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A Meta-analysis of Integrated Internal Audit Management Effectiveness towards Business Sustainability

Noor Aishah Hassan[1,2]*, Suhaiza Hanim Mohammad Zailani[1] and Haslida Abu Hasan[1]

[1]Faculty of Business and Accountancy, University of Malaya, 50603, Lembah Pantai, Kuala Lumpur Malaysia
[2]Malaysia Productivity Corporation, Lorong Produktiviti Off Jalan Sultan, 46200, Petaling Jaya, Selangor, Malaysia

ABSTRACT

This paper classifies the internal and external factors that influence the effectiveness of integrated internal audit management (IIAM) and how IIAM effectiveness affects business sustainability performance. This paper presents a meta-analysis and systematic literature review of previous academic research papers. This study used a comprehensive review of literature and content analysis to obtain information using the electronic databases, specifically ProQuest, Emerald and Scopus from the year of 2003 until 2020. The paper reviewed recently published articles on the integration of at least two out of three management systems (MSs), such as ISO 9001, OHSAS 18001 and ISO 14001. The findings from the research papers are presented according to the factors and outcomes examined. Many studies undertaken on the integration audit of management systems show that there are several internal factors (human resource capability, technological capability and quality capability) and external factors (regulator, customer and supplier) that affect the effectiveness of the integrated internal audit management. It is concluded that the use of integrated management system (IMS) has a positive impact on the firm's performance specifically on business sustainability. The findings indicated of internal and external factors, which are grounded on the identified theories (dynamic capabilities theory, stakeholder theory and contingency theory), having to consider and to understand the effectiveness and implications of integrated internal audit. Thus, based on the findings from previous research carried out and the requirement of IMS, this paper gives

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E-mail addresses:
noor_aishah@siswa.um.edu.my; noor_aishah@mpc.gov.my (Noor Aishah Hassan)
shmz@um.edu.my (Suhaiza Hanim Mohammad Zailani)
haslida@um.edu.my (Haslida Abu Hasan)
* Corresponding author

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directions for the effective way to integrate internal audits in manufacturing firms to achieve business sustainability.

Keywords: Business sustainability, effectiveness, integrated internal audit management, management systems, manufacturing firm

INTRODUCTION

As time evolves, the integrated management system (IMS) was introduced to improve organisational performance (Sa´nchez-Rodrı´guez & Martı´nez-Lorente, 2011). Park et al. (2010) proposed that business integration solutions should be developed to address the key questions of how to take advantage of management system standards based capabilities and improve the efficiency and reliability of business integration solution development. Karapetrovic and Willborn (1998) defined IMS as the unified processes with shared human, information, material, infrastructure, and financial resources that were executed to fulfil goals to satisfy different stakeholders. Rajendran and Devadasan (2005) advocated the importance of adopting integrated auditing standards including the Occupational Safety and Health Management Systems (OHSAS), Quality Management System (QMS) and Environmental Management System (EMS).

The establishment of IMS (including internal audit) is significant as the number of studies in this area has increased from time to time (Nunhes et al., 2016). IMS audits or integrated internal audit management (IIAM) present more effective management systems (MSs) that can reduce bureaucracy, save time and enable more competent adoption of human, technical and financial resources (Abad et al., 2014; De Oliveira, 2013; Karapetrovic & Casadesús, 2009; Zeng et al., 2007). On the other hand, individual certification has increasingly seen as efforts wasted due to excessive bureaucratic, costs and redundancies.

Thus, this study was aimed to explore this matter further by identifying the factors-outcome of the effectiveness of IIAM to ensure business sustainability in the manufacturing industry. According to Mohammad et al. (2007), internal and external factors can be used to measure the critical success factors of IIAM implementation. Although some studies have analysed the factors contributing to effective audit (Beckmerhagen et al., 2004; Endaya & Hanefah, 2016; Karapetrovic & Willborn, 1998), to the best of our knowledge there is no literature report of empirical studies analysing the internal and external factors of integrated internal audit effectiveness.

This study has three main contributions. It combined deductive and inductive methods to identify top three internal factors and external factors primary used in the system of management standards. In all, there were 77 papers derived from reputable journals and used to explain how internal and external factors could be used to examine MSs. Lastly, the outcome of the IIAM effectiveness is discussed to address research gaps identified in previous literature.

