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Motivational Factors for Knowledge Sharing in Co-Working Spaces: Co-Working Spaces in Thailand from the Management Perspective

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ABSTRACT

The preliminary aim of this study is to explore the intrinsic and extrinsic motivational factors for knowledge sharing in co-working spaces. This study employed a qualitative approach based on in-depth interviews. The key interviewees were management personnel from 19 co-working spaces in Thailand categorised according to the sector. The motivational factors can be divided into two categories: intrinsic and extrinsic. Intrinsic motivation consists of four sub-categories: altruism, knowledge self-efficacy, self-interest, and job autonomy. Extrinsic motivation consists of five sub-categories: reward, reputation, networking, environment, and reciprocity. The findings of this study demonstrate that motivational factors support knowledge sharing in co-working spaces. The results further reveal that networking is the most significant motivational factor. Interviewees from the private sector revealed that intrinsic motivational factors were more effective than extrinsic. On the other hand, representatives from both the public and higher education

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sectors suggested that extrinsic motivational factors were more effective than intrinsic.

Keywords: Co-working spaces, extrinsic motivation, motivation, intrinsic motivation, knowledge sharing, knowledge sharing motivation, qualitative research

INTRODUCTION

Globalisation facilitates and drives methods of working by incorporating digital technology (Baldwin, 2017). In recent years digital technology has become a significant element of globalisation, driving the economy and changing the nature of traditional work styles by enabling people to work from anywhere in the world and at any time (Lundvall, 2016; Roos & Shroff, 2017; Spreitzer et al., 2017). The effect of these changes is that a new type of career has developed for digital nomads who prefer freedom in their working and personal lives to economic rewards (Thompson, 2018). Digital nomads can work anywhere, such as in cafés or co-working spaces which are flexible and suitable for their working needs. They also have the capacity to move to any place in the world (Makimoto, 2013; Thompson, 2018)

In 2005, Brad Neuberg built the first official co-working space, named Spiral Muse, in San Francisco (Spinuzzi, 2012). Spiral Muse was designed to attract the interests of independent professionals, as well as supporting the community in which space was built by allowing individual professionals to be independent but avoid the loneliness of working from home (Spinuzzi, 2012). Co-working spaces have been popular for the last decade. They are utilised most by start-up companies, entrepreneurs, freelancers, and digital nomads, as they enable people to work alongside others in shared spaces (Parrino, 2015). Co-working spaces provide facilities, offer good services, and help to create communities (Rus & Orel, 2015). People from different businesses can interact, share knowledge, and co-innovate with others in the same co-working space (Fuzi, 2015; Parrino, 2015; Spinuzzi, 2012). Additionally, the disadvantages of traditional workplaces such as the office, home, or cafés, are that they lack social and professional interaction, making it difficult for people to distinguish between their private and professional lives (Fuzi, 2015; Leclercq-Vandelannoitte & Isaac, 2016). Thus, co-working spaces provide a new means of working and demand is increasing for somewhere that is more than a workspace; they improve the work-life balance, provide flexible economic efficiency and offer many types of sharing facilities, equipment, and services for members (Kojo & Nenonen, 2017).

Co-working spaces are areas where micro-businesses and freelancers can collaborate on a variety of activities and tasks, sharing information, knowledge, ideas, and resources with other members of the community (Capdevila, 2015; Rus & Orel, 2015). Members of this new community have chosen to come to the space to work and share their knowledge and gain knowledge from others (Butler, 2008; Fost, 2008). Moreover, members of

co-working spaces also aim to communicate and build trust among each other (Capdevila, 2015). Finally, they can acquire knowledge from other members and apply it to their own organisation (Cao & Xiang, 2012; Foss et al., 2010).

