effect on CASP, they indirectly affected faculty members' CASP through personality

(PN). All variables could explain the change of faculty members' community academic service performance by 53.8 per cent, and the model fitted the empirical data (χ^2 (98, n = 390) = 263.387, p = .000, χ^2/df = 2.688, CFI = .960, TLI = .944, RMSEA = .066, SRMR = .050).

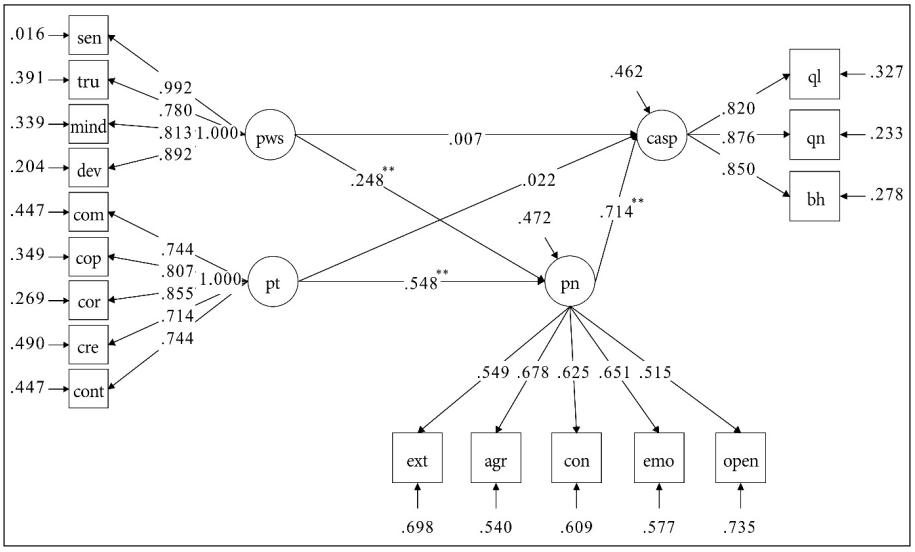

Figure 1. Structural equation model

Table 1
Direct and indirect effects

Direct Effect					
H	**Effect**	**Path Coefficient (β)**	**t-value**	**p-value**	**Test Result**
H1	PWS → CASP	.007	.125	.901	Rejected
H2	PWS → PN	.248	4.203	.000	Accepted
H3	PT → CASP	.022	.267	.789	Rejected
H4	PT → PN	.548	8.679	.000	Accepted
H5	PN → CASP	.714	8.736	.000	Accepted
Indirect Effect					
H	**Effect**	**Path Coefficient (β)**			**Test Result**
H6	PWS → PN → CASP	.248 * .714 = .177			Accepted
H7	PT → PN → CASP	.548 * .714 = .391			Accepted

The quantitative results were further explained by the in-depth interviews with the 12 faculty members from 4 Rajabhat Universities (3 from each university) in Thailand, and discussed as follows:

First, perceived workplace spirituality had no significant effect on faculty members' community academic service performance. The result is not consistent with the previous research of Lata and Chaudhary (2021) and Sapra et al. (2022), both stating that workplace spirituality enhances performance. However, this can be explained by the qualitative results, in which workplace spirituality, especially a recognition of Rajabhat University's goal in developing their local communities, is not entirely aligned with the individual professional goals of the faculty members. Therefore, some of the faculty members can successfully deliver community academic services, yet the success is not derived from their desire to complete the tasks or a sense of pride in their achievements. Such a circumstance reflects that workplace spirituality does not directly affect their performance in providing community academic services in the context of Rajabhat University lecturers in Thailand. This is well illustrated in the interview statement of Key Informant D1, who said,

> I am in the Faculty of Education, but the university policy is that every faculty needs to serve the local communities. The problem is that people in the community where my university is located rely on processing snake-skin gourami, making Thai pastes, and preparing Thai desserts to earn a living, and I am not skilled in these. As a lecturer in the Faculty of Education, I do not have expertise in these fields. I feel that I am forced to serve the community. I must gather a lot of information and find resource persons. I also need to handle communication and coordination to facilitate the arrangement of activities to meet the requirements of the university. It seems that the performance is considered successful, but as a person involved in the task, I don't feel happy because it is neither my value nor what I want to do.

In this sense, it is recommended that the university's goals be adjusted to better align with the professional goals of the staff. The university goals should be clear but flexible, open to change, and practical so that the staff are satisfied and happy in delivering community academic services. Upon this point, Key Informant D1 further suggested that

> ...the universities 1) assess the willingness of the staff to organise activities in the local communities to better respond to the university indicators, and 2) select appropriate fields and faculties with sufficient expertise in the services the universities intend to deliver to the local communities. The services will provide relatively more tangible benefits to the local communities compared with the services delivered merely to meet the university's indicators for the

> university's benefit. If we consider Rajabhat Universities as universities for local communities, the communities should primarily benefit from us. However, it seems that the activities we deliver have become more beneficial to the universities themselves, while the communities may receive only partial or minimal benefits. The benefits are not as substantial as they should be. Therefore, it would be more appropriate to implement community academic services based on staff members' willingness and to assign faculties and disciplines that are well-suited to working with communities.

Second, perceived workplace spirituality had a significant effect on faculty members' personality. This finding is in line with previous studies by Tutar and Oruç (2020) and Tutar et al. (2020). The qualitative data revealed that when personnel truly understand and internalise the mission of being a university for local development, they tend to demonstrate personality traits that support successful community academic services in alignment with the university's goals. This is illustrated by Key Informant B1, who stated,

> If lecturers can truly absorb and understand why we are Rajabhat Universities and what the missions of Rajabhat are, they will feel more engaged. Naturally, this will influence the way their personalities are expressed. Simply put, awareness and understanding of the university's mission affect their behavioural expressions.

This is also consistent with the interview statement of Key Informant C3, who said,

> My idea is that the university should first bring out the value within people. The university should hold workshops or activities that help lecturers recognise the value of being part of a Rajabhat University. Once they can see the value of the mission and the role of Rajabhat Universities in local development and connect that value to their own, they will exhibit personality traits that are more conducive to effectively driving community academic service activities.

Third, perceived teamwork had no significant effect on faculty members' community academic service performance. The result is not consistent with the previous research of Morgeson et al. (2005), Schmutz et al. (2019), and Siassakos et al. (2011), which claims that teamwork is related to performance. However, the result of the present study can be explained by the qualitative findings in which working as a team based on the division of labour and responsibilities, as well as task allocation for each member, is found to bring about success in community academic service performance. The members do not actually work together; each handles their designated tasks. In this scenario, getting together and working as a team does not affect the performance in delivering academic services to the local communities within the context of Rajabhat University lecturers in Thailand.

This is illustrated by Key Informant B1, who stated,

> Dividing tasks without cooperating does not have any negative impact. We can still achieve the goals.

This is consistent with the statement of Key Informant A2, who said,

> Suppose I am assigned a responsibility. Even though I know that someone on the team might take advantage of me and I may end up working harder than others, I don't want to leave the work unfinished. I must complete it because other tasks are waiting.

However, if teamwork involves genuine collaboration, it can foster a shared sense of positivity in carrying out community academic services and enhance the team's pride in their accomplishments. As Key Informant B1 further explained,

> If we can truly get everyone to collaborate out of their willingness, it will yield far better results than simply dividing up the tasks. When we genuinely work together, we feel collective pride in the success. There are added social, emotional, and psychological dimensions.

Fourth**,** perceived teamwork had a significant effect on faculty members' personalities. This finding is consistent with previous studies by Brown et al. (2017), Curşeu et al. (2019), Morgeson et al. (2005), Schaffer and Manegold (2024), and Tasa et al. (2011). This can be explained by the qualitative findings, which revealed that teamwork characterised by active listening, trustworthiness, cooperation, and mutual support encourages personnel to display more open, agreeable, and emotionally stable personality traits. This is illustrated by Key Informant A2, who stated,

> When working in a team, if the team is good and communicative, it gives me positive energy. It makes me willing and happy to work, without feeling that anyone is taking advantage of me. It's like we're working together, sharing information and opinions. This is probably the key point that makes me become more open, emotionally stable, and able to talk about anything. Even when problems arise, we can solve them through discussion, which ultimately makes it easier for our work to succeed.

This is consistent with the statement of Key Informant B2, who said,

> If we are in a good and familiar team where we trust each other, we become more confident in our work because we know we will be supported. As a result, we will exhibit greater confidence and expressiveness in our personality.

Conversely, when personnel work in teams with low levels of cooperation, communication, and support, they tend to be reserved and exhibit withdrawn personality traits. As Key Informant D2 stated,

> If I'm in a good team, I'll show my positive side. But if I'm in a team that

> doesn't care about my opinions, doesn't accept me, or doesn't offer help, I'll probably just stay quiet and shut down.

Fifth, personality had a significant positive effect on faculty members' community academic service performance. This finding is consistent with previous studies by Nam and Lan (2023), O'Connor and Paunonen (2007), and Tett et al. (1991). The qualitative findings further revealed that open and accommodating personality traits create a favourable first impression on community members, encourage their cooperation, and facilitate coordination with them. This is illustrated by Key Informant A1, who stated,

> Community academic services involve interacting with people, and there are various kinds of people we need to deal with. If lecturers are not open or find it difficult to get along with community members, their manner will be considered overly academic. When they work with local communities, it becomes apparent that coordinating with people will be difficult, and their communication style differs from that of the community members. Being too academic, the lecturers have a hard time communicating with the members.

This is consistent with the statement of Key Informant D2, who said,

> Being accommodating and cheerful when we work with the communities creates a good first impression, and people in the local communities tend to cooperate more. If we do not have such personality traits, we can immediately sense that community members are less willing to cooperate.

In addition, emotional stability helps lecturers remain focused in coping with the problems that arise during the provision of community academic services. As Key Informant D1 explained,

> When we deliver community academic services and need to work with large groups of diverse people, including those we do not know personally, having emotional stability allows us to manage our own emotions when operating with a lot of people, enabling the work to proceed smoothly.

Sixth, perceived workplace spirituality had an indirect effect on faculty members' community academic service performance through personality. The result is consistent with the previous research of Tutar and Oruç (2020) and Tutar et al. (2020), stating that personality is related to workplace spirituality, and with that of Nam and Lan (2023), O'Connor and Paunonen (2007), and Tett et al. (1991), stating that personality has a positive effect on performance. Based on the result, it can be explained that the lecturers adjust their personality to suit their perception of workplace spirituality, which will lead them to successfully deliver academic services to the local communities. Once they understand and recognise that Rajabhat Universities have a mission to

enhance local community development, they will express such personality traits as being open, accommodating, and emotionally stable so that they are able to communicate, coordinate, and solve problems in providing community academic services. This is exemplified in the interview statement of Key Informant C3, who said,

> Although during our time as students, some of us studied at universities aiming for global rankings, it is undeniable that we must at least recognise the value of nurturing and empowering local communities on an academic foundation. This is the philosophy and core mission of all Rajabhat Universities. It truly plays a crucial role in national development. I believe this perspective enables lecturers to express appropriate personality traits, experience genuine happiness, and gain the energy to contribute to the communities.

Seventh, perceived teamwork had an indirect effect on faculty members' community academic service performance through personality. The result is consistent with the previous research of Brown et al. (2017), Curşeu et al. (2019), Morgeson et al. (2005), Schaffer and Manegold (2024), and Tasa et al. (2011), stating that personality is related to teamwork, and with that of Nam and Lan (2023), O'Connor and Paunonen (2007), and Tett et al. (1991), stating that personality has a positive effect on performance. It can be explained that the lecturers express their personalities based on their perceived teamwork, which affects their performance in community academic services. In case the lecturers are assigned to work with a team where they can express their opinions, as well as assist and enthusiastically cooperate, they tend to express such personality traits as being open, accommodating, and emotionally stable in communication, coordination, and problem-solving activities. The characteristic increases the likelihood of success in cooperating to deliver academic services to the local communities. This is congruent with the interview statement of Key Informant B1, who said,

> ...having a team and being able to communicate with team members is associated with the feeling of safety. The way we dare to express opinions affects our personality traits. When we work, we don't have to worry about creating conflicts or discomfort among the team members. The success in delivering academy services to the local communities is highly foreseeable.

THEORETICAL CONTRIBUTIONS

This study fills a gap in previous research, in which most scholars have tended to conceptualise personality as an antecedent that determines work environment, such as workplace spirituality and teamwork. In contrast, this study draws on the assumptions of PE Fit Theory and the personality development principle, which posit that the environment stimulates individuals'

personality expressions (Cervone & Pervin, 2022; De Cooman & Vleugels, 2022). The findings shed light on the initiation of research that examines and explains how individuals' personality traits can be adjusted to align with organisational needs, provided that organisations understand how to foster an environment, such as workplace spirituality and teamwork, that are open, creative, and stimulating to employees' appropriate perceptions, thereby contributing to organisational success. The organisations should not be subject to the traditional belief that personality is innate and resistant to change.

MANAGERIAL IMPLICATIONS

First, university executives should increase their awareness of the need to adjust organisational environments, particularly about workplace spirituality and teamwork, to stimulate employees to exhibit personality traits that are aligned with organisational expectations, thereby contributing to the success of community academic service performance. Second**,** there should be an alignment between the university goals and the professional goals of individual staff. The university's goals should be clear, yet flexible and open in practice, so that faculty members experience greater satisfaction and happiness in performing community academic services. Third**,** greater emphasis should be placed on team-based performance evaluation indicators to encourage personnel to better understand and actively engage in teamwork. This will ultimately enhance the community's academic service performance.

CONCLUSION

This study has yielded key findings that support PE Fit Theory and the personality development principle in the sense that employees' perceptions of their work environment, namely workplace spirituality and teamwork, influence the adjustment of their personality expressions, which in turn impacts community academic service performance. However, this study has limitations. As the quantitative data were collected through self-assessment of faculty members' performance, it may be subject to self-serving bias. Therefore, in future research, it is advisable that performance be evaluated through other external sources, such as supervisors, colleagues, or service recipients, to reduce potential bias from self-assessment. In addition, it is recommended that other environmental predictors, such as organisational climate, perceived organisational support, and leadership, be investigated in future research to provide a more comprehensive understanding of their effects on personality and faculty performance. In-depth studies should also be conducted in the context of different organisations or other countries to further examine and explain PE Fit Theory and the personality development principle more thoroughly on a broader scale.

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APPENDIX A.

Questionnaire Items

All items were measured on a five-point Likert scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree").

Perceived Workplace Spirituality (PWS) consists of 16 items developed based on the concepts of Robbins and Judge (2007, 2018).

SEN1	:	I feel that the organisation's goals are the same as my goals.
SEN2	:	The organisation communicates its goals in a way that inspires me to perform my work.
SEN3	:	My organisation's goal is to improve local communities.
SEN4	:	The organisation incorporates the core values of its goals into various activities in which personnel participate, helping them understand and share these values.
TRU1	:	My organisation fosters trust among its personnel.
TRU2	:	My organisation conducts its operations with honesty and transparency.
TRU3	:	My organisation treats its personnel with respect and dignity.
TRU4	:	My organisation is willing to disclose information to facilitate accountability and transparency in its operations.
MIND1	:	My organisation provides opportunities for personnel to express their opinions through various organisational channels.
MIND2	:	My organisation encourages personnel to express their genuine feelings openly.
MIND3	:	My organisation listens to personnel when they have concerns that may affect their well-being at work.
MIND4	:	My organisation allows personnel to express differing opinions without fear of criticism or retaliation.
DEV1	:	My organisation continuously supports training and professional development to enhance my knowledge and competencies.
DEV2	:	My organisation supports the adoption of new technologies to continuously enhance my knowledge and competencies.
DEV3	:	My organisation supports training and professional development to advance my career progression.
DEV4	:	My organisation recognises that my potential contributes to organisational development.

Perceived Teamwork (PT) consists of 16 items developed based on the concepts of Romig (1996).

COM1 : Members listen to and understand one another regarding work-related problems when working as a team.
COM2 : Members openly share information promptly to help solve problems when working as a team.
COM3 : Members have the freedom to share information with other members of the team.
COP1 : Members consistently cooperate when working as a team.
COP2 : Members always help each other when working as a team.
COP3 : Members work together to solve problems to achieve team goals.
COP4 : Members are consistently involved in decision-making when working as a team.
COR1 : Team members hold meetings to appropriately plan and allocate work responsibilities.
COR2 : Team members depend on one another while working under appropriate organisational guidance and supervision.
COR3 : The team coordinates with other departments to ensure the successful accomplishment of its objectives.
CRE1 : Members consistently generate creative ideas when working in a team.
CRE2 : Members consistently propose innovative ideas, methods, or approaches for solving work-related problems when working in a team.
CRE3 : Members implement new methods for solving problems and applying solutions in practice when working in a team.
CONT1 : Work methods and processes are continuously improved to increase efficiency and reduce completion time by working as a team.
CONT2 : Work methods and processes are continuously improved to enhance work quality when working as a team.
CONT3 : Members learn from mistakes to continuously improve team performance.