The paper is organised as follows; first, a background on the factors that influenced the IIAM effectiveness is presented. This

is followed by the methodology section which explains the search strategy. The results show the factors contributed to the integrated internal audit management as well as the outcomes (business sustainability performance) with support of several theories and finally, in the conclusion section, the factors and outcome of the IIAM are discussed and direction for future research is proposed.

METHODS

Search Approach

The researcher followed four procedures deployed for scientific literature to find relevant works on this topic (Brandenburg et al., 2014; Zimmer et al., 2016). These procedures consist of searching scientific journals for key words (Tranfield et al., 2003), browsing particular journals (Zorzini et al., 2015), cross-referencing (Ang, 2014) and analysing reviews that are thematically familiar (Brandenburg et al., 2014). First, two sets of key word groups were used to conducted systematic search of abstract of papers indexed in the high ranked electronic databases, consist of ProQuest, Emerald and Scopus. The first group of key words comprised "audit" and "IMS", to identify integrated internal audit management. The second group contained the three MSs being studied (see Table 1). This is important to know that different works used different names for the same MSs (for example, IMS audit and integrated internal audit; ISO 9001 and Quality Management Systems (QMS)). Thus, several variations of the names of the standards were included in the search.

Scope of Search

Only articles from high impact journals were included in this review to ensure the reader obtained the true evidence from a scientific study. The scope was limited to empirical, case study and review papers which focused on the top three highly used methods. There are numerous qualitative studies (i.e, Ciliberti et al., 2011) that have significant impact on studies on MSs. Beckmerhagen et al. (2004) provided evidence from two case study on the effect of MSs on the effectiveness and firm's performance. In the meantime, it is important to note that this study's was limited to the most known quality, environmental and social MSs (Table 1).

Table 1
Overview of management system standards considered in this paper

Standard	Description	Developer	Type
ISO 9001	Standards for Quality Management Systems	International Organisation for Standardisation (ISO)	Quality
OHSAS 18001	Standard for Occupational Health and Safety	A group of national standards bodies, certification bodies and consultancies	Social
ISO 14001	Standards for Environmental Management Systems	International Organisation for Standardisation (ISO)	Environmental

Adapted and adopted from Tuczek et al. (2018)

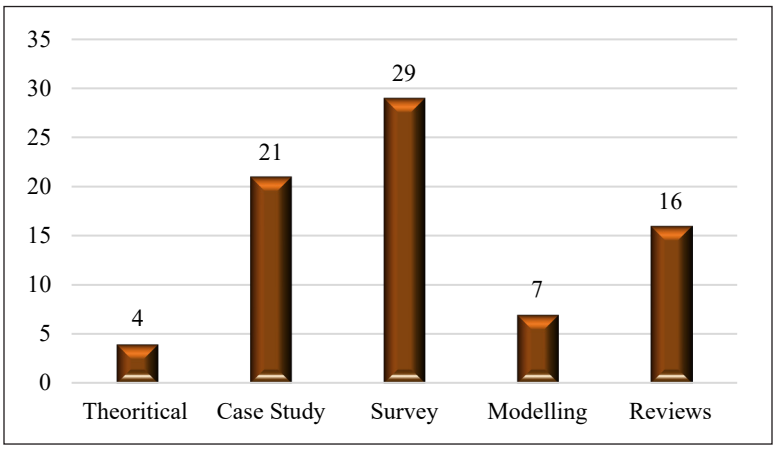

Figure 1. Research methodologies applied

The 77 papers derived from the database were divided according five main research methodologies, surveys, theoretical papers, case studies, literature reviews and modelling papers, as shown in Figure1. It can be observed that 38 of the selected papers applied empirical, case study and review papers.

Search Results

During the first search a total of 644 results, comprising papers published between 2003 and 2020 indexed in ProQuest, Emerald and Scopus databases were found. The papers were screened to refine the search and subsequently, 77 papers which fit the objectives of this review were retained. Further screening found 31 quantitative and case study papers with a comprehensive definition of IIAM which were then used for further analysis.