Previous research involves a wide range of influential factors for knowledge sharing in many contexts (Wasko & Faraj, 2005). Many studies signal that motivational factors lead to a great deal of knowledge sharing in the various sectors of an organisation (Amin et al., 2009; Barreto, 2003; Lin, 2007). In terms of knowledge sharing in a co-working space, most members often share knowledge voluntarily and informally around interaction points (Soerjoatmodjo et al., 2015). Moreover, knowledge sharing among members should be supported by the management personnel of the co-working spaces, since it would help to increase the creditability of each member as well as providing partners and networking opportunities (Fuzi, 2015).

However, there is limited theoretical research on the concept of knowledge sharing in co-working spaces. Therefore, research on co-working spaces has the potential for further academic exploration. Moreover, there are studies that signal motivational factors that lead to greater knowledge sharing. Hence, this paper aims to preliminarily explore the motivational factors of knowledge sharing in co-working spaces to assist management personnel in developing strategies to improve knowledge sharing activities among members.

By seeking to understand knowledge sharing and the motivational factors affecting it, a qualitative approach was applied in this study to preliminarily explore the intrinsic and extrinsic motivational factors involved, by interviewing management personnel of co-working spaces from different sectors in Thailand. The study considered the insights of interviewees concerning the motivational factors they believed were important for supporting knowledge sharing in co-working spaces. The preliminary results of this study could be used as guidance for developing a questionnaire and a quantitative study for the testing of motivational factors affecting knowledge sharing in the context of users of co-working spaces in Thailand.

The remainder of the paper is structured as follows. Section 2 presents a review of the literature focusing on intrinsic and extrinsic motivational factors, knowledge sharing, and co-working spaces. Section 3 presents the model, sample selection, data collection, and analysis methods used in this study. Section 4 presents the results and discusses the findings. Finally, Section 5 presents the conclusion and a discussion on the consequent implications and limitations of the study and ideas for further research.

LITERATURE REVIEW

Motivational Factors for Knowledge Sharing

Motivation is a determinant in studies on knowledge sharing among individuals and has been discussed in previous literature (Bock et al., 2005; Chen & Hsieh, 2015; Kankanhalli et al., 2005; Lin, 2007; Ryan

& Deci, 2000; Tan & Ramayah, 2014). Knowledge can be easily shared, and its value influences people's motivation to share it (Ipe, 2003), given motivation is a psychological element that guides, drives and encourages individuals to aim for a specific goal (Gagné et al., 2019; Ryan & Deci, 2000).

There are two types of motivation: intrinsic and extrinsic (Lin, 2007). Intrinsic motivation is driven by an interest in or enjoyment of activities without economic rewards or pressure. People can be intrinsically motivated by engaging in tasks to improve their own capabilities and increase an organisation's effectiveness (Ryan & Deci, 2000). Extrinsic motivation refers to an action that leads to outcomes, focusing on goals such as monetary rewards and career advancement. There is no requirement for the benefit to outweigh the effort, only the existence of a suitable reward at the end of such an effort. There may, of course, be a different approach to it, but this does seem quite an extreme view (Ryan & Deci, 2000). Both intrinsic and extrinsic motivational factors affect the individual's intention to share knowledge. This idea has been explored and examined across many contexts in studies on knowledge sharing (Gagné et al., 2019; Hansen & Avital, 2005; Ipe, 2003).

Intrinsic motivational factors encourage individuals to perform knowledge sharing in response to their own interest or pleasure in doing so or in order to gain knowledge from their experiences without expecting material returns (Lin, 2008; Wasko & Faraj, 2005). Such individuals enjoy helping others and find dealing with problems interesting, simply because these actions make them feel good (Hung et al., 2011; Kankanhalli et al., 2005; Podrug, 2017). Individuals may also enhance their self-efficacy to provide knowledge and have the opportunity to help others on the basis that they enjoy that others can apply such knowledge to create new ideas and gain useful information for their organisations (Lin, 2007; Podrug, 2017). In terms of job autonomy, when professionals have to undertake a variety of creative tasks without any support from others, they may have little guidance on how to complete their tasks. Therefore, they must use their free time to research new ideas and participate in knowledge sharing activities. The opportunities often lead to the acquisition of knowledge that can be applied to their tasks (Llopis & Foss, 2016).