Personality (PN) consists of 15 items, developed from Costa and McCrae (1992) and Griffin (2022).

EXT1 : I can easily start a conversation with a person I have just met.
EXT2 : I maintain a large circle of friends.
EXT3 : I enjoy socialising and interacting with others.

AGR1 : I can make others feel comfortable in my presence.
AGR2 : I prefer collaborative work over competitive work.
AGR3 : Even when I disagree with others, I tend not to express my disagreement openly.
CON1 : I plan and prepare for my work in advance.
CON2 : I follow the plans that I have made.
CON3 : I prioritise my tasks and complete them as planned.
EMO1 : I do not worry unnecessarily.
EMO2 : I generally feel calm and confident.
EMO3 : I am not easily stressed or anxious.
OPEN1 : I enjoy exploring new technologies that can enhance convenience in my daily life.
OPEN2 : I am open-minded toward learning new things.
OPEN3 : I actively seek and keep up with new and useful knowledge.

Community Academic Service Performance (CASP) consists of 9 items, developed from Ubon Ratchathani Rajabhat University (2025)'s official performance evaluation form.

QL1 : I can successfully deliver community academic services in accordance with the quality measures set by the university.
QL2 : I perform community academic service activities in compliance with the university's policies and regulations.
QL3 : I have a thorough understanding of community academic service activities, enabling me to perform them effectively and maintain high-quality outcomes.
QN1 : I accomplish the assigned volume of work related to community academic service activities.
QN2 : I complete community academic service activities within established deadlines.
QN3 : I effectively prioritise my workload to achieve success in community academic service activities.
BH1 : I consistently demonstrate a strong commitment to community academic service activities.
BH2 : I collaborate effectively with others in delivering community academic service activities.
BH3 : I continuously explore and apply new knowledge and technologies to enhance community academic service activities.

APPENDIX B.

Interview Guide

1. (H1) The quantitative findings indicated that workplace spirituality (e.g., a strong sense of purpose) did not significantly influence community academic service performance. In your opinion, why might workplace spirituality not have a significant impact on community academic service performance?

2. (H2) In your opinion, how does workplace spirituality (e.g., a strong sense of purpose) influence lecturers' personality traits? Please explain based on your experience.

3. (H5) In your opinion, how do personality traits, such as openness, agreeableness, and emotional stability, affect community academic service performance? Please explain based on your experience.

4. (H6) The quantitative findings indicated that workplace spirituality (e.g., a strong sense of purpose) indirectly influenced community academic service performance through personality traits, including openness, agreeableness, and emotional stability. In your opinion, how can this indirect relationship be explained? Please explain based on your experience.

5. (H3) The quantitative findings indicated that teamwork did not significantly influence lecturers' community academic service performance. In your opinion, what might explain this finding? Please explain based on your experience.

6. (H4) In your opinion, how does teamwork affect lecturers' personality traits? Please explain based on your experience.

7. (H7) The quantitative findings indicated that teamwork indirectly influenced community academic service performance through personality traits, such as openness, agreeableness, and emotional stability. In your opinion, how can this indirect relationship be explained? Please explain based on your experience.

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Developing a Structural Framework for Sustainable Islamic Tourism Development: A PLS-SEM Approach

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ABSTRACT

The current study investigates the roles of Islamic cultural heritage, Islamic infrastructure development, and Islamic architecture towards Muslim tourist satisfaction, and Islamic tourism developments with the aim to guide practitioners with strategic interventions for fostering best practices and maximise the environmental, economics and socio-economic benefits for sustainable Islamic tourism development in Malaysia. A questionnaire survey with 251 responses was collected from tourists in Malaysia using a 5-point Likert scale with a non-probability purposive sampling technique for participant selection and recruitment, while the causal relationship between variables was examined using the PLS-SEM approach. Findings revealed that Islamic cultural heritage, Islamic infrastructure development and Islamic architecture have a significant effect on Muslim tourist satisfaction. This investigation employs Islamic cultural heritage, Islamic infrastructure development, and Islamic architecture to gain insight into customer satisfaction towards Islamic tourism in Malaysia.

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INTRODUCTION

Islamic tourism encompasses travel experiences focused on destinations and activities significant to Muslims worldwide (Al-Ansi et al., 2023; Monoarfa et al., 2022).

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Islamic tourism is used as an umbrella term for travel guided by Islamic values and worship, whereas halal tourism refers to Shariah-compliant services such as halal food, prayer facilities and Muslim-friendly accommodation (Mohsin et al., 2023). It includes pilgrimages, visits to landmarks and cultural immersion that support economic development, cultural preservation and intercultural understanding (Chaturvedi & Ranjan, 2026; Khalid et al., 2023).

One of the issues addressed in this long-term goal is to develop the Islamic cultural heritage, transportation infrastructure, and the concept of Islamic arts and architecture. Cultural centres such as mosques, madrasas and historical sites sound off a bell to the many who desire to get spiritual empowerment, cultural immersion and to learn about the past way of living of others. The right infrastructure is the guarantee of accessibility, as no comfort is given up by visitors through hostels laid out and transport systems created (Nigatu et al., 2023). Islamic architecture, with its intricate designs and historical significance, serves as an attraction for tourists interested in the Islamic aesthetic (Al khalifa & Lafi, 2025). The trend of maintaining the Islamic fashion can be exactly associated with the preference of its customers for the precious and prestigious Islamic decoration, also with all historical meanings. Similarly, as mentioned by Sutianto et al. (2023), protecting and managing these characteristics is critical for all the stakeholders, such as tourists, residents, and other parties involved, since it provides them with an out-of-class experience which in turn results in income growth, community empowerment and sustainability development among many others.

The Islamic tourism industry of Malaysia is vibrant because of the nation that endorses Halal culture, the various Islamic cultural heritages, and the rich Islamic history. The Islamic Arts Museum with the Sultan Salah Uddin Abdul Aziz is one of the two most well-known landmarks in the country, and they attracts Muslim pilgrims from all over the world (Khalid et al., 2023). Through its robust hotel industry and well-established infrastructure, Malaysia can satisfy the growing demand from halal-conscious tourists. This is demonstrated by the offering of a variety of options, which are halal-friendly in terms of accommodation, restaurants, and activities. The implementation of the Halal Tourism Blueprint by the government is the impetus for the sector's development tasks, which have a positive impact on the tourism industry. The magic of this place is that it is a unique combination of the most modern amenities, historical Islamism, and a welcoming legal environment, which explains why this country is one of the best destinations for Islamic tourism (Ma'asor et al., 2023).

Awareness of real barriers and impediments in the use of Islamic tourism development should now pass to the public sector, since they are the only authorities that can implement an effective plan. Not all the historic buildings in Islamic

tourism destinations have been given the attention required, and there are seldom suitable transportation systems, either railways or roads, that fit and bring these features to life. It always remains a considerable problem which closes the access to a large part of Islamic tourism destinations and steals lots of the atmosphere created for visitors. In these areas, systems where the number of hosts is mature enough to provide the required hospitality space, habitable units, and adequate transport network cannot possibly exhibit the necessary growth up to economic development (Mazlan et al., 2023). Furthermore, the heritage sites, one of the main factors driving up tourism inflow, face deprivation of care and lack funds in turn and their identity is lost forever due to their loss of authenticity. Besides, others Muslims destination that is characterised by multifarious expectations of those travellers always constitute an overwhelming challenge in the delivery of Islamic travel services because halal food items must also be supplied (Fauzi & Battour, 2024). Furthermore, as such, the absence of policies and structure that causes hindrance in the establishment of the Halal tourism growth becomes another consequence. These issues must be explored with care in order to make it possible for tourism at the Islamic sites to become its full force in the promotion of the Islamic cultural heritage, scientific advancement and environmental conservation (Al-Ansi et al., 2023).

Prior studies have established that Islamic tourism involves intertwined cultural, economic, and social dimensions; however, their treatment of heritage, infrastructure, and architecture remains fragmented rather than theoretically integrated (Hanafiah et al., 2022; Mazlan et al., 2023; Sutianto et al., 2023). While this literature affirms the relevance of Islamic destination attributes, it does not clearly explain how these attributes jointly shape Muslim tourist satisfaction and, in turn, sustainable Islamic tourism development in a single model. This unresolved linkage constitutes the central gap addressed in the present study.

The main purpose of this paper is to bridge the research gap by identifying two ways that are understandable concerning the relationship among the Islamic cultural heritage, Islamic architecture, tourism infrastructures, and the satisfaction of tourists. The goal of this study is to focus on giving an in-depth understanding of the processes that contribute to having sustainable benefits in the tourism destinations in Islam by identifying the mediation of Muslim tourist satisfaction. Such work underlines the importance of a deep understanding of the elaborate mechanisms of the elements contributing to lasting and holistic Islamic tourism development. Islamic tourism, becoming increasingly international, has recently become highly topical, with the environment and growth patterns being the pivotal issues to investigate. Researchers are motivated by the opportunity to fill the existing research

gap, contributing valuable insights for policymakers, tourism authorities, and industry stakeholders. By investigating the roles of Islamic cultural heritage, infrastructure, and Islamic architecture towards Muslim tourist satisfaction and tourism development, this study aims to guide strategic interventions for fostering sustainable practices and maximising the socio-economic benefits of Islamic tourism.

Despite many studies in the past examined cultural heritage, tourist satisfaction and tourism infrastructure in various tourism settings, very little research has combined Islamic cultural tourism, Islamic architecture, and Islamic heritage in a single framework to illustrate Islamic tourism and sustainable development in this context. This research also addresses the prominent gap by proposing a comprehensive model and empirically validating that the Islamic destination factors affect sustainable outcomes in the Malaysian context. This study contributes to existing literature and gives strong theoretical insights for Islamic tourism development.

The remainder of the paper consists of a literature review and development of the hypothesis, followed by methods that discuss the study's sample population, measures, data collection method, and data analysis technique. The fourth section discusses the study findings and supportive arguments from past studies. The last section will discuss the conclusive remarks, theoretical implications, recommendations, limitations, and future research directions.

LITERATURE REVIEW

Determinants of Muslim Tourist Satisfaction

Satisfaction refers to the experiences that provide experience and fulfil visitors' expectations (Rauf et al., 2024). Social exchange theory, developed by the Georgian sociologist Georges Homans in the 1950s, postulates that people would enter into social relationships based on a formal calculation of costs and benefits (Homans, 1974). Concerning tourism, visitors are in search of activities that are reasonably profitable for the money they have spent because such pursuits are seen as a satisfactory exchange for their resources. Historical heritage sites value and ensure that the tourists experience distinct and inspiring moments. Although prior studies generally report a positive association between heritage-based experiences and tourist satisfaction, the evidence is not entirely uniform. Some studies emphasise authenticity and cultural immersion as primary drivers of satisfaction, whereas others show that service quality, destination image, and perceived value condition that relationship (Domínguez-Quintero et al., 2021; Rasoolimanesh et al., 2022; Uslu et al., 2023). This suggests that Islamic cultural heritage should not be treated as a self-evident predictor of satisfaction; rather, its effect requires further testing in a destination-specific Islamic tourism context such as Malaysia. Hence, it has been hypothesised that:

> H1: Islamic cultural heritage has a significant effect on Muslim tourist satisfaction.

The role of Islamic infrastructure development on the satisfaction of tourists can be strongly tied to equity theory in the 1960s, as proposed by Adams (2015). According to this theory, the basis for the satisfaction evaluation comes from the perceived fairness in social interactions. In the tourism setting, equitable sharing of infrastructure resources such as transport and lodging guarantees tourists their expenses and time (Zulvianti et al., 2023). When visitors are supplied with services that are directly related to their investment, the commission promotes fairness and pleasure (Manosuthi et al., 2026). Hence, Islamic infrastructure development becomes a vital factor in an endeavour to have equal access to the resources by the tourists, as it tends to affect the satisfaction levels of the people favourably. This points out the role of fairness in making sure that all infrastructure amenities are distributed, that lead to better experiences of tourism (Rady et al., 2023). Hence, it has been hypothesised that:

H2: Islamic infrastructure development has a significant effect on Muslim tourist satisfaction.

The connection of Islamic architecture with tourists is clearly understood through social exchange theory. In the field of tourism, tourists allot resources, which range from time and money, in order to visit each location with Islamic heritage (Wu et al., 2024). The Islamic art, with its intricate patterns, historical background, and cultural complexity, is the one thing that differentiates a trip as valuable and educational from the mere pleasure sightseeing experience (Alkhalifah et al., 2025). It is the intellectual reward of the investment. Tourists, captivated by beauty and culture while viewing them, tend to become higher. In this manner, social exchange theories provide one of the more complete and general frameworks for thinking about how Islamic architecture, by interacting positively with tourists, brings them satisfactory experiences during their travels (Arabov et al., 2024). Hence, it has been hypothesised that:

H3: Islamic architecture has a significant effect on Muslim tourist satisfaction.

Muslim Tourist Satisfaction and Sustainable Islamic Tourism Development

The principle of sustainable Islamic tourism development, considering the importance of Muslim tourist satisfaction, can be justified with equity theory. Equity theory asserts that people assess the equity of their relationships according to their perception of the balance between their inputs and outputs (Zulvianti et al., 2023). In the context of tourism, the higher satisfaction leads to the assumption that tourists perceive an experience as fair, since they have already invested a lot. During their Islamic tourism activities, a tourist's reaction that he received sufficient value and positive experiences will definitely encourage him to participate and give support to the development and conservation practices of Islamic heritage sites and cultural resources (Mohsin et al., 2023).

Accordingly, equity theory offers a consistent and systematic platform for explaining the human psychological processes behind Muslim tourist satisfaction with sustainable Muslim tourism growth by creating fairness perceptions and promoting long-term commitment to the destination (Zulvianti et al., 2023). Hence, it has been hypothesised that:

> H4: Muslim tourist satisfaction has a significant effect on sustainable Islamic tourism development.

Mediating Role of Muslim Tourist Satisfaction

Drawing on Social Exchange Theory and Equity Theory provides a fuller explanation of how Muslim tourist satisfaction advances sustainable Islamic tourism development. These perspectives clarify reciprocal benefit and perceived fairness, yet they do not fully capture how tourists actively construct value through destination encounters. In this respect, perceived value and value co-creation offer complementary insight, as Islamic heritage, infrastructure, and architecture may shape satisfaction through experiential value formation and participatory meaning-making (Abror et al., 2023; Zulvianti et al., 2023). Likewise, the mediating role of tourist satisfaction between Islamic cultural heritage and sustainable Islamic tourism development is consistent with social exchange logic, as tourists evaluate heritage experiences in terms of expected rewards and cultural enrichment (Cheraghi et al., 2026; Tabaeeian et al., 2023).

When tourists feel that these exchanges are positive, levels of satisfaction rise. In a sustainable tourism practice, the visitors who are culturally satisfied will be more inclined to promote tourism aimed at preserving cultural legacy, which is a source of community identity and pride. As a result, social exchange theory provides a means through which the gains derived from Islamic cultural heritage sites can relate to tourists' satisfaction with the tour destination. Equity theory complements this perspective by focusing on perceived fairness: tourists feel satisfied when the outcomes they receive, such as service quality and cultural enrichment, are proportional to the time and money invested (Zulvianti et al., 2023). When exchanges are both rewarding and fair, satisfied Muslim tourists are more willing to support conservation, comply with sustainable practices and advocate for Islamic destinations, thereby strengthening long-term sustainable Islamic tourism development (Mohsin et al., 2023; Phi et al., 2024). This dual-theory lens clarifies the mediating role of satisfaction between attributes and sustainability. Hence, the study hypothesised that:

> H5: Muslim tourist satisfaction significantly mediates the effect of Islamic cultural heritage on sustainable Islamic tourism development.

The mediation of Muslim tourist satisfaction in the relationship between Islamic infrastructure development and sustainable Islamic tourism development is well-supported by equity theory. In the context of tourism, Islamic infrastructure

development provides tourists with essential amenities and services, enhancing their overall experience (Zulvianti et al., 2023). When tourists perceive these improvements positively, they are more likely to feel treated, leading to higher levels of satisfaction. Satisfied tourists are then more inclined to support sustainable tourism practices that contribute to the preservation and development of Islamic heritage sites (Phi et al., 2024). Therefore, equity theory provides a coherent framework for understanding how Islamic infrastructure development influences Muslim tourist satisfaction, which in turn mediates the relationship between Islamic infrastructure development and sustainable Islamic tourism development (Subawa et al., 2023). Hence, it has been hypothesised that:

H6: Muslim tourist satisfaction significantly mediates the effect of Islamic infrastructure development on sustainable Islamic tourism development.