The researcher cross checked the latest review papers on MSs to determine the completeness of the set of papers, (i.e. Burhan, 2018; Ikram et al., 2020; Heras & Boiral, 2013; Rebelo et al., 2014). The cross-referencing yielded 7 additional papers. In total, 38 papers were considered and analysed in this paper. The articles presented in this paper address two or more standards. The most analysed standards are ISO 14001 (36 papers), ISO 9001 (34 papers) and OHSAS 18001 (21 papers) where some papers used to analyse combined standards together. The summary of standards used in previous studies as stated in Table 2.

A total of 21 papers have applied integrated ISO9001, ISO14001 and OHSAS18001 to measure business performance, specifically business sustainability/ sustainable development. Thus, in this paper, the focus will be on two out of these three standards with relate to quality, environmental and social MSs.

Approach to Analysis

The factors were then clustered into two categories to conduct more detailed analysis and to ensure a more stream-lined presentation of the findings.

Table 2
Summary of standards used in previous studies

No.	Authors	Year	QMS (ISO9001)	EMS (ISO14001)	OHSAS (ISO18001)	Others
1	Ikram et al.	2020	√	√	√	ISO 26000 ISO 22000
2	Burhan	2018	√	√	√	
3	Odigie et al.	2017			√	
4	Bernardo et al.	2017	√	√		
5	Muzaimi et al.	2017	√	√	√	ISO31000
6	Domingues et al.	2016	√	√	√	
7	Rebelo et al.	2016	√	√	√	
8	Nunhes et al.	2016	√	√	√	
9	Bernardo et al.	2015	√	√		
10	Hoy and Foley	2015	√			ISO27000
11	Savino and Batbaatar	2015	√	√	√	
12	Kauppila et al.	2015	√	√	√	ISO45000
13	Ahsen, Anette von	2014	√	√	√	
14	Chee Yew et al.	2014	√	√		Supply Chain
15	Simon et al.	2014	√	√		
16	Mohamad et al.	2014	√	√	√	Energy
17	Abad et al.	2014	√	√	√	
18	Domingues et al.	2014	√	√	√	
19	Rebelo et al.	2014		√	√	ISO31000
20	Simon et al.	2013	√	√		
21	Sampaio et al.	2012	√	√	√	
22	Simon et al.	2012	√	√		
23	Simon and Yaya	2012	√	√		
24	Simon et al.	2011	√	√		
25	Bernardo et al.	2011	√	√		
26	Asif et al.	2011	√	√		IS010001
27	Zeng et al.	2011	√	√	√	
28	Asif et al.	2010	√	√	√	
29	Tarí and Molina	2010	√	√		
30	Bernardo et al.	2009	√	√		
31	Salomone	2008	√	√	√	
32	Rasmussen, JM	2007	√	√	√	
33	Mohammad et al.	2007	√	√		
34	Jørgensen et al.	2006	√	√	√	
35	Zutshi and Sohal	2005	√	√	√	
36	Bamber et al.	2004	√	√	√	
37	Sroufe, Robert	2003	√			
38	Beckmerhagen et al.	2003	√			TQM
	Total		34	36	21	

1. Internal factors focus on the reasons for firms to use their resources to compete with other firms in their sector. In this review, dynamic capabilities theory (DCT) applied to govern the internal factors that affect the firm performance (outcome).
2. External factors determine a firm's actions based on the external view. This is done by analysing how different stakeholders influence the implementation of integrated audit and IMS. Freeman (1984) highlighted that stakeholders are refer to those *who provide support to ensure the livelihood of an organisation.* In this examination, stakeholder theory used to explain the influence of external factors on business decisions.

According to Lozano et al. (2015), clustering refers to the process of grouping factors with overlapping assumptions. In this paper, the clusters have been established with considers the individualities of each MSs. In this paper, the significance of the internal factors highlighted to identify which capabilities in each organisation that affect most on the effectiveness and performance. Furthermore, for external factors, the stakeholder theory is used to examine whether theories on the role of the external environment (customers, suppliers, regulators, traders, communities etc.) in the diffusion and adoption of IIAM.

Moreover, contingency theory was used to explain firm performance as well as to highlight the relationship between firms' strategy (IIAM) and business sustainability (performance/ outcome). Fundamentally, this theory stipulates an organisation's structure could be changed so that it can keep up with changes in the contextual factors to achieve higher performance (Ismyrlis & Moschidis, 2015).