On the other hand, it is widely believed that some individuals share knowledge only once they have completed a cost-benefit analysis proving it to be beneficial or if they believe they will receive something in exchange for their contribution. In other words, such individuals rely on extrinsic motivation (Davenport & Prusak, 1998; Hung et al., 2011; Lin, 2007; Park & Gabbard, 2018). Such individuals always analyse the perceived benefits they will receive in exchange for their efforts to ensure these efforts are worthwhile (Lin, 2007). In order to share their knowledge, individuals who are extrinsically motivated must believe that their efforts will be rewarded either with reciprocation of the act

or enhancement of their reputation (Bock et al., 2005; Hung et al., 2011; Lin, 2007; Pillet & Carillo, 2016).

Based on previous research, both intrinsic and extrinsic motivational factors support knowledge sharing. However, the discussion can be contextually explored in terms of the private, public, and higher education sectors to establish any differences in terms of motivational factors in knowledge sharing.

Knowledge Sharing Motivation in the Higher Education Sector

Cheng et al. (2009) examined the effectiveness of knowledge sharing among academics and the reasons why academics at private universities in Malaysia shared and/or did not share their knowledge. The findings revealed that the higher education sector should promote knowledge sharing activities by creating an environment in which people were incentivised with reward mechanisms to encourage knowledge sharing. Additionally, an academician wishing to enhance his or her reputation as an expert in a specific knowledge domain can also develop networking within the academic community.

Saad (2013) applied a qualitative approach to explore the motivational factors of knowledge sharing with academicians at public universities in Malaysia. The results of this study presented seven motivational factors influencing academics to share knowledge. These were reputation building, acknowledgement (including receiving rewards, gaining promotion and recognition), becoming knowledgeable, reciprocity, vision, and mission, mentoring, and personal beliefs (including culture, sense of responsibility, and religion).

Mansor et al. (2015) examined the motivational factors for promoting knowledge sharing among individuals at public universities in Malaysia. The interviewees had experience as knowledge providers with positive attitudes towards knowledge sharing. The results of this study revealed the following: 1) Concerning the environmental factor, there was no informal avenue for knowledge sharing activities within their faculties. However, the faculties organise a formal avenue whereby senior professors are invited to give talks or share research and findings, experiences, and thoughts based on their expertise. They would prefer to share their knowledge at seminars and conferences at either local or international venues. 2) As for the personal factor, academics were found to be motivated if the knowledge sharing activities related to helping others, improving relationships with their peers, and networking building. Therefore, personal and environmental factors were found to influence knowledge sharing among academics.

As previously mentioned, the knowledge sharing motivational factors in the higher education sector can be synthesised with extrinsic motivational factors (environment, reputation, networking, rewards, and reciprocity), and are more effective than the intrinsic motivational factor (altruism).

Knowledge Sharing Motivation in the Public Sector

Olatokun and Nwafor (2012) investigated the effect of extrinsic motivational factors (organisational rewards and reciprocal benefits) and intrinsic motivational factors (knowledge self-efficacy and altruism) on employee attitude and intention towards knowledge sharing. The findings implied that knowledge sharing attitudes and intention to share knowledge was only related to intrinsic motivational factors. On the other hand, neither of the extrinsic motivational factors were important to the knowledge sharing mechanism since this involved temporary motivation to force employees to share knowledge.

Amayah (2013) investigated the factors affecting knowledge sharing in the government, based on quantitative research. The samples in this study consisted of 439 civil service employees at a mid-size public academic institution in the Midwestern United States. The results revealed that all motivators (personal benefits, community-related considerations, and normative considerations) had a significant effect on knowledge sharing variance. As for the enabling factors, social interaction, rewards, and organisational support were found to affect knowledge sharing, although reciprocity had no significant effect.