The hypothesis that the pursuit of the satisfaction of tourists is a good explanation of the role of Islamic architecture in promoting sustainable Islamic tourism development is consistent with the social exchange theory. Tourism in Islamic architecture provides tourists with a unique cultural experience. Once tourists enjoy these experiences, they turn into happier entities, as proven by Abbasian et al. (2023). Satisfied tourists have a higher chance of supporting measures that guarantee sustainability and prevent damage to Islamic heritage sites. Therefore, social exchange theory gives an insight into the positive experience of Islamic architecture that results in the moodiness of tourists and then that in turn supports the sustainable Islamic tourism development (Abror et al., 2023). Hence, it has been hypothesised that:

H7: Muslim tourist satisfaction significantly mediates the effect of Islamic architecture on sustainable Islamic tourism development.

In retrospect, Figure 1 depicts the graphical representation of the conceptual framework based on the hypothesised relationship between variables.

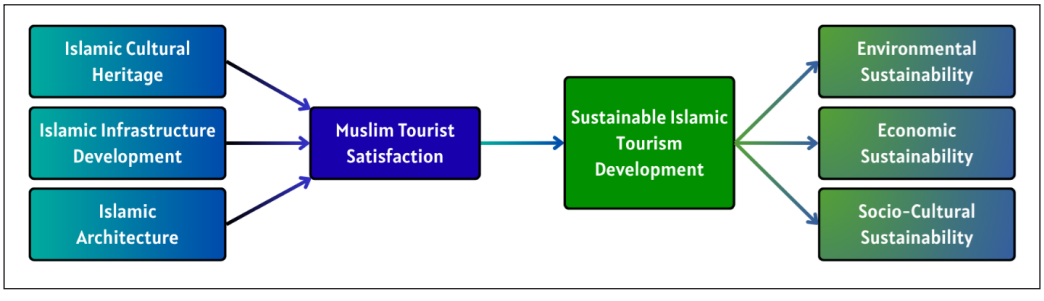

Figure 1. Conceptual framework for sustainable Islamic tourism development

METHODS

Sample and Population

The sample for this study comprises Muslim tourists visiting Malaysia, a destination attracting travellers whose backgrounds and motivations are fitting for the study of Islamic tourism dynamics (Tan & Soon, 2023). A screening question at the beginning of the questionnaire made sure that only the self-identified Muslim tourists continued with it. Malaysia has been an Islamic tourism destination with rich heritage and Islamic infrastructure; hence, a relevant context for this research (Kalantari et al., 2023). The final sample comprised 251 respondents, exceeding the minimum of 204 recommended by a G*Power (v3.1.9.7) analysis (f^2=0.10, α=0.05, power=0.95, five predictors), thereby ensuring robust statistical power, suitable for PLS-SEM analysis.

The sample population for this study comprises tourists visiting Malaysia. Tourists in Malaysia represent a diverse range of backgrounds, cultures, and travel motivations, making them an ideal sample for examining the dynamics of Islamic tourism. Additionally, Malaysia is a prominent Islamic tourism destination with a rich Islamic cultural heritage and well-developed Islamic infrastructure, making it a relevant and informative research paper for understanding sustainable Islamic tourism development. Table 1 shows the demographic profile of the 251 respondents.

The current study used a purposive sampling technique, and the respondents who met the study criteria were included. The purposive sampling allows researchers to collect data from the participants who have appropriate characteristics for the current study, which helps in meaningful analysis. Although non-probability sampling can limit the generalisability, it is considered appropriate to get context-specific and targeted insight. The measurement validity of all constructs was adapted from well-established and validated scales from extensive studies. Further, content validity of the instrument was ensured through expert review and statistical measures were used to check the reliability of the instrument.

Table 1 details the demographic profile of the 251 respondents. The sample shows a balanced gender distribution and a mature age profile, with the largest group aged 36-45 (26.3%). Educational backgrounds are highly diverse, with 71.3% holding higher education degrees. Travel behaviour is also evenly distributed, capturing a wide spectrum of novices to avid travellers, ensuring a highly representative sample. The study did not include demographic control variables in the structural model, as the analysis was designed to test theory-driven relationships among the focal constructs. Nevertheless, respondent characteristics such as age, education, and travel frequency were reported descriptively to provide sample context. The omission of control variables is acknowledged as a limitation and direction for future model refinement.

Table 1
Demographic profile (n = 251)

		N	%
Gender	Male	79	31.5
	Female	89	35.5
	Prefer Not to Say	83	33.1
Age Group	18-25 years	41	16.3
	26-35 years	41	16.3
	36-45 years	66	26.3
	46-55 years	49	19.5
	56 and above	54	21.5
Educational Background	High School or below	72	28.7
	Bachelor's Degree	63	25.1
	Master's Degree	57	22.7
	Doctorate or Professional Degree	59	23.5
Travel Frequency in the Last Year	1-2 trips	61	24.3
	3-5 trips	74	29.5
	6-10 trips	63	25.1
	More than 10 trips	53	21.1
Travel Experience	Novice traveler (1-2 trips in the last year)	68	27.1
	Occasional traveler (3-5 trips in the last year)	57	22.7
	Frequent traveler (6-10 trips in the last year)	60	23.9
	Avid traveler (more than 10 trips in the last year)	66	26.3

Measures

In Zulvianti et al.'s (2022) view, tourist satisfaction is a favourable assessment formed during and after tourism activities. Accordingly, Muslim tourist satisfaction is conceptualised as an affective, evaluative judgment of the overall experience. Four items were adapted from Zulvianti et al. (2022) using a 5-point Likert scale, for example,

> I had a pleasant experience during my visit to Malaysia.

Economic sustainability, defined by Mamirkulova et al. (2020), is the ability of an economic system or activity to persist throughout time, guaranteeing long-term viability and continuous benefits for both current and future generations. Five measures were taken from Mamirkulova et al. (2020) based on a 5-point Likert scale. For example,

> Tourism generates employment opportunities and benefits in the area.

Environmental sustainability is defined by Mamirkulova et al. (2020) as the conscientious and equitable management of ecosystems, natural resources, and environmental processes. Four measures

were taken from Mamirkulova et al. (2020) based on a 5-point Likert scale. Such as,

> Tourism will provide waste management.

Sociocultural sustainability, as described by Mamirkulova et al. (2020), is the focus on maintaining and improving the well-being of societies and cultural identities while guaranteeing equal opportunity for all members. Seven measures were taken from Mamirkulova et al. (2020) based on a 5-point Likert scale. For example,

> Tourism increases the empowerment of local communities.

According to Megeirhi et al. (2020), Islamic cultural heritage is a broad concept that encompasses values, shared beliefs, traditions, artefacts, and rituals that have been passed down through the ages. Seven measures were taken from Megeirhi et al. (2020) based on a 5-point Likert scale. Such as,

> I feel enriched by the provided information on our Islamic cultural heritage.

Mamirkulova et al. (2020) defined infrastructure development as the process of organising and erecting necessary physical buildings and facilities to promote community well-being and economic progress. Five measures were taken from Mamirkulova et al. (2020) based on a 5-point Likert scale. For instance,

> I appreciate Malaysia's infrastructure upgrades, ensuring safer and higher-quality public transportation.

Domínguez-Quintero et al. (2020) defined Islamic architecture as the artistic manifestation of cultural and religious principles, featuring calligraphy with deep roots in Islamic traditions and beliefs, as well as elaborate geometric designs and arabesques. Five measures were taken from Domínguez-Quintero et al. (2020) based on a 5-Point Likert scale. For instance,

> The overall architecture and impression of the buildings provide inspiration, reflecting the beauty of Islamic architecture.

Sustainability in tourism development is defined by Zulvianti et al. (2022), as a conscientious planning and management techniques that give social inclusion, environmental preservation, and economic feasibility top priority. Five measures were taken from Zulvianti et al. (2022) based on a 5-Point Likert scale. For instance,

> Community support for sustainable tourism in Malaysia.

Data Collection

The survey used a Likert scale with a 5-point rating method for the purpose of getting an insight into visitor perceptions and satisfaction in relation to the different components in Malaysia (Taherdoost, 2019). The Likert scale makes it possible for respondents to demonstrate their attitude towards a subject in a spectrum of strongly

disagree to strongly agree, which gives a finer detail of their opinion. Using this method, researchers can do a systematic data collection as well as an analysis that will eventually enable them to comprehend the experience and preferences of the tourists visiting Malaysia (Jebb et al., 2021).

Data Analysis

Hair et al. (2017) argue that PLS-SEM evaluates the extent to which predictor constructs explain variance in endogenous constructs and assesses relationships among latent variables. With PLS-SEM, researchers can estimate complex models that include many indicators, higher-order constructs, formative measures, and mediating effects using ordinal data (Hair et al., 2019). In the current study, the PLS-SEM algorithm was used to estimate measurement and structural models.

Before evaluating the structural model, collinearity was assessed through inner-model and full collinearity VIF values, all of which were below the recommended threshold, indicating no serious multicollinearity concerns (Hair et al., 2019). Common method bias was assessed using both Harman's single-factor test and the full collinearity VIF approach. Harman's test indicated that no single factor accounted for most of the covariance, while the full collinearity VIF values further suggested that common method bias was unlikely to threaten the model estimates; these VIF values are reported in Table 2.

RESULTS

Measurement Model

The measurement model assesses factor loadings, signal variances, and other important parameters to identify the relationship between the latent factors and observed variables (Yun & Kurniawan, 2023). Table 2 presents the results of the measurement model using the PLS algorithm technique.

Table 2 provides the relationship of the latent variables like CH, ECS, EnS, and OI, observing these. The loading factor estimates the relationship between the observed variable and its latent intended variable (Jackson, 1966). Statistical significance is well demonstrated with P-values of 0.000 and all loadings directly linked to their respective latent variables. The constructs have good internal consistency, reliability and convergent validity, according to Composite Reliability (CR) and Average Variance Extracted (AVE) values. This shows that the measurement model fits well, with strong relationships between non-observable and observable variables, and that the measurement framework is reliable and authentic.

Discriminant Validity

The discriminant validity table shows how distinct latent constructs in a measurement model are by showing correlations or covariances and ensuring they are lower than the square roots of the average variance extracted (AVE) (Fornell & Larcker, 1981). Table 3 provides the result of (Fornell & Larcker, 1981) criterion for discriminant validity assessment.

Table 2
Measurement model

	VIF	Loadings	Prob.	Alpha	CR	AVE
CH4 <- CH	2.52	0.893	0.000	0.812	0.884	0.718
CH5 <- CH	1.86	0.747	0.000			
CH7 <- CH	2.54	0.894	0.000			
ECS3 <- ECS	1.72	0.783	0.000	0.762	0.863	0.678
ECS4 <- ECS	1.95	0.855	0.000			
ECS5 <- ECS	1.89	0.831	0.000			
ES1 <- EnS	2.63	0.962	0.000	0.877	0.940	0.887
ES2 <- EnS	2.58	0.921	0.000			
IAA4 <- IAA	2.74	0.945	0.000	0.881	0.944	0.894
IAA5 <- IAA	2.76	0.946	0.000			
ID1 <- ID	2.79	0.959	0.000	0.916	0.960	0.922
ID4 <- ID	2.77	0.962	0.000			
SCS5 <- SCS	2.41	0.946	0.000	0.873	0.921	0.798
SCS6 <- SCS	2.38	0.941	0.000			
SCS7 <- SCS	1.84	0.783	0.000			
TS1 <- TSAT	2.78	0.959	0.000	0.960	0.971	0.892
TS2 <- TSAT	2.67	0.950	0.000			
TS3 <- TSAT	2.69	0.951	0.000			
TS4 <- TSAT	2.42	0.918	0.000			

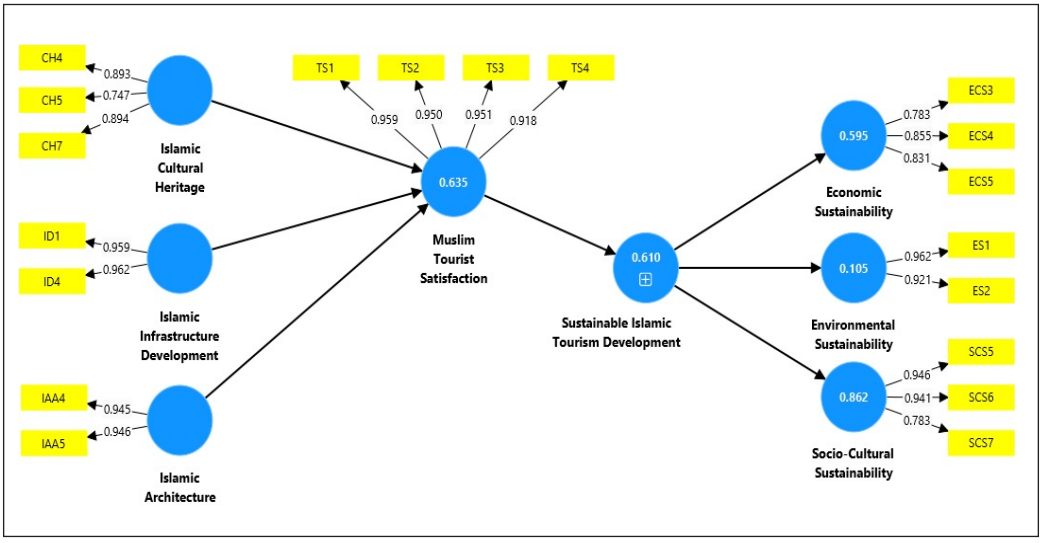

Figure 2. PLS Algorithm using SmartPLS v4

Table 3
Fornell-Larcker Criterion (FLC)

	CH	ECS	EnS	IAA	ID	SCS	TSAT
CH	0.847						
ECS	0.224	**0.823**					
EnS	0.266	-0.102	**0.942**				
IAA	0.639	0.322	0.381	**0.945**			
ID	0.641	0.446	0.347	0.641	**0.960**		
SCS	0.674	0.539	0.265	0.467	0.636	**0.893**	
TSAT	0.672	0.500	0.451	0.725	0.679	0.726	0.945

Fornell and Larcker (1981) suggested that the square root of the average of latent constructs (shown by bold values) should be greater than the correlation with other constructs (indicated by non-bold values). The diagonal values representing the square root of the Average Variance Extracted (AVE) for each construct surpass the correlations with other constructs, indicating that each latent variable is more strongly related to its corresponding observed variables than to those representing different constructs. However, the presence of some relatively high correlations between constructs suggests potential overlap (Yun & Kurniawan, 2023). If a construct has shown its uniqueness inside the structural model, the square root of its average variance extracted (AVE) coefficient will be larger than its correlation coefficient with other constructs, as stated by (Fornell & Larcker, 1981). This is demonstrated in the table provided above. FLC has been used to establish discriminant validity. Table 4 shows the result of HTMT ratios for each pair of constructs to assess discriminant validity using PLS algorithm.

Table 4 indicates that the HTMT values among the first-order constructs are below the conventional threshold of 0.90, supporting discriminant validity at that level (Ab Hamid et al., 2017; Henseler et al., 2016b). However, the HTMT value of 0.933 observed between SCS and the higher-order construct SITD indicates substantial conceptual proximity, which is theoretically plausible because SCS is one of the reflective dimensions of SITD. Accordingly, this result is interpreted with caution as a higher-order construct issue rather than straightforward evidence of problematic overlap between unrelated constructs.

Predictive Power

Table 5 shows the predictive power of the endogenous latent constructs in the structural model using R-squared estimations.

Table 5 shows that sustainable Islamic tourism development has been predicted at up to 61 per cent, representing strong predictability in the structural model (Chin, 1998; Cohen, 1988, 1992) while Muslim tourist satisfaction has been strongly predicted up to 63.5 per cent (Hair et al., 2011) in the structural model.

Table 4
HTMT ratio

	CH	ECS	EnS	IAA	ID	SCS	TSAT
CH							
ECS	0.330						
EnS	0.313	0.132					
IAA	0.707	0.393	0.441				
ID	0.701	0.533	0.392	0.716			
SCS	0.818	0.608	0.303	0.522	0.707		
TSAT	0.712	0.581	0.480	0.788	0.721	0.778	

Table 5
Predictive power

	R-Square	Decision
Sustainable Islamic Tourism Development	0.610	Strong
Muslim tourist satisfaction	0.635	Strong

Structural Model

The structural model shows how latent factors in a measurement model affect each other and observable variables (Bentler, 1990). In this regard, Table 6 shows the result of higher-order construct development using PLS path modelling analysis.