RESULTS

The Effectiveness of Integrated Internal Audit Management (IIAM)

Success in a progressive and dynamic market could be determined by various factors. According to Soh and Markus, (1995), these factors are product quality, speed to market, and competitors' capability. As the global standard, MSs are intended to ensure high quality goods and services in the relationship between suppliers and customers (ISO, 2009). In this regard, the effectiveness of MSs implementation has generated the interest of scholars worldwide (Casadesús et al., 2008).

According to Zeng et al. (2010), the first step for integration is by improving the understanding and common use of systems. The general strategies adopted by an organisation should be combined with different MSs in order to achieve effectiveness. The study examined internal and external factors influencing IMS implementation. It focused on the several internal factors, which were organisational structure, human resources, company culture and understanding and perception. It also examined several external factors, specifically certification bodies, stakeholders

and customers, technical guidance and institutional environment. A multi-level synergy model made up organisational structural-resource-cultural synergy, strategic synergy, and documentation synergy was proposed to ensure the implementation of IMS (Zeng et al., 2010).

Past studies have discussed different integration approaches (Leopoulos et al., 2010). They have presented standardised MSs that are integrated with other systems (Beckmerhagen et al., 2003; Castka & Balzarova, 2008; Matias & Coelho, 2002). Other approaches are based on stakeholders requirements (Asif et al., 2010) as well as quality and environmental determiners and social risks (Labodová, 2004). In the meantime, the integrated approach discussed (Badreddine et al., 2009) is grounded on the general process enterprise model. It was also shown that the integration of MSs could have greater benefits to the firms.

Internal Factors of IIAM

Many studies have discussed motivational factors of ISO MSs implementation, and they can be categorised as internal and external motives (Arauz & Suzuki, 2004; Boiral & Amara, 2009; Burhan, 2018; Gotzamani & Tsiotras, 2002; Ikram et al., 2020; Llopis & Tari, 2003). Boiral, (2003) suggested that internal motivation factors were linked to building an effective quality assurance programme.

According to Newbert (2007), a firm controls its resources, such as technology, human resource, quality, innovation, cost reduction and knowledge capabilities. Such process allows firms to plan and execute strategies to enhance its organisational efficiency by improving firm performance (Barney, 1991). Teece et al., (1997) described that by using the dynamic capabilities theory, where organisation could combine, construct and modify their resources and competencies as strategic options. Recent meta-analyses of past empirical studies found that DCT was able to provide a more accurate description of firms' performance compared to RBV (Fainshmidt et al., 2016).

In this study, the literature review and content analysis were conducted to identify the internal factors that contribute to the internal audit process and IIAM effectiveness. Table 3 presents the analysis of the main literature review the internal factors from 38 published articles in peer-reviewed journal. The purpose of the content analysis is to identify the most common internal factors cited by previous studies.

Table 3 shows that past studies have reported various internal factors. Table 3 presents the distribution of the internal factors influencing the internal audit process and IIAM effectiveness. Therefore, these internal factors are considered as the major influences of audit process and IIAM effectiveness.

External Factors of IIAM

External motivation factors, on the other hand, focus on boosting a firm's quality reputation and image by encouraging organisations to acquire ISO certification in order to fulfil the customer and stakeholder expectations.