Chen and Hsieh (2015) examined the importance of intrinsic and extrinsic motivational factors on knowledge sharing in the government of Taiwan. The survey involved 514 middle-level managers working for the Taipei City public companies. The findings revealed that civil servants were interested in a commitment to the public interest (normative motives), compassion (affective motives), and willingness to self-sacrifice (affective and normative motives), driving them to share knowledge for spiritual reasons. Additionally, compassion was the most influential predictor of norm-based public sector motivation and affected explicit knowledge more than tacit knowledge.

Accordingly, intrinsic motivational factors (altruism, knowledge self-efficacy, and interest) can be considered to be more supportive than the extrinsic motivational factor (reward) for knowledge sharing.

Knowledge Sharing in the Private Sector

Bock et al. (2005) tested the factors affecting the knowledge sharing attitudes and intentions of individuals in four large private organisations. The results from a field survey involving 467 employees presented that 'anticipated reciprocal relationships' and 'perceived personal contribution to the organisation' were the major determinants of individual attitudes towards knowledge sharing. However, 'anticipated extrinsic rewards' believed by many to be the most important motivational factor for knowledge sharing, were not significantly related to attitudes towards knowledge sharing.

Lin (2007) examined the role of both intrinsic (knowledge self-efficacy and altruism) and extrinsic (organisational rewards and reciprocal benefits) motivational factors on employee knowledge sharing. The findings indicated that reciprocal benefits,

knowledge self-efficacy, and altruism were important motivational factors for employee knowledge sharing attitudes and intentions.

Hau et al. (2013) aimed to investigate the effects of individual motivational factors (organisational rewards, reciprocity, enjoyment) for tacit and explicit knowledge sharing among employees. The findings presented that reciprocity and enjoyment contributed significantly to enhancing tacit and explicit knowledge sharing among employees. Moreover, all three motivational factors were found to have greater positive effects on tacit than explicit knowledge sharing. However, only organisational rewards had a negative effect on the tacit knowledge sharing intention of employees but a positive influence on their explicit knowledge sharing intention.

Finally, it can be implied that most related studies focus on the intrinsic motivational factors (altruism and knowledge self-efficacy) than intrinsic motivational factors (rewards and reciprocity) of knowledge sharing in the context of the private sector.

Knowledge Sharing in Co-Working Spaces

Soerjoatmodjo et al. (2015) studied the knowledge sharing process in co-working spaces using in-depth interviews containing semi-structured questions. The interviewees were entrepreneurs from SME companies who were members of co-working spaces in Jakarta. The findings indicated that most shared knowledge was unrelated to the commercial trade and not shared knowledge with direct competitors. Most entrepreneurs shared knowledge voluntarily and informally among each other in co-working spaces. Tacit knowledge was shared around interaction points such as the kitchen, during lunch, or coffee breaks, endorsing, and promoting members to share their knowledge with the hosts of co-working spaces through community activities.

As can be seen from the previous discussion, motivational factors have been identified to encourage knowledge sharing in organisations across the private, public, and higher education sectors. Several studies have identified intrinsic and extrinsic motivational factors as key determinants of knowledge sharing (Gagné et al., 2019; Hung et al., 2011; Razmerita et al., 2016; Rusu & Avasilcai, 2014). Meanwhile, other studies argue that intrinsic motivational factors offer a better means of motivation than extrinsic in terms of individual attitudes towards sharing knowledge (de Almeida et al., 2016; Jabbary & Madhoushi, 2014; Rusu & Avasilcai, 2014). However, a few studies investigate the effects of motivational factors on knowledge sharing in co-working spaces. Therefore, this study addresses the research gaps and proposes an integrated framework to preliminarily explore the motivational factors for knowledge sharing in the context of co-working spaces in Thailand.

Moreover, this comprehensive literature review highlights the following research gaps. This paper is based on the qualitative study of knowledge sharing from the perspective of management personnel in co-working spaces using their own experiences. Thus, the results presented in

this study offer guidance on how intrinsic and extrinsic motivation can be used to encourage all users of co-working spaces to participate in knowledge sharing activities in the future to benefit each other by improving their abilities and gaining access to business opportunities (Holienka & Racek, 2015). This leads to the rationale behind the research objective which is to preliminarily explore the motivational factors for knowledge sharing in co-working spaces to assist management personnel in developing strategies for knowledge sharing activities among members of co-working spaces.