Table 6 showed that the first-order constructs of economic sustainability (ECS; $\beta = 0.771$; $p < 0.05$), environmental sustainability (EnS; $\beta = 0.323$; $p < 0.05$) and socio-cultural sustainability (SCS; $\beta = 0.928$; $p < 0.05$) have positively and statistically significantly reflected from the higher-order construct of sustainable Islamic tourism development. Table 7 shows the results of hypothesis testing for direct-effect analysis using PLS bootstrapping.

Table 7 shows that Islamic cultural heritage (CH; $\beta = 0.248$; $p < 0.05$) and Islamic infrastructure development (ID; $\beta = 0.265$; $p < 0.05$) have a positively significant effect on Muslim tourist satisfaction, while Islamic architecture (IAA; $\beta = 0.397$; $p < 0.05$) has a positively significant effect on Muslim tourist satisfaction. Contrarily, Muslim tourist satisfaction (TSAT; $\beta = 0.781$; $p < 0.05$) has a significantly positive effect on sustainable Islamic tourism development.

Figure 3 shows the framework of PLS bootstrapping while Table 8 shows the results of hypothesis testing for specific indirect-effect analysis using PLS bootstrapping.

Table 8 showed that Islamic cultural heritage (CH; $\beta = 0.194$; $p < 0.05$) and Islamic infrastructure development (ID; $\beta = 0.207$; $p < 0.05$) have a positively significant effect on sustainable Islamic tourism development with the mediation of Muslim tourist satisfaction while Islamic architecture (IAA; $\beta = 0.310$; $p < 0.05$) has

a positively significant effect on sustainable Islamic tourism development with the mediation of Muslim tourist satisfaction.

Predictive Relevance

Table 9 shows the predictive relevance of the endogenous constructs in the structural model using PLS Predict for Q-Square estimations.

Table 9 showed that sustainable Islamic tourism development has a strong relevance of 43 percent while Muslim tourist satisfaction has a strong relevance of 62.3 percent in the structural model (Hair et al., 2013).

Table 6
Higher-order construct development

	Estimate	S. D.	t-Stats	Prob.
SITD -> ECS	0.771	0.054	14.196	0.000
SITD -> EnS	0.323	0.134	2.420	0.016
SITD -> SCS	0.928	0.008	110.002	0.000

Table 7
Direct-effect analysis

	Estimate	S. D.	t-Stats	Prob.
CH -> TSAT	0.248	0.056	4.405	0.000
IAA -> TSAT	0.397	0.061	6.547	0.000
ID -> TSAT	0.265	0.087	3.044	0.002
TSAT -> SITD	0.781	0.037	21.258	0.000

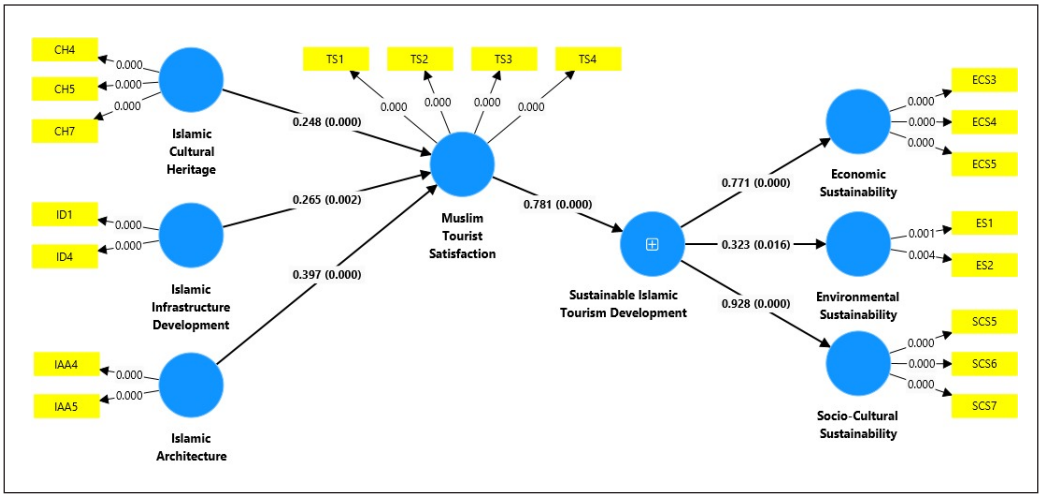

Figure 3. PLS Bootstrapping using SmartPLS v4

Table 8
Specific indirect-effect analysis

	Estimate	S. D.	t-Stats	Prob.
CH -> TSAT -> SITD	0.194	0.044	4.393	0.000
IAA -> TSAT -> SITD	0.310	0.046	6.768	0.000
ID -> TSAT -> SITD	0.207	0.072	2.861	0.004

Table 9
Predictive relevance

	Q-Square	Decision
Sustainable Islamic Tourism Development	0.430	Strong
Muslim Tourist Satisfaction	0.623	Strong

DISCUSSION

Beyond statistical significance, the findings indicate that Islamic architecture exerts the strongest direct influence on Muslim tourist satisfaction, followed by Islamic infrastructure development and Islamic cultural heritage. This pattern suggests that tourists respond not only to symbolic and historical meaning, but also to visible, experience-rich destination attributes that shape their immediate evaluation of the trip. In the Malaysian context, this implies that architectural expression and infrastructure readiness may be especially consequential for strengthening satisfaction and, indirectly, sustainable tourism outcomes.

The result showed that Islamic cultural heritage has a positive and significant effect on Muslim tourist satisfaction. This result fits with the idea that cultural sites are often the most important parts of travel. Additionally, to their historical and appealing value, Islamic cultural heritage places evoke feelings and offer chances to learn and explore, which ultimately increases total satisfaction. Similar studies in tourist literature have drawn the same conclusion. In their study of European sites, Domínguez-Quintero et al. (2021) also found a link between Islamic cultural heritage and Muslim tourist satisfaction that was satisfactory. The positive impact of Islamic cultural heritage on Muslim tourist satisfaction was also supported by Rasoolimanesh et al. (2022), who studied in Asian environments. Altogether, this research shows how significant Islamic cultural heritage is for making tourist trips memorable and increasing satisfaction.

The result highlighted that Islamic architecture has a positive and significant effect on Muslim tourist satisfaction. Although tourists may enjoy the beauty of Islamic artefacts and architecture, the service quality is also among the major determinants of the overall feeling of the visitors to the site. Hence, the multiple criteria comprise just some of the factors that make up the

overall picture of location management, because of which strategies need to be produced, considering the significance of these factors. This evaluation showed that tourists' satisfaction with the Buddhist art had little but also equally important effects on their views regarding the cultural element, thus pointing to the multifaceted nature of their perspectives, other than the cultural influence factor (Petrucci, 2023). In addition, similar findings were also discovered among Europeans in research that studied the effect of historical sites on Muslim tourist satisfaction (Kamani et al., 2022).

The result showed that Islamic infrastructure development has a positive and significant effect on Muslim tourist satisfaction, which is in line with other studies. The architecture of such infrastructure plays a significant role in improving the overall quality and experience of the tourists, resulting in very high levels of satisfaction. Moreover, another study by Syam (2022) affirmed that infrastructure as a factor that affected the perceptions and satisfaction levels of tourists, was presented. Following these findings, a study by Chan et al. (2022b) highlighted also the very large infrastructure role in attracting and keeping customers.

The result found that Muslim tourist satisfaction has a positive and significant effect on sustainable Islamic tourism development. This consequence's reason comes from the idea that contented visitors are more likely to act in a form that is helpful to the environment and culture, which is profitable for the Islamic tourism destination over long term. This argument is substantiated by Zulvianti et al. (2022) finding that there exists a positive correlation between the long-term trend of growth in the tourism sector in Jordan and the number of tourists who are satisfied with their visit. Along with this, Hassan et al. (2023) noted through their research on Islamic tourism in Malaysia that the industry's applications and endorsement of sustainable growth techniques are highly affected by tourists' satisfaction.

The result showed that Muslim tourist satisfaction has a mediating effect between Islamic cultural heritage and sustainable Islamic tourism development. Firstly, Muslim tourist satisfaction is impacted by Islamic cultural heritage sites, which are often major draws for tourists. Secondly, Tourists who have a happy experience for themselves are the ones who tend to be moderate and adhere to ecotourism compared to another group. This indicates the positivity of this by the fact that investing in cultural values helps in the better pursuit of sustainable development, in which tourists take part by increasing customer satisfaction. In light of the delayed-sequence model presented, the review literature argues that the mediation process between Islamic cultural heritage and sustainable tourism may also exist. Likewise, Jebbouri et al. (2022) looked at Islamic cultural heritage and sustainable tourism and discovered a similar mediation impact. The importance of Islamic contentment in encouraging sustainable tourism results was reaffirmed by Zulvianti et al. (2022)'s analysis of Islamic tourist development, which showed a similar association.

The result found that Muslim tourist satisfaction has a mediating effect between Islamic architecture and sustainable Islamic tourism development. The religious architecture in the Islamic countries is so unique and creative that it leaves the tourists satisfied, therefore they are most likely to continue visiting the Islamic countries more times soon time. The findings revealed by Azizi and Moghadam Barati (2022) stated that the components of Islamic cultural heritage are key in determining the degree of success in satisfying travellers and influencing further sustainable tourism development. Nevertheless, the relationships between cultural attractions in the Islamic historical sites and the sustainable development were also identified as more attractive to tourists, thereby leading to their satisfaction and happiness. In a similar vein, et al. (2022) discovered that the association between cultural attractions and sustainable tourism development in Islamic places was mediated by Muslim tourist satisfaction.

The result indicated that Muslim tourist satisfaction has a mediating effect between Islamic infrastructure development and sustainable Islamic tourism development. The facility of Islamic eco-destination development is very crucial in increasing the Muslim tourist satisfaction. This outcome corroborates the previous job of Jebbouri et al. (2022), who discovered that the association between Islamic infrastructure development and tourism sustainability was mediated by Muslim tourist satisfaction. Similar findings were made by Juliana et al. (2022), who stressed the role of infrastructure in enhancing Muslim tourist satisfaction and motivating sustainable tourism practices in an Islamic scenario.

The current study findings show that Islamic cultural heritage, Islamic infrastructure development and Islamic influence on tourist satisfaction provide a meaningful and significant pattern in the study context. The result of this study also provides empirical support to the framework and strengthens the main study arguments. Overall, findings are aligned with prior studies and integrated practical, theoretical and empirical implications. Additionally, it strengthens the significant relationship among studied variables and contribute in long term sustainable Islamic tourism development, cultural preservation and destination competitiveness.

This study provides guidance to the tourism planner and policymakers by indicating strategic investment in Islamic infrastructure and cultural heritage, which may enhance tourist satisfaction and long-term development of the destination. For instance, saving Islamic heritage sites and integrating architectural elements in tourism can encourage tourists to revisit and enhance their attractiveness, which ultimately helps local communities. Lastly, this study theoretical contribute by empirically examining destination-specific attributes of Islamic tourism that are necessary for sustainable tourism.

Recommendations

Firstly, the government and concerned stakeholders should make sure that the

protection and promotion of Islamic cultural heritage sites is a top priority. This is accomplished by taking steps to protect the historical places, religious sites, and the local traditions that make these places unique and their entire culture meaningful. However, the fact that this way of thinking improves the number of tourists the Islamic cultural heritage attracts, it eventually helps local people feel a greater degree of civic pride and connection. Furthermore, one must also work to promote the understanding of the Islamic culture's worth in tourism. Certainly, educational programs, guided tours, and the creation of advertisements can make a lot of difference in making the unique features of Islamic history known and the fact that they are relevant to present-day tourism. An appropriate setting for sustainable tourism centred on the preservation and protection of priceless factors for posterity can be created by paying attention to the variety and depth of the cultures of Islamic communities.

Since the expansion of Islamic tourist destinations is a key to the development of the infrastructure, it shall be given more importance. As for the accessibility and convenience of the tourist sites, the ways could be improved by enhancing transport networks, offering alternative accommodation, and improving the tourist destinations. Modern airport facilities, the road networks, and public transport could be important grounds for enhancing the link between different locations and improving the travel experience for visitors. Moreover, it is equally crucial to concentrate on the development of green infrastructure in line with the values enshrined in the practices of modern-day Islam as well. With ecologically conceived architectural designs and technologies that ensure a high standard and efficient use of energy, the environmental impact of hotels, restaurants, and other recreational facilities can be dramatically reduced while tourists' experience is upgraded as well. Together with cultural attractions, the contents of the excursions are to be expanded, including ecotourism, adventure tourism, and gastronomic experiences in respect to Islamic ideals. Thus, diversification of tourism involves the development of new products and, at the same time, a broader cast of the audience while yet respecting the cultural expectations of citizens.

This study suggests that strengthening infrastructure, architecture and Islamic cultural heritage not only contributes to sustainable tourism but also develops across economic, socio-economic, and environmental dimensions. The preservation of Islamic heritage sites supports cultural conservation and resource management from an environmental perspective. Economically, a better experience of Muslim tourists can increase satisfaction, enhance tourist arrival which ultimately generate revenue. From a socio-economic perspective, Islamic tourism can encourage community participation, improve overall well-being, and create employment opportunities. Therefore, strategic investment plays a vital role in improving tourist satisfaction and promoting sustainable Islamic tourism.

More so, it is vital to develop international networks and alliances for the purpose of creating a platform for the exchange of best practices, cross-cultural learning, and attaining global audiences for the places which have adopted Islamic tourism. With such efforts as cooperation marketing, cultural exchanges and joint research, the international attraction and awareness of Islamic tourism can be realised on a world scale. The need for sustainability is crucial; therefore, in the tourism projects, there should be integration of the sustainability strategies into the processes that will help to maximise the benefits and minimise the negative environmental and people impacts of tourism. Integrating these policies will make them also among the first-choice locations for a sustainable tourism experience with protected nature for the upcoming generations.

Limitations and Future Research

Even though this study is useful, it has some limitations. Firstly, the 5-point Likert scale survey methodology may narrow understanding and make it too shallow to completely comprehend the multifaceted perspectives of tourists. The research that focused on Muslim tourist satisfaction as the substantial intermediary could have overlooked other socio-economic characteristics of the area, which might have a significant impact on the course of sustainable Islamic tourism development (López-Sanz et al., 2021). Moreover, even though PLS-SEM serves as a complementary study tool, other methods are more trustworthy in terms of causal correlations development (Chan et al., 2022a). Other, it is worthy to note that the study's unique focus on Malaysia can narrow the applicability of its conclusions to destinations beyond this place. To obtain a deep knowledge about the tourists' impressions of tourism, future research would have to circumvent these barriers by utilising a mixed-method approach that involves quantitative and qualitative methods (Castillo Canalejo et al., 2022).

In addition, further studies can be enhanced by incorporating multiple drivers, for example, the marketing of destinations or green practices related to the environment (Monoarfa et al., 2022). Future studies can test whether satisfaction can be a moderator or integrate the concepts of the leadership model of destination governance or the theory of planned behaviour which move beyond theories of social exchange and equity theory, may help develop a more nuanced and well-constructed theoretical framework of sustainable Islamic tourism (Fathan et al., 2022).

CONCLUSION

Islamic cultural heritage and Islamic infrastructure development were found to be some major variables affecting the level of Muslim tourist satisfaction, demonstrating that the right strategies of preserving the cultural sites and providing approaches which meet the demand of tourists are highly appreciated. However, the indirect effects of Islamic architecture, which turned out to have no direct influence on Muslim tourist

satisfaction, were nonetheless an important element which gained significance in the sustainable Islamic tourism development through Muslim tourist satisfaction. It points to the fact that Muslim tourist satisfaction is complex and that the different components, which somehow contribute differently to the findings, have a combined effect on evaluating the findings of tourists. Moreover, the study highlights the pivotal role of Muslim tourist satisfaction as a mediator between various factors and sustainable Islamic tourism development. Muslim tourist satisfaction was found to significantly mediate the effects of Islamic cultural heritage, Islamic infrastructure development, and Islamic architecture on sustainable tourism development. It also highlights the importance of providing a fulfilled and positive experience to tourists as the main driver of the Islamic tourism sector's sustainability.

For practical reasons, the learnings arising from the study findings are very valuable to the officials at the policymaking level and to the industry practitioners. The most important thing is that allotting the funds for building the hotels, restaurants and leisure places and managing them can shape the whole holidays in their country. Thus, it inevitably causes tourists to have better satisfaction ratings, which eventually results in the sustainable development of the Islamic tourism industry. Besides, these findings provide a holistic approach that integrates cultural preservation, Islamic infrastructure development and the celebration of Islamic architecture to produce flavorful and vital tourist experiences.

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Ethical Considerations and Informed Consent

The study was conducted in accordance with established ethical guidelines for social science research. Participants were assured of confidentiality and anonymity, and no personally identifiable information was collected. Ethical clearance was obtained from the relevant Research Ethics Committee, and informed written consent was secured from all participants for the academic use of their data. Consent was obtained from all participants included in the study.