Table 3
Content analysis of the internal factors of IIAM

No.	Authors	Year	Human resources	Technology	TQM/ Quality Tools	Material/ Resources	Culture	Time	Management Support	Financial	Firm structure
1	Ikram et al.	2020	√			√	√				
2	Burhan	2018	√		√				√		
3	Odigie et al.	2017	√		√						
4	Bernardo et al.	2017	√	√				√	√		
5	Muzaimi et al.	2017	√			√	√	√			√
6	Domingues et al.	2016	√	√							√
7	Rebelo et al.	2016	√	√			√		√	√	√
8	Nunhes et al.	2016	√	√				√		√	
9	Bernardo et al.	2015	√					√		√	
10	Hoy and Foley	2015		√		√					
11	Savino and Batbaatar	2015	√	√	√	√	√				
12	Kauppila et al.	2015				√					
13	Ahsen, Anette von	2014			√						
14	Chee Yew et al.	2014	√								
15	Simon et al.	2014	√			√		√			
16	Mohamad et al.	2014	√		√	√	√		√		
17	Abad et al.	2014	√								√
18	Domingues et al.	2014	√	√		√			√	√	
19	Rebelo et al.	2014	√		√	√	√				√
20	Simon et al.	2013	√	√				√			
21	Sampaio et al.	2012	√	√	√		√			√	√
22	Simon et al.	2012	√			√	√	√	√		
23	Simon and Yaya	2012	√				√				
24	Simon et al.	2011	√					√			
25	Bernardo et al	2011	√			√		√			
26	Asif et al.	2011	√	√		√			√	√	
27	Zeng et al.	2011	√				√			√	√
28	Asif et al.	2010	√	√	√			√			
29	Tarí and Molina	2010		√	√	√			√		
30	Bernardo et al.	2009	√	√	√	√				√	
31	Salomone, Roberta	2008	√		√		√	√		√	
32	Rasmussen, JM	2007	√	√	√		√				√
33	Mohammad et al.	2007			√	√			√		
34	Jørgensen et al.	2006			√		√	√	√		
35	Zutshi and Sohal	2005		√			√		√		
36	Bamber et al.	2004		√	√						
37	Sroufe, Robert	2003		√							
38	Beckmerhagen et al.	2003	√	√	√						
	Total		29	18	16	15	14	12	11	9	8

Source: Own elaboration

The stakeholder theory helps firms to decide how to respond strategically to critical demands from stakeholders that could lead to organisational success. It offers a strong base in the development of framework to explain how a firm decides to achieve the three fundamental aspects of business sustainability (Freeman, 1984; Henriques & Sadorsky, 1999; Sharma & Henriques, 2005).

External stakeholders (shareholders, customers/clients, distributors, regulatory agencies and community members) play an important role in helping an organisation reaches business sustainability (Delmas, 2001). At the same time, sustainability can be achieved by ensuring good relationship between principal stakeholders (Delmas & Montiel, 2008). It was suggested that the integration further enhanced coordination with external stakeholders, such as suppliers, customers, and regulators (Asif et al., 2010).

In this study, content analysis was done to recognise the external factors that contribute to the internal audit process and IIAM effectiveness. Table 4 presents an analysis of the external factors quoted identified from the 38 published articles in peer reviewed journals. This is to identify the external factors regularly, as cited in the previous studies.

As shown in Table 4, there are many external factors related to the IIAM effectiveness in the audit process. Table 4 explains the circulations of the external factors that influence the audit process and IIAM effectiveness. In addition, as asserted by Docking & Dowen, (1999), ISO certification also provides strong evidence that the firms can offer high-quality products.

Outcome of IIAM Effectiveness

The MSs certification contributes to higher organisational performance, thus led to strong competition among industry (De Oliveira, 2013). In addition, MSs are usually implemented in systems with the similar philosophy, for instance, adopting the PDCA cycle to ensure continuous improvement, as well as principles and values.

According to ISO (2008), MSSs implementation could lead to the sub-optimisation of systems. Thus, it is suggested for companies to combine and implement the requirements from several different MSSs to improve organisational efficiency. Here, it can be observed that SMEs implement integrated management systems (IMSs) due to the external pressures from the environment they are in. MSSs aim to support organisations achieve sustainability based on their environmental, social and economic needs in a balanced and sustainable way.

Furthermore, apart from focusing on total system improvement, IIAM benefits include lower operational cost, more efficient allocation of materials, information and human resources, and provide a comprehensive problem-solving approach to increase efficiency of other interrelated systems. European countries like Spain and Denmark have such experiences that are worth observing (Jørgensen et al., 2006). Furthermore, IIAM is executed by