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data Availability Statement

The datasets generated during and/or analysed during the current study are

available from the corresponding author on reasonable request.

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APPENDIX

Measures

Variables		Items
Islamic Cultural Heritage	CH1	There is a diverse tapestry of attractions in Malaysian community, considering historical Islamic landmarks.
	CH2	I feel enriched by the provided information on our Islamic cultural heritage.
	CH3	My visit is important in contributing to the preservation of Malaysian's Islamic cultural treasures.
	CH4	I am highly supportive for the establishment of laws and regulations safeguarding Malaysian Islamic cultural legacy.
	CH5	I am most likely to attend local community meetings to contribute to the future of Islamic tourism planning and the preservation of Islamic Malaysian cultural heritage.
	CH6	I am willing to extend assistance to promotional events and activities celebrating Islamic cultural heritage in Malaysia.
	CH7	My experience regarding the warmth of Malaysian hospitality and interaction with local Muslims are positive.
Islamic Infrastructure Development	ID1	I appreciate Malaysia's infrastructure upgrades, ensuring safer and higher-quality public transportation that accommodates Muslim tourists.
	ID2	Excited about Malaysia's Islamic infrastructure developments, enhancing my tourism experience with easy access to mosques, halal dining options, and prayer facilities.
	ID3	I welcome Malaysia's initiatives in Islamic infrastructure, improving accessibility to vital public services such as Muslim-friendly accommodations and facilities.
	ID4	Malaysia's Islamic infrastructure development crucially shapes a positive national image, showcasing modern, robust and Muslim-friendly facilities that attract Muslim tourists.
	ID5	Through improved and more developed Islamic infrastructure, Malaysia aims to optimize travel times, and enhance the comfort of Muslim travelers, providing a more efficient and enjoyable experience.
Islamic Architecture	IAA1	The Islamic architecture and impression of the buildings provide inspiration, reflecting the beauty of Islamic architecture.
	IAA2	Restoring historic Islamic buildings respects the same style in Islamic architecture, in line with the heritage of Islamic architecture.
	IAA3	I like the uniqueness in interior design and furnishings, highlighting elements of Islamic architecture.
	IAA4	I like the way the site blends with the attractive landscape, scenery, historical ensemble, and town, reflecting harmony with elements of Islamic architecture.
	IAA5	I like the information about the site, and I find it interesting, especially in the context of Islamic architecture.

Variables		Items
Muslim Tourist Satisfaction	TS1	I had a pleasant experience during my visit to Malaysia as a Muslim tourist.
	TS2	I feel happy while visiting Malaysia compared to other destinations due to its Muslim tourist-friendly amenities.
	TS3	Malaysia is the best halal Muslim tourist destination compared to other tourist destinations that I have visited
	TS4	I feel that my trip in Malaysia exceeded my expectations as a Muslim tourist.
Sustainable Islamic Tourism Development	SITD1	The Malaysian community is actively backing sustainable Islamic tourism initiatives.
	SITD2	I am willing to participate in the development of sustainable Islamic tourism.
	SITD3	I am willing to participate in the promotion, education, and conservation of the natural environment in Malaysia to promote sustainable Islamic tourism.
	SITD4	I am willing to comply with the applicable regulations in Malaysia to reduce the negative impact of tourism and to promote sustainable Islamic tourism.
	SITD5	The regulations that apply are not too restrictive for tourists to obey and helps in promoting sustainable Islamic tourism.
Environmental Sustainability	ES1	Preservation of traditional rural landscapes.
	ES2	Tourism will provide waste management.
	ES3	Tourism will provide conservation and protection of natural areas (mountain, lake, sanctuaries).
	ES4	Tourism generates business activities.
Economic Sustainability	ECS1	Tourism increases household income.
	ECS2	Tourism generates employment opportunities and benefits in the area.
	ECS3	Tourism improves the living standard of the local people.
	ECS4	Tourism promotes local enterprises.
	ECS5	Tourism plays an integral role in the economy.
Socio-cultural Sustainability	SCS1	Tourism provides benefits for backward people.
	SCS2	Tourism creates social programs/schemes for backward people.
	SCS3	Tourism increases the empowerment of local communities.
	SCS4	Due to new employment opportunities in tourism areas, will minimise the societal problem.
	SCS5	Tourism will support enterprises' benefits for backward people.
	SCS6	Tourism will increase the management and conservation of heritage sites.
	SCS7	Promotes better understanding between cultures and enhance the level of cultural awareness of locals

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Sociocultural Game-Based Interactive Digital Simulations: A Pathway to Improving Primary School Students' Word Problem-Solving Skills

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ABSTRACT

In this study, we explore the implementation of a sociocultural game-based interactive digital simulation titled The Adventure of Adit in the Fruit Store game in mathematics learning. The microgenetic method was applied to examine the dynamic changes in students' word problem-solving (WPS) abilities. A total of 140 first-grade students, comprising 57 boys and 83 girls with an average age of 6 to 7 years, participated in six mathematics sessions. We collaborated with the classroom teacher to design a mathematics lesson using the game we designed to teach number addition (1-10). A pre-test and six assessments were administered to students after they engaged with the mathematics learning design. Descriptive statistics were used to analyse the dynamic changes in students' WPS abilities over time, and the Wilcoxon Signed Ranks Test was conducted to compare students' WPS abilities before and after participation in mathematics learning through the game. Our findings demonstrate significant dynamic improvements in students' WPS abilities following participation in the designed mathematics lesson. Moreover, statistical analysis revealed a significant improvement in students' post-test scores compared to pre-test scores, $Z = -10.380$, $p < .001$, indicating that the game-based learning intervention had a substantial effect on enhancing students' word problem-solving skills

Keywords: Game-based learning, quasi-experiment, sociocultural, word problem solving

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INTRODUCTION

Mathematics education plays a crucial role in preparing students to understand, interpret,

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and respond to the quantitative demands of everyday life. Beyond developing procedural fluency and computational skills, mathematics learning is expected to foster students' ability to reason, make decisions, and solve problems in meaningful real-world contexts (NCTM, 2014). Consequently, problem solving has long been recognised as a central goal of mathematics education and an essential indicator of mathematical proficiency (Olsson & Granberg, 2024). Students who can successfully apply mathematical knowledge to authentic situations are better equipped to use mathematics as a tool for understanding and navigating the world around them. One of the most important ways in which this competency is demonstrated is through solving mathematical word problems, which require students to interpret contextual information, translate it into mathematical representations, and determine appropriate solutions (Bjork & Bowyer-Crane, 2013; Verschaffel et al., 2020). Mathematical word problems are exercises that present relevant information in written text rather than using mathematical symbols (Vicente et al., 2020). Therefore, developing word problem-solving skills is a key component of effective mathematics teaching and learning.

Word-problem proficiency is essential for enabling students to connect mathematical concepts with real-life situations and to achieve success in broader academic contexts (Reinhold et al., 2020; Vilenius-Tuohimaa et al., 2008). Through word problems, students develop higher-order cognitive skills, including reasoning, organisation, and problem-solving abilities, while also applying mathematical knowledge in meaningful contexts (Browder et al., 2018). Furthermore, word problems provide opportunities for students to practice basic mathematical operations in varied situations and prepare them to use mathematical skills effectively in everyday life (Pongsakdi et al., 2020). However, word problems are widely recognised as one of the most challenging aspects of mathematics learning because they present mathematical information in linguistic and contextual forms rather than as straightforward numerical operations (Sepeng & Madzorera, 2014; Verschaffel et al., 2020). Successfully solving word problems requires students to coordinate multiple cognitive processes, including comprehending the language and semantic structure of the problem, accurately representing its mathematical components, selecting and implementing appropriate solution strategies, and retrieving relevant knowledge from memory (Alghamdi et al., 2020; Browder et al., 2018). These complex demands often make word-problem solving particularly difficult for young learners.

Research has demonstrated that integrating digital simulations into mathematics learning environments can provide students with interactive and authentic contexts for applying mathematical concepts (Chen et al., 2023; Sun-Lin & Chiou, 2019). Through dynamic exploration and experimentation, digital simulations enable learners to construct a deeper understanding of mathematical principles and their real-world applications (Cai et al.,

2022). Furthermore, the adaptive capabilities embedded in many digital learning platforms can personalise instruction by responding to individual students' learning needs and providing targeted support for specific areas of difficulty (Chang & Yang, 2023). Beyond supporting conceptual understanding and individualised learning, digital simulations can be enhanced through gamification features, such as rewards, feedback systems, and progress tracking, which have been shown to increase student engagement and encourage persistence in solving mathematical problems (Chen et al., 2023).

Although digital simulations have demonstrated considerable potential for supporting mathematics learning (Dan, 2024; Geiger et al., 2015) their role in fostering students' word problem-solving abilities remains underexplored, particularly in the context of early primary education. Prior studies have predominantly evaluated intervention effectiveness through pre- and post-intervention measures, offering limited insight into how students' word problem-solving abilities develop and change throughout the learning process (Jensen & Skott, 2022; Vanbecelaere et al., 2020). Moreover, existing research on game-based digital learning has rarely integrated sociocultural elements that situate mathematical problems within learners' everyday experiences and cultural environments. Such integration is important, as meaningful contextualisation may facilitate students' interpretation of problem situations and the application of mathematical reasoning (Chen et al., 2023). Therefore, there is a need for research that examines the potential of sociocultural game-based digital simulations to enhance students' word problem-solving abilities.

This study aims to analyse the impact of implementing sociocultural game-based interactive digital simulations on enhancing students' abilities in solving mathematical word problems. Building on previous research showing the benefits of digital simulations in creating interactive and authentic learning experiences (Zheng et al., 2024), this study investigates how game-based elements such as dynamic exploration, adaptive support, and gamification (Cai et al., 2022; Chang & Yang, 2023) can foster deeper engagement and improve problem-solving skills. Specifically, the research questions addressed in this study are:

How does the dynamic change of students' WPS abilities during their participation in learning with The Adventure of Adit in the Fruit Store game?

Does the implementation of The Adventure of Adit in the Fruit Store game significantly enhance students' word problem-solving abilities?

LITERATURE REVIEW

Sociocultural View of Learning

In mathematics education, the sociocultural view of learning emphasises that mathematical understanding develops through social interaction and engagement with culturally relevant practices. Mathematics is not just a collection of abstract concepts but is embedded in real-world practices, language, and shared tools that shape how students perceive

and solve mathematical problems (Goos, 2013). Within this framework, students learn mathematics more effectively when it is connected to their social and cultural experiences, allowing them to engage with the subject in ways that are meaningful to them (Steele, 2001). For example, incorporating culturally relevant contexts into word problems or using familiar objects and practices can help students understand mathematical concepts more deeply, as they can relate these ideas to their everyday lives and community practices (Reinhold et al., 2020).

From a sociocultural perspective, learning is fundamentally a process of participation in socially and culturally situated practices rather than the mere acquisition of knowledge by individuals. Mathematical understanding emerges through interactions with peers, teachers, and cultural tools that mediate thinking and problem-solving processes (Lee et al., 2020). Knowledge is therefore co-constructed through dialogue, collaboration, and shared activity within a learning community (Damsa & Ludvingsen, 2016). This perspective highlights the importance of providing students with authentic learning experiences in which mathematical ideas are explored, negotiated, and applied in meaningful contexts. As students participate in such activities, they gradually appropriate the ways of reasoning, communicating, and problem-solving that characterise mathematical practice, enabling them to develop deeper conceptual understanding and more flexible approaches to solving problems.

Teachers play a critical role in facilitating this type of learning by creating collaborative environments where students can explore mathematical ideas together and learn from each other's perspectives (Shabani, 2016). This can be achieved through group activities, peer discussions, and project-based learning, where students work within their "zone of proximal development" to develop mathematical skills with the guidance of more knowledgeable peers or a teacher (Lambright, 2023). In such settings, students engage in "mathematising" the process of interpreting and solving problems in ways that make sense within their cultural contexts (Dreher et al., 2024). By fostering a sociocultural approach to mathematics education, teachers can help students see math not as isolated from their lives but as a tool for understanding and addressing real-world problems (Prahmana, 2022). This approach not only enhances mathematical problem-solving skills but also builds students' confidence and motivation by showing them the relevance of mathematics in their everyday lives.

Game-based Learning

Game-based learning in mathematics education leverages the motivational and interactive elements of games to create a more engaging and effective learning environment for students (Chen et al., 2023). In game-based learning, students can explore mathematical concepts through simulations, challenges, and problem-solving tasks within a structured game environment that

often includes rewards, feedback, and levels of progression (Hussein et al., 2022). This approach transforms mathematics from a traditional, often abstract subject into an interactive experience where students can experiment, make mistakes, and learn from them in a safe space (Guo et al., 2024). Through immediate feedback and incentives, students are encouraged to persist in solving problems, fostering both perseverance and a growth mindset essential in math learning.

Research has shown that game-based learning in mathematics can significantly improve students' engagement, understanding, and retention of mathematical concepts (Brezovszky et al., 2019; Zheng et al., 2024). When applied thoughtfully, games can help develop critical thinking and problem-solving skills by presenting real-world scenarios that require students to apply math in practical ways (Chen et al., 2024). For instance, games focussed on budgeting, measuring, or spatial reasoning can demonstrate the relevance of mathematics to daily life, making the subject more accessible and meaningful. Additionally, adaptive game-based platforms can tailor content to individual learning needs, offering personalised challenges that help students master foundational skills at their own pace (Sun et al., 2021). Through these interactive and personalised experiences, game-based learning can not only make mathematics more enjoyable but also empower students with confidence and competence in the subject (Vanbecelaere et al., 2020).

Mathematics Digital Simulation

Digital simulation in mathematics learning provides students with a dynamic, interactive platform to explore mathematical concepts and practice problem-solving in realistic contexts (Geiger et al., 2015). Unlike traditional approaches, digital simulations immerse students in environments where they can visualise and manipulate mathematical elements directly, allowing for a deeper understanding of complex ideas through hands-on experimentation (Chen et al., 2023; Geiger et al., 2015). These simulations often include interactive features, such as adjustable variables, visual feedback, and real-time data, which enable students to see the immediate effects of their actions and test hypotheses. For instance, in simulations that involve geometry or algebra, students can manipulate shapes or equations to observe changes, helping them build an intuitive understanding of mathematical relationships.

Research indicates that digital simulations not only improve students' engagement with mathematics but also enhance conceptual understanding by presenting abstract mathematical concepts in a more accessible and relatable format (Viberg et al., 2023). For example, a digital simulation focussed on probability might allow students to simulate countless random events, enabling them to visualise probability distributions and understand statistical concepts more concretely. Digital platforms can also incorporate adaptive features to adjust the difficulty level based on each student's progress, providing targeted

support for those who need additional help and advancing students who are ready for more complex challenges (Loong & Herbert, 2018; Sümmermann et al., 2021). By making abstract concepts tangible and offering individualised learning pathways, digital simulations support a deeper, more personalised approach to mathematics learning that can foster both skill acquisition and sustained interest in the subject.

Word Problem Solving

Word problem-solving in mathematics education is crucial, particularly for young students, as it bridges the gap between abstract math concepts and real-life applications (Vicente et al., 2020). For elementary-age students, solving word problems builds foundational skills in mathematical reasoning, critical thinking, and comprehension (Boonen et al., 2016). At this age, children are developing their ability to interpret and analyse information, so using word problems relevant to their everyday experiences—like sharing snacks, counting toys, or understanding time-makes math more relatable and meaningful (NCTM, 2000). By connecting mathematical operations to situations familiar to students, educators can enhance their engagement and motivation to solve problems, building confidence in their math abilities early on.

Young learners often struggle with the language and contextual nuances of word problems, which can make it challenging to identify the relevant mathematical operations needed (Verschaffel et al., 2020). To support students in overcoming these challenges, teachers can introduce structured problem-solving strategies, such as visualisation, drawing diagrams, or breaking down problems into manageable steps (Naude et al., 2022). Additionally, incorporating collaborative activities where students discuss and approach word problems together can provide peer support and exposure to diverse problem-solving methods. Interactive tools, like digital simulations or game-based learning platforms, can further reinforce these skills by allowing students to experiment with word problems in a guided and adaptive environment that adjusts to their pace and learning needs (Dewolf et al., 2014; Sun-Lin & Chiou, 2019). By providing appropriate instructional support and engaging learning experiences, educators can help young learners develop stronger word problem-solving skills and build a solid foundation for future mathematical learning.

METHODS

Design

This study employs a microgenetic design (Siegler & Crowley, 1991), which enables researchers to analyse the dynamic changes in students' cognitive abilities in word problem-solving (WPS). The microgenetic method involves frequent, detailed observations of learning processes over a short period, allowing us to capture the progression and transformation of students' cognitive skills as they engage in problem-solving tasks. In this study, we specifically analysed changes in students' WPS abilities after each mathematics learning session using The

Adventure of Adit in the Fruit Store, a game designed to support students in learning mathematics through gameplay and solving WPS related to addition with numbers 1-10. This approach provides insights into the nuanced changes in students' understanding and strategy use as they progressed through each session, revealing how game-based learning can foster cognitive development in mathematics.

Intervention Design

Pre-treatment

The students were given a special session to introduce them to the features of the game used in the learning process. This session was essential to help students understand how the game functions so they could participate in the activities more effectively. The students were taught how to use a mouse, as most of the first-grade students had never learned in a computer lab before. In this session, students were also shown examples of how to perform specific tasks within the game, such as how to drag and drop objects by moving them from one part of the screen to another, how to enter numbers into the answer box, and how to check their answers after completing a task. These demonstrations were crucial in ensuring the students could interact with the game effectively during the learning process.

After ensuring that all students were able to operate the game, a pre-test was conducted to assess their word problem-solving abilities. The students completed a set of 10 questions from the word problem-solving test (WPST), designed to measure their proficiency in performing addition operations within the range of 1 to 10. This pre-test served as a baseline to evaluate the students' initial capabilities before the treatment began.

Treatment Session

The treatment sessions were conducted the following day after the students completed the trial and pre-test. The students played the game for six consecutive days, with each session lasting 20 minutes. The six-session intervention was intentionally designed to provide sufficient opportunities for repeated practice and reinforcement of mathematical problem-solving strategies. This duration was considered appropriate for first-grade students, allowing them to become familiar with the game environment and learning tasks while maintaining their engagement and motivation throughout the intervention period. In addition, the repeated sessions supported students' gradual progression through Bruner's enactive, iconic, and symbolic modes of representation embedded within the game design, thereby facilitating deeper conceptual understanding and the development of word problem-solving skills.

This structured time frame allowed the students to engage with the game consistently while ensuring enough practice to enhance their word problem-solving skills. Figure 1 presents several components of *The Adventure of Adit in the Fruit Store* game, including the main menu interface, examples of students' interactions during

Figure 1. Example of the game-based mathematics simulation showing the main menu and instructional content

gameplay, and sample evaluation tasks used to assess students' understanding of addition word problems. These features illustrate how the game integrates learning activities, problem-solving tasks, and assessment within a single interactive environment.

In this activity, the students had to drag objects from one area of the screen to another, which helped them solve problems related to addition. This interactive feature was designed to make the learning experience more engaging and to improve their understanding of mathematical concepts. As illustrated in Figure 2, the game was structured through several interconnected components, including the Info Game Board, How to Play section, and a series of game activities accessible through the Game Menu. The learning activities consisted of Counting Apples in the Fruit Shop, Arranging Oranges on the Shelf, Counting Bananas in the Shop, Managing Fruit Inventory, and an Evaluation section. Each activity was designed to provide opportunities for students to practice addition through contextualised problem-solving tasks. Supporting features such as drag-and-drop interaction, immediate feedback, a scoring and reward system, animations, sounds, and offline accessibility were integrated to enhance engagement and learning effectiveness. Furthermore, the overall game design incorporated sociocultural elements by situating mathematical problems within a familiar fruit shop environment, enabling students to connect abstract addition concepts with meaningful real-life experiences.

Post-treatment

After completing all sessions over the six days using the game, the students were given a post-test. This post-test consisted of 10 questions aimed at measuring the students'

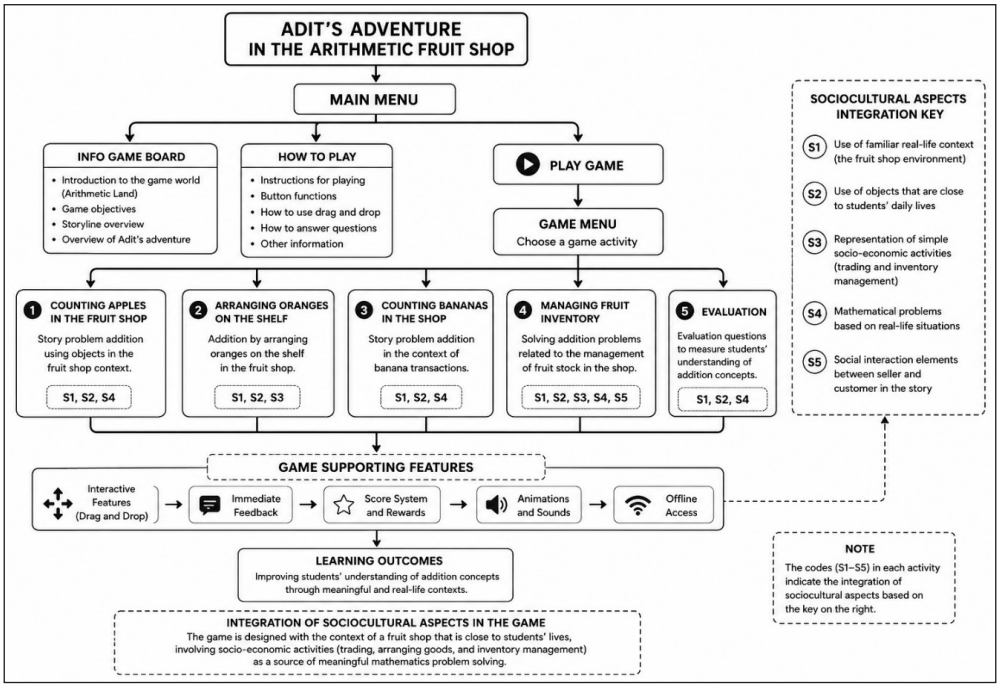

Figure 2. Structure and sociocultural integration of the game-based mathematics interactive simulation "Adit's Adventure in the Arithmetic Fruit Shop"

WPS skills. The results of the post-test were used to evaluate any improvements in their abilities following the treatment.

Instrumentation and Test Procedures

To assess the students' word problem-solving (WPS) abilities, the researchers developed a WPST instrument tailored to evaluate skills in addition within the range of 1-10. The test questions were designed with careful attention to using language that is clear and understandable for first-grade students and ensuring that the content aligns with the context of the game. This strategy aimed to make the assessment both relevant and accessible. Before administering the test, feedback was obtained from two experienced first-grade teachers, each with over 5 years of teaching experience. They reviewed the questions for content and language appropriateness. Based on their input, revisions were made to enhance the clarity and effectiveness of the questions.

WPS Test Validity and Reliability

To further ensure the appropriateness of the instrument, a content validity review was conducted by two experts in primary mathematics education. The experts evaluated the extent to which each item aligned with the targeted indicators of word problem-solving abilities and assessed the readability of the questions for first-grade students. Attention was given to the correspondence between the mathematical skills intended to be measured and the

problem situations presented in the items, as well as to the clarity and comprehensibility of the language used. Based on the experts' recommendations, minor revisions were made to improve item wording and strengthen the alignment between the assessment tasks and the intended learning indicators. The final version of the WPST was deemed suitable for assessing students' word problem-solving abilities within the scope of addition from 1 to 10.

Following the content validation process, the reliability of the Word Problem-Solving Test (WPST) was examined using the Kuder-Richardson Formula 20 (KR-20), which is equivalent to Cronbach's alpha for dichotomously scored items (1 = correct, 0 = incorrect). A pilot test involving 17 first-grade students was conducted before the main study. The analysis yielded a reliability coefficient of 0.769, indicating acceptable to good internal consistency among the test items. This result suggests that the instrument was sufficiently reliable for measuring students' word problem-solving abilities in addition tasks within the range of 1-10. Consequently, the final version of the WPST was considered appropriate for use in the main study.

Participants

The participants of this study were 140 first-grade students in Malang, Indonesia. Approval by the school headmaster and classroom teacher was obtained before they participated in this study. The demographic of the students who participated in this study is presented in Table 1.

As presented in Table 1, the students who participated in this study were first-grade students with 6 to 7 years old on average. There were 57 male and 83 female students (Table 2).

Table 1
Test period procedure

No.	Test	Time	Number of Problems
1.	Pre-test	Before the treatment	10 WPS
2.	Test 1	After Session 1	10 WPS
3.	Test 2	After Session 2	10 WPS
4.	Test 3	After Session 3	10 WPS
5.	Test 4	After Session 4	10 WPS
6.	Test 5	After Session 5	10 WPS
7.	Post-Test	After Session 6	10 WPS

Table 2
Demographics of the participants

Gender	Number of Students	Average Age
Male	57	6.7
Female	83	6.8

Data Analysis

To evaluate the effectiveness of the game in enhancing students' word problem-solving (WPS) skills, a statistical test was conducted by comparing the pre-test and post-test results. The statistical test was conducted through the Wilcoxon signed-rank test on the data collected from 140 students who participated in the study. The purpose of the t-test was to determine whether there was a statistically significant difference in the students' WPS abilities before and after the intervention.

RESULTS

Dynamic Change of Students' Word Problem-solving Abilities

Descriptive statistics were used to analyse the dynamic changes in students' word problem-solving (WPS) performance across seven tests during their participation in mathematics learning with the Adventure of Adit in the Fruit Store game. The results are presented in Figure 3, showing the dynamic change of students' WPS abilities throughout the learning sessions.

Based on Figure 3, there is a visible dynamic change in students' word problem-solving (WPS) performance, as indicated by the mean scores across multiple assessments. The mean scores were as follows: Pre-Test (M = 51.14), Test 1 (M = 59.93), Test 2 (M = 65.79), Test 3 (M = 70.57), Test 4 (M = 76.14), Test 5 (M = 80.57), and Post-Test (M = 81.43). This progression reflects a continuous improvement in students' WPS abilities throughout the intervention with the Adventure of Adit in the Fruit Store game. The improvement can be attributed to the game's interactive design, which required students to actively solve addition-related word problems through drag-and-drop activities and immediate feedback. Through repeated interactions

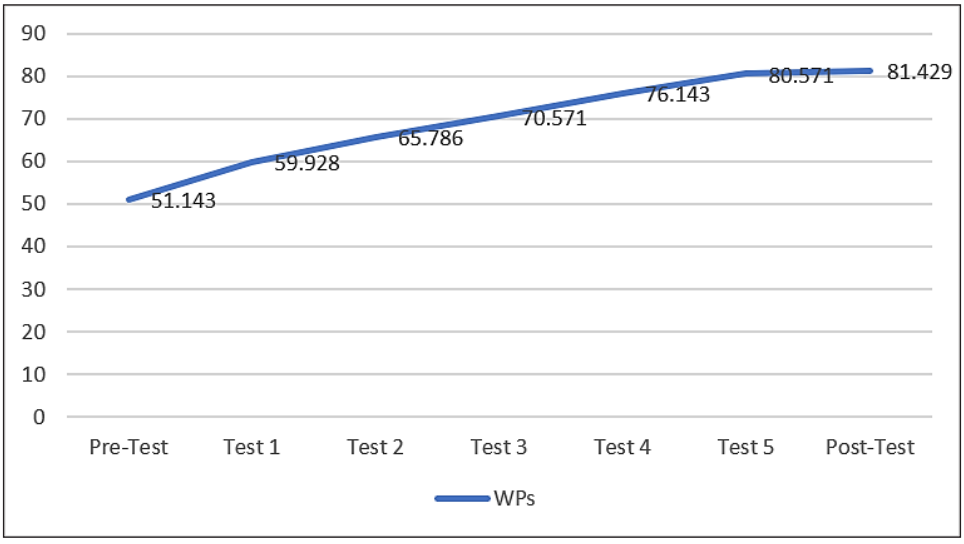

Figure 3. Students' dynamic changes in WPS abilities

with mathematical tasks, students continuously practised identifying relevant information, representing quantities, and determining appropriate solutions. The game environment also enabled students to connect concrete actions with visual and symbolic mathematical representations, thereby strengthening their conceptual understanding of addition. In addition, the engaging nature of the game promoted sustained participation and repeated practice, which are essential for the development of mathematical problem-solving skills. The integration of Bruner's enactive, iconic, and symbolic representations further supported students' progression from concrete manipulation to abstract reasoning, contributing to the consistent gains observed in their WPS performance.

Students' Improvement in Word Problem-solving Abilities

The first step in measuring the effectiveness of using The Adventure of Adit in the Fruit Store game on students' word problem-solving (WPS) abilities involves conducting a normality test of the data. This preliminary test ensures that the data distribution meets the assumptions of normality, which is crucial for determining the appropriate statistical methods for analysing the impact of the game on students' WPS abilities. A normality test was conducted to ensure that the obtained data followed a normal distribution. The results of this test are displayed in Table 3.

Based on the normality test analysis of pre-test and post-test scores for students' WPS abilities, the Kolmogorov-Smirnov test indicates that the data are not normally distributed. For the pre-test scores, the Kolmogorov-Smirnov statistic was $D(140) = 0.181$, $p < 0.001$, and for the post-test scores, $D(140) = 0.178$, $p < 0.001$, where a p-value less than 0.05 suggests a significant deviation from normality. Therefore, non-parametric statistical methods should be applied in further analysis to accurately evaluate the impact of The Adventure of Adit in the Fruit Store game on students' WPS abilities.

The results of the Wilcoxon Signed Ranks Test (Table 4) reveal a statistically significant increase in students' word problem-solving (WPS) abilities after using The Adventure of Adit in the Fruit Store game.

Table 3
Normality test of pre- and post-test WPS score

	N	Kolmogorov-Smirnov Statistic (D)	p-value
Pre-Test	140	0.181	<0.001
Post-Test	140	0.178	<0.001

Table 4
Wilcoxon Signed Ranks test results for pre-test and post-test scores of students' word problem-solving abilities

	N	Z	p-value
Pre-test vs. post-test	140	-10.380	< 0.001

With a sample size of N = 140, the test yielded a Z value of -10.380, with a p-value of < 0.001, indicating a significant effect ($p < 0.05$). This result suggests that the game-based intervention had a positive impact on improving students' WPS abilities, supporting the effectiveness of using interactive simulations in mathematics learning for young students.

DISCUSSION

The results of this study indicate a significant improvement in students' word problem-solving (WPS) abilities following the intervention with The Adventure of Adit in the Fruit Store game. The Kolmogorov-Smirnov test showed that both pre-test and post-test scores were not normally distributed ($p < 0.001$), necessitating the use of the Wilcoxon Signed Ranks Test as a non-parametric measure to assess the changes. Results from the Wilcoxon test confirmed a statistically significant increase in post-test scores compared to pre-test scores ($Z = -10.380$, $p < 0.001$), highlighting the positive effect of game-based learning on students' WPS abilities.

The improvement in scores suggests that The Adventure of Adit in the Fruit Store game provided an engaging and dynamic learning environment, helping students practice problem-solving in meaningful, real-world contexts. Game-based learning has been shown to enhance motivation and engagement by creating an interactive platform where students actively participate in their own learning (Brezovszky et al., 2019; Chen et al., 2023). Such interactive environments may improve focus and foster persistence in tackling word problems, which are often challenging for young learners.

Beyond increasing engagement, the game may have supported students in connecting mathematical symbols and operations with meaningful situations. Word problems require students not only to perform calculations but also to interpret linguistic information, identify relevant quantities, and construct mathematical representations of real-world situations (Csíkos & Szitányi, 2020). These processes are often difficult for first-grade students because they are still developing both their mathematical understanding and reading comprehension skills (Verschaffel et al., 2020). By embedding addition tasks within familiar activities such as buying and counting fruits, the game reduced the abstract nature of mathematics and enabled students to visualise the relationships among quantities more effectively. This finding supports previous studies suggesting that contextualised digital environments can facilitate students' understanding of mathematical concepts and improve their ability to translate everyday situations into mathematical expressions (Cai et al., 2022; Guo et al., 2024).

Furthermore, the structure of the game aligns with cognitive development theories, such as Vygotsky's social constructivism, which emphasises learning through interaction and contextualised tasks (Vygotsky, 1978). By offering a simulation of real-life scenarios, the game allows

students to engage with mathematical concepts in a familiar setting, facilitating better understanding and retention (Sun et al., 2021). Studies have shown that contextual learning approaches, particularly those involving real-world simulations, are effective in developing mathematical reasoning and problem-solving skills (Cai et al., 2022; Guo et al., 2024; Vanbecelaere et al., 2020).

An important feature distinguishing this study from many previous investigations is the integration of sociocultural elements into the digital learning environment. The game context was designed to reflect situations that are familiar to young learners, allowing them to interact with mathematical ideas through culturally meaningful experiences. From a sociocultural perspective, learning occurs most effectively when new knowledge is connected to learners' prior experiences and social environments (Goos, 2013; Shabani, 2016). The fruit store scenario provided opportunities for students to engage with mathematical tasks that resembled everyday activities, thereby supporting sense-making and reducing cognitive barriers associated with abstract mathematical problems. This finding is consistent with research emphasising the importance of culturally relevant and contextually grounded learning experiences in promoting mathematical understanding and problem-solving performance (Dreher et al., 2024).