Table 4
Content analysis of the external factors of IIAM

No.	Authors	Year	Customer	Stakeholder	Supplier	Regulators	Employees	Management	Community	Distributor	Banks/ Trade	Competitor	Contractor	Market
1	Ikram et al.	2020				√		√	√					
2	Burhan	2018				√								√
3	Odigie et al.	2017	√		√	√								
4	Bernardo et al.	2017	√	√		√								
5	Muzaimi et al.	2017	√	√										
6	Domingues et al.	2016	√	√	√		√							
7	Rebelo et al.	2016	√		√	√			√	√	√	√		
8	Nunhes et al.	2016	√			√								
9	Bernardo et al.	2015	√	√		√								
10	Hoy and Foley	2015		√										
11	Savino and Batbaatar	2015	√		√	√	√							
12	Kauppila et al.	2015	√	√	√								√	
13	Ahsen, Anette von	2014	√	√										
14	Wong et al.	2014	√	√	√			√						
15	Sampaio et al.	2014	√				√							
16	Simon et al.	2014	√	√										
17	Mohamad et al.	2014		√										
18	Abad et al.	2014		√		√		√						
19	Domingues et al.	2014	√		√	√	√		√					
20	Rebelo et al.	2014	√	√	√	√								
21	Simon et al.	2013	√	√			√							
22	Simon et al.	2012		√										
23	Simon and Yaya	2012	√	√			√							
24	Simon et al.	2011												
25	Bernardo et al.	2011		√										
26	Asif et al.	2011	√		√	√	√		√					
27	Zeng et al.	2011	√	√		√			√					
28	Asif et al.	2010	√		√	√								
29	Tarí and Molina	2010	√	√				√						
30	Casadesus et al.	2009		√										
31	Salomone	2008	√		√				√					
32	Rasmussen	2007	√		√			√						
33	Mohammad et al.	2007		√				√						
34	Jørgensen et al.	2006	√		√		√		√					
35	Zutshi and Sohal	2005	√	√	√	√	√		√					
36	Bamber et al.	2004	√	√	√	√		√						
37	Sroufe, Robert	2003		√										
38	Beckmerhagen et al.	2003		√				√						
	Total		26	24	15	15	9	8	8	1	1	1	1	1

Source: Own elaboration

combining financial audit sub-systems health and safety, environmental, ergonomics audit standards with the best audit practice. In this light, companies are required to share time, audit teams, plans and the reports. Various authors that have mentioned and discussed the integration of MSs and how it effects the business sustainability are stated in Table 5:

Yang and Yang (2011) posited that value creation could determine the success of an organisation. Contingency approaches assume that performance is dependent on different factors like human resource, firm size, business strategy, organisational structure, technology and ownership culture. IIAM can be considered as a business strategy that could improve operational performance and strategic flexibility (Asif et al., 2010).

Contingency theory is commonly used to study organisations. In essence, the theory states that to achieve high performance, organisations will change their structures so that they are in line with changing contextual factors (Donaldson, 2001). Sousa and Voss (2008) further described that such studies theoretically and practically contributed by identify significant contingency variables that distinguished different contexts, grouping contexts based on contingency variables and determining the most effective internal organisation design strategies in the dominant group.

Earlier studies on the effectiveness of IIAM and IMS outcomes have guided this study to ascertain the benefits of IIAM. It is suggested that IIAM implementation has different outcomes in different contexts. Table 6 summarises the review of literature of works focusing IIAM effectiveness outcomes.

According to reviews done, eleven key outcomes were identified. These are several performance measures according to past studies. Therefore, in this study, business sustainability was chosen as the outcome.

Business Sustainability Performance

'Sustainability' is a term established by Elkington (1994) which reflects corporate

Table 5
Discussion on IMS and business sustainability

Author	Year	Discussion
Ikram, Sroufe and Zhang	2020	The implementation of Integrated Management Systems (IMS) is a requirement for organisations striving to become more competitive and sustainable.
Burhan	2018	IMSs (including audit) used to resolve the risks in comprehensive point of view. Thus, these initiatives may lead to constructive contributions to organisational performances and sustainable developments.
Savino and Batbataar	2015	The relationship between IMS and operational performance; IMS resources, including assets, cooperation Effectiveness of operational resources and Cross-functional IT systems are significant. It is acknowledged that human resources are important substance for IMS success, in addition to other aspects like pollution control, investments, equipment maintenance and integrated audits which are linked to competitive advantage and generate higher profits.