The findings also provide insight into how digital simulations can support the development of problem-solving processes rather than merely improving outcomes. Through repeated interactions with game tasks, students received immediate feedback, opportunities for correction, and multiple chances to explore alternative solutions (Dan, 2024; Leonardou et al., 2021). Such iterative experiences are important for young learners because they encourage experimentation and learning from mistakes in a low-risk environment (Russo et al., 2024). Unlike traditional paper-based exercises, digital simulations allow students to actively manipulate objects and observe the consequences of their actions, which may strengthen conceptual understanding and foster more flexible problem-solving strategies (Elofsson et al., 2016). Consequently, the observed improvement in WPS abilities may reflect not only increased procedural competence but also enhanced conceptual reasoning.

The significant gains observed in post-test scores highlight the potential of educational games to support primary-level students in acquiring foundational skills like addition and basic arithmetic. This aligns with prior research indicating that well-designed digital games can foster improved students' WPS (Dewolf et al., 2014; Naude et al., 2022). The findings of this study suggest that incorporating game-based learning strategies can be a valuable tool for educators aiming to enhance essential competencies in mathematics and develop students' problem-solving abilities effectively (Reinhold et al., 2020; Sun-Lin & Chiou, 2019). The present study also contributes to the growing literature on digital mathematics education by

addressing a gap related to the development of word problem-solving abilities among early primary school students. While previous studies have frequently reported improvements in mathematical achievement following digital game-based interventions, fewer studies have specifically examined WPS abilities within socioculturally meaningful simulation environments (Jensen & Skott, 2022; Vanbecelaere et al., 2020). The positive outcomes observed in this study suggest that combining game-based learning, digital simulations, and sociocultural contexts may provide a promising approach for supporting young learners' mathematical development.

CONCLUSION

This study demonstrates the effectiveness of The Adventure of Adit in the Fruit Store game as an innovative and engaging tool for enhancing first-grade students' WPS abilities in mathematics. The findings show that the use of the game-based interactive simulation led to significant improvements in students' problem-solving skills, as evidenced by the results of the Wilcoxon Signed Ranks Test ($Z = -10.380$, $p < 0.001$). These results support the potential of game-based learning to not only enhance cognitive skills but also to foster a more enjoyable and engaging learning experience for young learners. The use of a sociocultural game-based approach aligns with theories of learning that emphasise the importance of contextualised and interactive experiences in the development of mathematical understanding. By providing a dynamic, context-rich environment, The Adventure of Adit in the Fruit Store allowed students to engage actively with mathematical concepts, leading to improved problem-solving abilities. Additionally, the increased student engagement and enjoyment observed in this study highlight the broader potential of educational games in improving student motivation and participation in learning activities.

In conclusion, this study suggests that incorporating game-based learning tools, particularly those with interactive and sociocultural elements, can be a valuable addition to early mathematics education. The findings indicate that such learning environments can support the development of students' word problem-solving abilities while simultaneously promoting active engagement and meaningful participation in learning activities. By integrating mathematical concepts within familiar real-life contexts, game-based simulations may help young learners construct mathematical understanding in ways that are both accessible and relevant to their everyday experiences. This study also contributes to the growing body of literature on digital game-based learning by providing empirical evidence of the potential benefits of sociocultural game-based simulations in primary mathematics education. Future research could further explore the learning processes that occur during gameplay and examine the longer-term impact of these interventions on students' mathematical development across different educational contexts and grade levels.

Limitation and Future Direction

This study provides insights into students' learning progression within a game-based mathematics learning environment. Although the study employed repeated observations to capture changes in students' performance over time, the analysis focussed primarily on overall patterns of progression reflected in mean scores across measurement occasions. As a result, the findings highlight trends in learning development, while further analyses could provide additional insights into aspects such as the evolution of problem-solving strategies, conceptual development, and variations in individual learning trajectories. In addition, the study was conducted within a specific intervention period, and therefore, the longer-term impact of the learning experience was beyond its scope. Future research could extend this work by incorporating more fine-grained analyses of learning processes and by examining the sustainability of students' gains in word problem-solving abilities over time. Longitudinal investigations across different grade levels may also offer valuable insights into how continued engagement with game-based learning environments supports students' mathematical development and problem-solving competencies throughout their educational journey.

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Cross-multimedia for Learning the Indonesian Language for the Development of Critical-creative Thinking: High School Teachers' Perspectives

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ABSTRACT

This study investigates high school teachers' perspectives on the use of cross-multimedia to develop students' Critical-Creative Thinking (CCT) skills in Indonesian language learning. Despite numerous studies on multimedia, research on how cross-multimedia aligns with the various cognitive stages of CCT is still limited. Using a quantitative descriptive design, this study investigates teachers' perspectives on cross-multimedia to develop CCT. Data were collected through a structured questionnaire that had been tested for content validity and reliability. Respondents consisted of 15 certified high school Indonesian language teachers in Malang City, Indonesia, selected using a purposive sampling method. The results showed that electronic modules and interactive videos were highly favoured (ranging from 93.3% to 100%) across all five stages of CCT: stimulation, exploration, response, production, and reflection. In contrast, animated media (motion graphics) consistently received the highest level of disapproval (up to 46.7%) across all learning phases. Based on Cognitive Load Theory (CLT), teacher resistance to animation is related to the transient effects of information, high development difficulties, and strict time constraints in formal classrooms. This study offers useful empirical guidance for learning to build effective multi-platform media in modern secondary English language education.

Keywords: cross-multimedia, critical-creative thinking, digital literacy, language pedagogy

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INTRODUCTION

Creative thinking is the cognitive capacity to generate new ideas, new perspectives,

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and solve problems effortlessly (Gafour & Gafour, 2020). This integration of creative thinking, aligned with critical thinking, is called Critical-Creative Thinking (CCT). In the modern educational paradigm, CCT is not an innate talent; rather, it needs to be explicitly fostered through structured pedagogical interventions.

In general, high school students' competency in critically evaluating texts remains low. Programme for International Student Assessment (PISA) data reinforces this crisis, showing that 9% of Indonesian students achieve reading proficiency at levels 5-6, while the remaining 77% remain at levels 1-2 (OECD, 2021). These findings confirm that the majority of high school students remain weak in higher-order thinking skills, such as comprehending complex texts, analysing unstructured ideas, or evaluating layered textual arguments (Nur'azizah et al., 2021; Wang, 2021). Language acquisition is linked to cognitive development, making Indonesian language learning in high school a strategic space for fostering CCT. Language learning requires students to decode, reconstruct, and synthesise semantic structures, making it an ideal domain to explicitly foster CCT through sophisticated instructional design (Škėrienė & Jucevičienė, 2020). To foster these higher-level competencies, current literature strongly recommends student-centred strategies, such as case-based learning, problem-based learning, web-based concept mapping, and explicit instruction (Garrouste & Le Saout, 2020). However, the success of these strategies depends heavily on the structure of the classroom environment and the scaffolding of task difficulty provided by educators (Brion, 2019). Classrooms have now undergone an accelerated transition toward digital learning environments and blended learning (Heritage, 2018). In this digitalised landscape, technology has evolved from a superficial instructional supplement into primary cognitive anchor for constructing knowledge. Educational media configurations have also shifted from single-medium delivery to multi-platform environments, opening the way for the implementation of cross-multimedia and transmedia.

To build a solid theoretical foundation for cross-multimedia, it is necessary to operationally describe its use in Indonesian language learning in high school. Historically, the term transmedia storytelling refers to a broad, decentralised narrative used by students across multiple platforms (Jenkins, 2006). This study explicitly operationalises the term cross-multimedia to define the systematic rotation of electronic modules, slides, infographics, animations, and videos as digital learning assets designed by teachers for Indonesian language learning. This concept differs from multimedia, which relies on multimodality: static text and visuals (Mayer, 2021).

Furthermore, the digital learning environment has undergone an exponential paradigm shift since 2022, following the widespread adoption of generative artificial intelligence (Hew et al., 2024; Ng et al., 2023). In modern educational environments, digital spaces are no longer simply passive

presentation screens but have become intelligent digital spaces that generate text tailored to students' needs. Investigating how teachers understand cross-multimedia in this evolving landscape is crucial to ensuring that technology acts as a primary cognitive catalyst capable of minimising extraneous cognitive load.

Previous research related to this study has shown how interactive technology and automated tools significantly boost student engagement and foster critical reasoning in digital learning environments (Hew et al., 2024; Ng et al., 2023). In the context of language literacy, visual and electronic supports such as infographics and digital texts be effective in optimising reading comprehension and reducing cognitive clutter (Capodieci et al., 2020; OECD, 2021). Furthermore, dynamic reading assessments and blended learning designs have been successfully implemented to simultaneously stimulate critical and creative skills in secondary education (Rofi'uddin et al., 2022; Syahrin et al., 2019). Although previous research has focused on the direct impact of media on learning outcomes, a gap remains regarding the digital assets rotated in cross-multimedia during the CCT phase. This study aims to address this gap by mapping high school Indonesian language teachers' perceptions of structured cross-multimedia, explicitly mapped across the five phases of CCT.

Despite the theoretical benefits of multi-platform digital learning environments, this study maps how high school teachers' perspectives on implementing specific media formats based on CCT are still rarely studied. Most studies only focus on the use of learning media to achieve general objectives. This study focuses on the perspectives of 15 high school Indonesian language teachers in Malang on the use of cross-multimedia for CCT development. This study focuses on teachers' perspectives on the use of cross-multimedia (electronic modules, interactive videos, infographics, presentation slides, and animations) for the CCT process (stages of stimulation, exploration, response, production, and reflection) (Rofi'uddin et al., 2022). Thus, this study is expected to provide an in-depth understanding of the use of cross-multimedia assets for each stage of the CCT process.

LITERATURE REVIEW

Critical-Creative Thinking (CCT) Skills in Language Pedagogy

In the context of learning, creative thinking refers to the cognitive capacity to generate new ideas to solve problems (Hadar & Tirosh, 2019). Conversely, critical thinking is the systematic evaluation of new ideas, comprehensive information, the use of credible sources, and the careful consideration of multiple perspectives (Syahrin et al., 2019). In practice, the critical thinking process consists of the following stages: stimulation, exploration, response, production, and reflection (Rofi'uddin et al., 2022).

In high school, language instruction, writing, and reading competencies are

interconnected. Indonesian language learning texts in high school are complex. Reading complex texts significantly enhances students' analytical and reflective cognitive capacities (Tabačková, 2015). To operationalise these competencies, activity-based reading instruction, combining guided questioning, group discussions, and reflective practice, has a significant positive effect on reading comprehension and critical engagement (Roohani & Shamsi, 2014). External factors, such as gender and economic status, can influence students' basic individual capacities for creative and cognitive flexibility (Aytug et al., 2018; DeWaelsche, 2015; Karwowski et al., 2016; Piaw, 2014). However, in modern pedagogy, teachers can determine appropriate digital learning strategies and media. Therefore, exploring teachers' perspectives is crucial to map which media are considered most effective for each cognitive phase of CCT.

The Conceptual Evolution of Cross-Multimedia Learning

To address the ambiguity of multi-platform digital learning, the following explains the concepts of cross-media, cross-multimedia, and transmedia. Historically, the concept of cross-media typically referred to the distribution of digital learning content across different platforms. Cross-multimedia is a strategic configuration of various modalities: text, audio, and visuals, arranged in such a way as to rotate the distribution of digital assets across various device platforms in a planned manner (Serrano-Tellería & Calvo-Rubio, 2021). Over time, transmedia emerged, which is the communication of narrative and non-narrative content across various digital platforms (Kinder, 1993). In the broader educational context, transmedia storytelling has been adopted to increase learner engagement by encouraging students to independently navigate various digital devices and open software ecosystems (Rodrigues & Bidarra, 2016).

Based on the Cognitive Load Theory (CLT) perspective, this cross-multimedia approach serves as an anchor that maps specific media types, minimising unnecessary cognitive load during the information transfer process (Mayer, 2021).

METHODOLOGY

This study adopted a descriptive quantitative survey design to map high school teachers' perspectives on the use of cross-multimedia to foster CCT. The study population was Indonesian language teachers in high schools located in Malang City, East Java, Indonesia. Purposive sampling was used to determine the research objectives. Fifteen professional teachers were selected based on three strict criteria: holding a professional teacher certification issued by the Ministry of Education, having at least five years of teaching experience, and actively using multi-platform digital media in their classrooms. Although a sample size of 15 may be considered small for broad statistical generalisations, in modern descriptive survey research targeting elite or specialist practitioners, this size is highly valid for achieving data saturation regarding the realities of cross-multimedia use to foster CCT.

Data were collected through a structured, closed-ended questionnaire designed to map the relationship between media formats and CCT activities. The instrument was divided into five main sections based on the CCT instructional phases. For each phase, teachers assigned digital learning media: e-modules, presentation slides, infographics, animations (motion graphics), and videos. Responses were recorded using a 3-point Likert scale to eliminate bias (1 = Disagree, 2 = Agree, 3 = Strongly Agree).

The instrument underwent a rigorous double validation process, with content validation conducted by three instructional media experts: two professors and one doctor, each with at least five years of teaching experience. The content validity index was calculated using Aiken's V formula, yielding coefficients ranging from 0.67 to 1.00, indicating highly valid and acceptable levels of item relevance.

Based on the content validity results in Table 1, Aiken's V coefficient for the 25-item questionnaire ranged from 0.67 to 1.00. All items exceeded the critical value threshold set by Aiken (1985) for three raters with three scale options, namely 0.60. The overall instrument mean was 0.86, confirming that the questionnaire has content validity suitable for primary data collection.

A preliminary pilot test was conducted with certified teachers who did not participate in the main sample of the study.

Table 1
Questionnaire content validity matrix using Aiken's V

No	Questionnaire Indicator	P1	P2	P3	Σ s	Aiken's V Coefficient	Status / Remarks
1	Electronic modules to stimulate students' critical-creative thinking.	5	5	5	12	1.00	Highly Valid / Accepted
2	Presentation slides to stimulate students' critical-creative thinking.	4	4	5	10	0.83	Highly Valid / Accepted
3	Infographics to stimulate students' critical-creative thinking.	5	4	4	10	0.83	Highly Valid / Accepted
4	Animation (motion graphics) stimulates students' critical-creative thinking.	5	4	4	10	0.83	Highly Valid / Accepted
5	Instructional videos to stimulate students' critical-creative thinking.	5	5	5	12	1.00	Highly Valid / Accepted
6	Electronic modules to explore students' critical-creative thinking.	5	5	5	12	1.00	Highly Valid / Accepted
7	Presentation slides to explore students' critical-creative thinking.	4	4	4	9	0.75	Valid / Accepted
8	Infographics to explore students' critical-creative thinking.	4	4	4	9	0.75	Valid / Accepted
9	Animation (motion graphics) to explore students' critical-creative thinking.	4	4	4	9	0.75	Valid / Accepted
10	Instructional videos to explore students' critical-creative thinking.	5	5	5	12	1.00	Highly Valid / Accepted

Table 1 (*continued*)

No	Questionnaire Indicator	P1	P2	P3	Σ s	Aiken's V Coefficient	Status / Remarks
11	Electronic modules to train students to respond to critical-creative thinking activities.	5	5	5	12	1.00	Highly Valid / Accepted
12	Presentation slides to train students to respond to critical-creative thinking activities.	5	4	5	11	0.92	Highly Valid / Accepted
13	Infographics to train students to respond to critical-creative thinking activities.	5	4	5	11	0.92	Highly Valid / Accepted
14	Animation (motion graphics) to train students to respond to critical-creative thinking activities.	4	4	5	10	0.83	Highly Valid / Accepted
15	Instructional videos to train students to respond to critical-creative thinking activities.	5	5	5	12	1.00	Highly Valid / Accepted
16	Electronic modules to train students to produce works reflecting critical-creative thinking.	5	5	5	12	1.00	Highly Valid / Accepted
17	Presentation slides to train students to produce works reflecting critical-creative thinking.	5	4	4	10	0.83	Highly Valid / Accepted
18	Infographics to train students to produce works reflecting critical-creative thinking.	4	3	4	8	0.67	Valid / Accepted
19	Animation (motion graphics) to train students to produce works reflecting critical-creative thinking.	4	3	4	8	0.67	Valid / Accepted
20	Instructional videos to train students to produce works reflecting critical-creative thinking.	5	4	4	10	0.83	Highly Valid / Accepted
21	Electronic modules to train students to reflect on their critical-creative thinking activities.	5	5	5	12	1.00	Highly Valid / Accepted
22	Presentation slides to train students to reflect on their critical-creative thinking activities.	4	4	4	9	0.75	Valid / Accepted
23	Infographics to train students to reflect on their critical-creative thinking activities.	4	4	4	9	0.75	Valid / Accepted
24	Animation (motion graphics) to train students to reflect on their critical-creative thinking activities.	4	3	4	8	0.67	Valid / Accepted
25	Instructional videos to train students to reflect on their critical-creative thinking activities.	5	5	4	11	0.92	Highly Valid / Accepted
	Overall Instrument Mean Aiken's V Coefficient	-	-	-	-	0.86	Highly Valid

Data obtained from this pilot test were analysed using Cronbach's alpha. The overall reliability coefficient for the 25-item questionnaire was 0.84, indicating excellent internal consistency and instrument stability.