Source: Adapted and adopted from Asif et al. (2011)

Table 6
Content analysis of the outcome of IIAM

No.	Authors	Year	SD/ BS	IMS Benefits	Improvement	Effectiveness	BP	OP	Assessment	CS	FP/ BSC	Innovation	TQM
1	Ikram et al.	2020	√	√									
2	Burhan	2018	√										
3	Odigie et al.	2017			√		√						
4	Bernardo et al.	2017	√										
5	Muzaimi et al.	2017		√				√					
6	Domingues et al.	2016							√				
7	Rebelo et al.	2016	√										
8	Nunhes et al.	2016	√										
9	Bernardo et al.	2015	√				√						
10	Hoy and Foley	2015				√							
11	Savino and Batbaatar	2015				√		√					
12	Kauppila et al.	2015	√				√						
13	Ahsen, Anette von	2014	√								√		
14	Wong et al.	2014	√										
15	Sampaio et al.	2014							√				
16	Simon et al.	2014			√	√							
17	Mohamad et al.	2014	√										
18	Abad et al.	2014		√			√						
19	Domingues et al.	2014		√	√								
20	Rebelo et al.	2014	√					√					
21	Simon et al.	2013		√									
22	Simon et al.	2012		√									
23	Simon and Yaya	2012				√						√	
24	Simon et al.	2011			√								
25	Bernardo et al.	2011			√								
26	Asif et al.	2011	√										
27	Zeng et al.	2011		√									
28	Asif et al.	2010				√				√			
29	Tarí and Molina	2010			√								
30	Casadesus et al.	2009		√									
31	Salomone	2008	√	√									
32	Rasmussen	2007					√		√				
33	Mohammad et al.	2007		√									
34	Jørgensen et al.	2006	√										
35	Zutshi and Sohal	2005		√									
36	Bamber et al.	2004			√								
37	Sroufe, Robert	2003						√					
38	Beckmerhagen et al.	2003				√							√
	Total		14	11	7	6	5	4	3	1	1	1	1

Note. SD= Sustainable development, BS= Business sustainability, BP= Business Performance, OP= Operational Performance, CS= Customer Satisfaction, FP= Financial Performance, BSC= Balanced Scorecard and TQM= Total Quality Management

perspectives on mitigating issues linked to the environment, the society and the economy. Today, many organisations across the globe are adopting different MSs to achieve business sustainability (Turk, 2009). It combines the customer's supply chain practices, supplier's environmental aspirations, and the certification bodies' aspirations (Nawrocka, 2008). Meanwhile, numerous organisations implemented different MSs alongside their EMS either due to market demand or other motivations. In this right, many organisation with ISO 14001 certifications also adhere to different standards like ISO 9001 (ISO, 2008) and ISO 18001 (Karapetrovic & Casadesús, 2009).

Business sustainability can also reflect a company's good image and some researchers have recognised the significant contribution of IMS to the business, including operational efficiency, cost savings, higher reputation, higher customer satisfaction, and improve motivation among employees (Asif et al., 2011; Asif et al., 2010; Casadesús & Karapetrovic, 2005; Karapetrovic & Willborn, 1998b; Salomone, 2008; Zeng et al., 2007; Zutshi & Sohal, 2005).

DISCUSSION

Internal Factors of IIAM Effectiveness

There are various internal factors reported by past studies (Ahsen, 2014; Bernardo et al., 2017; Domingues et al., 2015; Hoy & Foley, 2015; Nunhes et al., 2016; Rebelo et al., 2016; Savino & Batbaatar, 2015; Simon et al., 2014; Ikram et al., 2020). Table 7 illustrates the distribution of internal factors influencing the audit process and IIAM effectiveness. Among these factors, three of the most discussed factors are human resources, technological and quality capabilities. Thus, this study

Table 7
Summary of top three internal factors of IIAM

Internal Factors of IIAM Effectiveness	Discussion	Studies
Human Resources	• Most valuable resource; • Skill and competencies; • Appropriate skill, expertise and technique; and • Effective organisation.	Santos, 2002; Robelo et al., 2014; Arena et al., 2009; Soh et al., 2011 and Ikram et al., 2020.
Technology	• Evolution of IT architecture; • Integrated approach (technology and manual) leads to efficiency and effectiveness; • Technology will reduce the number of auditor involved	Ross, 2003; Venkatesh, 2006; Chaney & Ki, 2007; Lazarine, 2009 and Brand et al., 2011.
Quality	• 5S as philosophical, organisational capability and strategic way; • 5S approach is a way of doing business that required behavioural changes; • Other quality tools can be practice simultaneously such as TPM, JIT, Kaizen and EMS	Ho, 2012; Yusof et al., 2014; Bamber et al., 2002; Tice et al., 2005 and Vais et al., 2006.

considered these internal factors as the main determiners of audit process and IIAM effectiveness. Table 7 presents the top three internal factors of IIAM.