Data collection was conducted through electronic forms distributed directly to selected respondents. Quantitative data collected from the closed-ended items (Items 1-25) were analysed using descriptive statistics, specifically frequency distributions, percentages, and mean scores.

RESULTS

To foster students' critical and creative thinking skills, teachers must optimise the use of cross-multimedia learning by aligning it with the CCT phases. From a teacher perspective, there are five media platforms in CCT: e-modules, presentation slides, infographics, animations (motion graphics), and videos. Meanwhile, the steps for fostering CCT consist of stimulation, exploration, response, production, and reflection (Rofi'uddin et al., 2022). The following is the cross-multimedia used in each CCT phase.

Media Utilisation to Stimulate Students' CCT

The stimulation phase involves a series of processes undertaken by the teacher to provide initial cognitive triggers during the CCT process. To provide this stimulus, the teacher rotates five digital media formats. The following is a perspective on the use of cross-multimedia in the CCT stimulation phase in Table 2.

Based on the perspective of high school teachers, in the stimulation phase, Table 2 shows that the utilisation of cross-multimedia that "Strongly Agree" using e-modules reached 53.3% (n=8) and those who "Agree" using presentation slides and videos reached 53.3% (n=8). This distribution indicates that high school teachers prefer e-modules as the main tool to stimulate students in developing CCT compared to presentation slides and videos. What is most rejected by teachers is animation (motion graphics).

Media Utilisation to Explore Students' CCT

Cross-multimedia utilisation in the exploration phase is shown in Table 3.

Based on the perspective of high school teachers, in the exploration phase, Table 3 shows that the cross-multimedia utilisation that "Strongly Agree" is used is video reaching 46.7% (n=7) and the "Agree" is used is e-modules (66.7%, n=10) and infographics (60.0%, n=9)). This distribution shows that in the exploration phase, high school teachers prefer e-modules and infographics as the main tools to stimulate students in fostering CCT compared to presentation slides and videos. What teachers most reject is animation (motion graphics).

Media Utilisation to Foster Students' Responses to CCT

Cross-multimedia utilisation in the foster phase is shown in Table 4.

Based on the perspective of high school teachers, in the fostering phase, Table 4 shows that the use of cross-multimedia that "Strongly Agree" using e-modules reached

Table 2
Media efficacy for stimulating students

Media	Strongly Agree		Agree		Disagree	
	%	Value	%	Value	%	Value
Electronic Module	53,3	8	40,6	6	6,7	1
Slideshow	40,0	6	53,3	8	6,7	1
Infographics	40,0	6	46,7	7	13,3	2
Animation	20,0	3	46,7	7	33,3	5
Videos	46,7	7	53,3	8	0,0	0

Table 3
Media efficacy to explore concepts

Media	Strongly Agree		Agree		Disagree	
	%	Value	%	Value	%	Value
Electronic Module	26,7	4	66,7	10	6,7	1
Slideshow	40,0	6	46,7	7	13,3	2
Infographics	40,0	6	60,0	9	0,0	0
Animation	20,0	3	46,7	7	33,3	5
Videos	46,7	7	46,7	7	6,7	1

Table 4
Media efficacy to train student responses

Media	Strongly Agree		Agree		Disagree	
	%	Value	%	Value	%	Value
Electronic Module	40,0	6	42,7	7	13,3	2
Slideshow	26,7	4	53,3	8	20,0	3
Infographics	33,3	5	66,7	10	0,0	0
Animation	13,3	2	60,0	9	26,7	4
Videos	33,3	5	66,7	10	0,0	0

40.0% (n=6). However, those who "Agree" using e-modules reached 42.7% (n=7), presentation slides and infographics reached 53.3% (n=8), infographics and videos reached 66.7% (n=10), and animations reached 60.0% (n=9). This distribution shows that high school teachers prefer infographics and videos as the main tools to explore students in developing CCT compared to animation (motion graphics).

Media Utilisation to Guide Students' Production in CCT

Cross-multimedia utilisation in the production phase is shown in Table 5.

Based on the perspective of high school teachers, in the production phase, table 5 shows that the use of cross-multimedia that "Strongly Agree" using video reached 40.0% (n=6). However, those who "Agree" using e-infographics reached 73.3% (n=11),

presentation slides reached 66.7% (n=10), videos reached 60.0% (n=9), e-modules reached 53.3% (n=8). This distribution shows that high school teachers prefer infographics, presentation slides, e-modules, and videos as the main tools to explore students in developing CCT compared to animation (motion graphics).

Media Utilisation to Facilitate Students' Reflection on CCT

Cross-multimedia utilisation in the reflection phase is shown in Table 6.

Based on the perspective of high school teachers, in the reflection phase, table 6 shows that the utilisation of cross-multimedia that "Strongly Agree" using e-modules reached 40.0% (n=6). However, those who "Agree" using videos reached 66.7% (n=10), presentation slides and infographics reached 60% (n=9), and e-modules reached 40.0% (n=6). This distribution shows that high school teachers prefer videos, presentation slides, and infographics, and e-modules as the main tools to explore students in developing CCT compared to animation (motion graphics).

In summary, empirical findings across the five phases of CCT reveal a highly systematic preference matrix among high school Indonesian language teachers. Cross-multimedia utilisation of e-modules, videos, presentation slides, and infographics is the primary choice in fostering CCT. Animation (motion graphics) is a medium teacher to avoid.

Table 5
Media efficacy for productive CCT activities

Media	Strongly Agree		Agree		Disagree	
	%	Value	%	Value	%	Value
Electronic Module	26,7	4	53,3	8	20,0	3
Slideshow	26,7	4	66,7	10	6,7	1
Infographics	20,0	3	73,3	11	6,7	1
Animation	26,7	4	40,0	6	33,3	5
Videos	40,0	6	60,0	9	0,0	0

Table 6
Media efficacy for reflective activities

Media	Strongly Agree		Agree		Disagree	
	%	Value	%	Value	%	Value
Electronic Module	40	6	40	6	20	3
Slideshow	26,7	4	60	9	13,3	2
Infographics	26,7	4	60	9	13,3	2
Animation	20	3	33,3	5	46,7	7
Videos	26,7	4	66,7	10	6,7	1

DISCUSSION

Media Utilisation to Stimulate Students' CCT

The results of this study indicate a clear trend among teachers when choosing cross-media to stimulate students' CCT. High school Indonesian language teachers overwhelmingly chose e-modules and videos to spark initial cognitive interest. This preference is driven by the fact that e-modules provide comprehensive, adequate, and structured content that aligns with the initial phase of CCT. E-modules are highly valued for their comprehensiveness; they facilitate teaching procedures and help high school students focus during the initial learning stimulus phase (Blayone et al., 2017).

Furthermore, slide presentations and videos received high approval ratings from teachers for this introductory phase. Educators continue to use slide presentations as a tool to stimulate student activity due to their accessibility, practicality, and capacity to accommodate relatively detailed learning material, second only to electronic modules (Brion, 2019). During the stimulation process, primary considerations are ease of information access and message efficiency. Furthermore, the cross-media chosen must be able to capture students' interest. Learning videos are an excellent choice alongside slide presentations and electronic modules because their audio-visual delivery is far more engaging than statistical text or traditional learning discourse, which students often find monotonous.

Conversely, animation is the least preferred medium among high school Indonesian language teachers. Although animation can be very impressive if managed optimally, empirical data shows that high school teachers rarely use it to engage students. This low adoption rate stems from the fact that animation remains challenging to develop. Even when teachers attempt to use existing animations, the content often fails to align with the intended learning objectives (Guinibert, 2022). This finding can be linked to the Cognitive Load Theory (CLT) lens (Sweller et al., 2019). At the beginning of the Critical-Creative Thinking (CCT) process, students' working memory is highly susceptible to cognitive overload because they must simultaneously process unfamiliar concepts and text structures. Structured tools, such as e-models and presentation slides, successfully minimise cognitive overload by adhering to the principles of spatial continuity and coherence (Mayer, 2021). In contrast, the low approval rate for animation (46.7%, n=5), and even the disapproval rate reaching 33.3% (n=5), revealed that dynamic motion graphics often introduce "seductive details"—highly engaging but irrelevant visual elements that interfere with content retention. This forces students to expend their limited working memory capacity processing unnecessary visual movement rather than activating cognitive schemas for critical reflection (Paas & van Merriënboer, 2020).

Furthermore, this empirical pattern becomes even more relevant when placed in the post-2022 digital landscape, transformed by generative artificial intelligence (GenAI) and automated multi-platform learning content (Hew et al., 2024). In today's AI-

driven educational ecosystem, multimedia assets can be synthesised instantly, providing high school students with easy access to a continuous stream of digital content. However, this digital delivery often leads to information fragmentation and shallow cognitive engagement. Recent studies in digital language pedagogy warn that unregulated, automated content can easily overwhelm learners, turning stimulating tools into classroom distractions (Ng et al., 2023). By prioritising cross-multimedia elements, teachers act as vital pedagogical filters, ensuring digital resources serve as efficient cognitive anchors rather than cluttered visual distractions, thus successfully shifting students' attention toward systematic, higher-order thinking from the beginning of the lesson.

Media Utilisation to Explore Students' CCT

The media format most preferred by teachers as the first rotation asset in the exploration phase is instructional video. According to Mayer (2021), instructional videos that effectively combine text, audio, and images can improve comprehension and information retention. Exploration activities require students to delve deeply into linguistic concepts to achieve language learning objectives, such as practicing listening and speaking skills (Al-Azzemy & Al-Jamal, 2019). Video presentations are used to facilitate students' fluent exploration of skills in line with the teacher's objectives.

After video, e-modules are the most preferred tool for subsequent rotations. On the other hand, animations are viewed by teachers as the least suitable tool for the exploration phase of CCT. This negative perception is related to the operational difficulties in producing animations quickly.

The very high preference for infographics (100%, Strongly Agree-Agree) and interactive videos (93.4%, Strongly Agree-Agree) during the exploration phase can be justified by the architecture of human cognition and the temporal effects of information (Castro-Alonso et al., 2019; Sweller et al., 2019). Exploration requires students to actively deconstruct texts to derive meaning. Infographics, which function as static visual configurations, provide a permanent display of instructional information. This permanent structure allows high school students to process linguistic hierarchies and rhetorical frameworks, thus supporting self-regulation of limited cognitive resources (Mayer, 2021).

In contrast, animations, which reached 80.0% (Agree-Disagree), involve movement that triggers a temporary information effect that disappears from the screen before students' memories can effectively engage and incorporate it into long-term schematic memory. Therefore, the high level of disagreement with animations (33.3%, n=5) suggests that teachers view motion graphics as cognitively counterproductive to careful data exploration, preferring visual stability.

Furthermore, this empirical alignment reflects critical pedagogical demands in the post-2022 digital environment, characterised by generative artificial intelligence and a saturation of multi-

platform textual artifacts (Hew et al., 2024; Ng et al., 2023). In today's world, students can instantly generate automated textual analyses or summaries using generative artificial intelligence tools. This presents an instructional challenge to shift from simply accessing data to in-depth exploration and authenticity verification. Guided multimedia elements—such as curated infographics and structured interactive videos—serve as a limited exploration platform. These elements prevent "cognitive drift," a common phenomenon in which high school students are distracted by superficial digital animations instead of focusing on textual semantics. By intentionally utilising teacher-selected interactive videos and stable infographics, educators build a safe framework that allows students' independent exploration without causing information fragmentation or unnecessary cognitive overstimulation, ensuring that multi-platform learning tools remain aligned with the analytical demands of fostering CCT.

Media Utilisation to Fostering Students' Responses to CCT

E-modules are the digital rotation assets most favoured by teachers when training students for CCT forestry. This preference stems from the fact that creative responses require high accuracy, core competencies, and tailored materials. Comprehensive information regarding competencies, learning materials, and assessments can be accessed in full through e-modules (Capodieci et al., 2020). E-modules are designed to provide multimodal input, support, and targeted tasks based on the difficulty level of the learning material, thereby facilitating communicative practice and task-based learning in language teaching-modules (Levy & Stockwee, 2016), teachers agreed to use infographics and learning videos, both of which had identical agreement metrics. Infographics facilitate student responses because the inclusion of prominent images and brief narratives helps students process the activities more easily. Learning videos further complement and strengthen the presentation of information infographics (Medentseva, 2019). As a result, students find it easier to find solutions to problems, develop various strategic options, and complete practical assessments.

On the other hand, animations are often disliked by teachers at this stage. In eliciting active responses, not only do teachers face difficulties in creating animations, but students also experience greater obstacles in accessing and responding to animated content. When new information is stored, the screen display disappears. This results in less than optimal CCT fostering.

Media Utilisation to Guide Students' Production in CCT

The most discussed cross-multimedia rotation asset among teachers during the production phase is instructional video. The integration of video into language learning provides an authentic social and cultural context (Chapelle & Sauro, 2017). To train students in producing concrete work, appropriate media is necessary because the

production phase inherently integrates the process of designing, adapting, and realising ideas into a final product (Nathan & Swart, 2020). Language teachers consider video to be the easiest tool to navigate this creative stage. Through video, students can observe highly detailed narratives and procedural steps.

This understanding can be further strengthened through the use of infographics. Infographics provide clear visual work steps and written information that students can review as much as they need during production (Cavanagh et al., 2016). The final medium, animation, faces widespread disagreement among teachers. Producing work through animation presents serious limitations compared to other formats. In addition to requiring advanced technical skills and sufficient time, animation development involves significant financial costs if not handled in-house.

The absolute convergence of teacher preferences for instructional videos (100% overall agreement, Strongly Agree-Agree) for the production phase can be strongly explained through Bandura's observational learning theory and the cognitive modelling framework (Bandura, 1986; Sweller et al., 2019). Videos serve as excellent modelling tools by presenting step-by-step procedures, real-world examples, and multimodal demonstrations, effectively minimising the intrinsic cognitive load of complex production tasks (Mayer, 2021). Infographics complement this process by serving as a permanent visual framework that outlines the workflow without cluttering working memory (Cavanagh et al., 2016). Conversely, substantial resistance to animations (33.3% disagreement, n=5) highlights a keen awareness of "production barriers" (Nathan & Swart, 2020).

Media Utilisation to Facilitate Students' Reflection on CCT

Teachers strongly favoured the use of e-modules in the reflection phase (80.0%, n=12, Strongly Agree-Agree). A structured instructional flow is necessary to facilitate learning, which is best achieved through e-modules (Das, 2020). Electronic modules provide comprehensive text-based notes that students can easily revisit, pause, and analyse at their own pace, minimising unnecessary cognitive load during intensive metacognitive tasks.

Teachers disliked animations in the reflection phase of CCT. Complex, lengthy animations, or animations that are not aligned with the objectives, can create additional cognitive load that distracts from the core material and reduces metacognitive effectiveness (Sweller, 2011). In contrast, teachers favoured instructional videos for the reflection phase because they were easy to use and did not take up excessive class time. Furthermore, free and easily accessible video platforms were available for continued use. Animation resistance faced the highest combined resistance (46.7% total disagreement)—can be evaluated comprehensively through Flavell's metacognitive theory and the cognitive principles of retrospective evaluation (Flavell, 1979; Sweller, 2011).

CONCLUSION

This study maps the perspectives of high school Indonesian language teachers regarding cross-multimedia integration for fostering students' CCT. Empirical findings reveal different preference matrices from teachers across the five phases of CCT learning: stimulation, exploration, response, production, and reflection. Electronic modules and interactive videos serve as the two main pillars, while presentation slides and infographics are the two supporting pillars for the utilisation of cross-multimedia in the KCK fostering phase. On the other hand, animation (motion graphics) is consistently rejected at every stage of the CCT learning process. This rejection suggests that dynamic visual animation creates an excessive cognitive load that is highly counterproductive to student learning.

Limitation and Recommendation

A limitation of this study lies in its relatively small sample size of 15 certified teachers. Therefore, generalising these findings nationally requires caution. Furthermore, this study subjectively measured teachers' perspectives on digital assets rotated within a cross-multimedia framework. Future research could conduct direct experimental testing to objectively measure the true impact of cross-multimedia implementation on CCT foresting.

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