External Factors of IIAM Effectiveness

The review had identified numerous external factors related to the IIAM effectiveness in the audit process (Asif et al., 2011; Bamber et al., 2004; Jørgensen et al., 2006; Kauppila et al., 2015; Rebelo et al., 2016; Sampaio et al., 2014; Simon et al., 2013; Zeng et al., 2010; Zutshi & Sohal, 2005; Ikram et al., 2020). Table 8 explains that the circulation of the external factors that influence the audit process and IIAM effectiveness. Among the eleven factors, the influence of customers, suppliers and regulators respectively were the top three factors highlighted in the previous research. Thus, this study intended to include these external factors as the major effects of audit process and IIAM effectiveness. Table 8 details these factors in the main discussion of the audit process and IIAM effectiveness.

Outcome of IIAM Effectiveness

According to reviews done (Table 6), a total of eleven key outcomes have been identified in this study. Among these outcomes, business sustainability is one of the top outcomes highlighted in previous studies. Thus, this study intended to further examine how IIAM effectiveness affects the business sustainability in the long run.

As mentioned by Dudok van Heel (2001), sustainable development could be assured when organisations combine sustainable development with conventional business strategies, specifically integrated internal audit. On the other hand, there is still a lack of frameworks for the integration of sustainable development and mainstream business processes and this situation has hindered the adoption of IMS at the organisational level (Rocha et al., 2007).

Table 8
Summary of top three external factors of IIAM

External Factors of audit process and IIAM Effectiveness	Discussion	Studies
Regulator	• Government policy and pressure; and • Standardisation of business environment.	Guler et al. (2002); Carlsson & Carlsson (1996); Vloeberghs & Bellens (1996); Jones et al. (1997); Delmas (2001); Asif et al. (2010).
Customer	• Relationship management with principal stakeholders is a key strategic factor; • Integration and standard will increase stakeholder satisfaction.	Delmas & Montiel (2008); Bamber et al. (2002); Bernardo et al. (2009); Kassinis & Vafeas, (2006); Delmas (2001); Asif et al. (2010).
Supplier	• Supplier selection decision helps firms to maintain a strategically competitive position.	Govindan, Khodaverdi & Jafarian (2013); Bernardo et al. (2009); Kassinis & Vafeas, (2006); Asif et al. (2010); Busse, Schleper, Niu & Wagner (2016).

There is a need for a systematic approach to accommodate different management system standards available (Jonker & Karapetrovic, 2004). In this regard, conceptually, instead of looking at the problematic component separately, integrated management systems tackle problems as a whole

CONCLUSION

Environmental, quality, and social MSs play a significant role in the current business climate. While there are numerous academic works that have examined different facets of management system standards, the meta-analyses of the factors and outcomes of IIAM effectiveness in this context are not allied. There are three main contributions of this paper. This paper identified the three most common used internal factors and external factors in examining MSs by combining deductive and inductive methods. In this light, the review found 77 articles from reputable journals on the use of internal and external factors in MSs. Based on these articles, the study has discussed the effectiveness of IIAM in address research gaps as discussed in Rebelo et al., (2016) and future topics for future research (Nunhes et al., 2016).

The paper focuses on well-established and prominent standards of MSs, specifically ISO 9001, ISO 14001, and OHSAS 18001. Thus, this review is limited to papers related to the implementation of these standards which were retrieved from specific electronic databases (ProQuest, Emerald and Scopus). To overcome this limitation, this study suggests that future studies could cover other MSs, including ISO26000, ISO27000, ISO31000 and others. These MSs have also become part of firm pressure to achieve business sustainability.

Besides the limitation, this paper could help researchers and practitioners in various ways. It helps structure the management system standards domain in accordance to different management theories. This paper has also highlighted possible future research direction and present promising theories that could be applied to explore these research paths. Moreover, it presents a structured overview of high-quality empirical works addressing the adoption, transmission and control of MSs standards. In other words, it helps guide the decision-making on the adoption and implementation of standards.

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