Data analysis primarily involves a review of the intrinsic and extrinsic motivational factors since these from the key theoretical framework of this study. Moreover, such analysis is conducted in the context of public, private, and higher education sectors.

METHOD

This study applied a qualitative method to generate findings on motivational factors to support knowledge sharing in co-working spaces, from the perspective of management personnel from different sectors, age, and working experience. Purposive sampling was used as the basis for selection. Interviewees in this study consisted of management personnel from 19 co-working spaces in Thailand. Management personnel was selected because they understood the environment and activities of co-working spaces. Interview data sources were triangulated based on a discussion on the study context. Interviewees were selected across the private, public, and higher education sectors. Information on the interviewees is presented in Table 1.

The data was collected through in-depth interviews using semi-structured questions.

Table 1

Demographic characteristics of interviewees

Number Interviewee Code	Interviewee Code	Gender	Age (year)	Sector	Region	Working Experience in Co-Working Spaces (years)
1	CWSP1	Female	31-40	Private	Central	3
2	CWSP2	Male	31-40	Private	Central	3
3	CWSP3	Female	41-50	Private	Central	2
4	CWSP4	Female	31-40	Private	Central	3
5	CWSP5	Male	41-50	Private	Central	4
6	CWSP6	Male	41-50	Private	Central	3
7	CWSP7	Male	31-40	Private	Central	4
8	CWSP8	Female	31-40	Private	Central	4.5
9	CWSP9	Female	41-50	Private	Northern	6

Table 1 *(Continued)*

Number Interviewee Code	Interviewee Code	Gender	Age (year)	Sector	Region	Working Experience in Co-Working Spaces (years)
10	CWSP10	Male	41-50	Private	Northern	1
11	CWSP11	Female	51-60	Private	Southern	3
12	CWSP12	Male	31-40	Private	Southern	4
13	CWSG1	Male	41-50	Public	Central	1
14	CWSG2	Female	41-50	Public	Central	7
15	CWSG3	Male	41-50	Public	Eastern	6
16	CWSU1	Female	41-50	Higher Education	Northern	6
17	CWSU2	Male	41-50	Higher Education	North Eastern	3
18	CWSU3	Male	41-50	Higher Education	North Eastern	3
19	CWSU4	Male	51-60	Higher Education	Southern	4

Firstly, the researcher listed various co-working spaces used by the different sectors in Thailand. Invitations were then sent by email to administrators of 50 co-working spaces in Thailand, with positive responses received from management personnel of 19 co-working spaces. After making the necessary introductions, the researcher explained the study objectives. Interview guidelines were then sent to the 19 interviewees and appointments made for the interviews.

The interviews were either conducted face-to-face at the co-working spaces or over the telephone. Each interview took between 30 and 60 minutes and was recorded using audio recording software with the permission of the interviewees. Most of the interviews were conducted in Thai, with only one in English. At the beginning of the interview, the researcher explained the objectives of this study and assured each interviewee that any personal data would remain confidential. All interviewees subsequently confirmed their participation. The interview questions were designed to enable the researcher to gather data using the following five dimensions: 1) General information on the interviewees; 2) General information on the co-working spaces; 3) Motivational factors for supporting knowledge sharing in co-working spaces; 4) Knowledge sharing and activities in co-working spaces; 5) Potential action for promoting knowledge sharing in co-working spaces. A probing question was also included to obtain more detailed answers from the interviewees. The

researcher made notes and summarised the key points made by the interviewees.

Although this research is exploratory and conducted as a preliminary investigation with the use of qualitative data prior to quantitative data being applied in a subsequent study, the researchers relied on both deductive and inductive approaches. The categories and sub-categories were constructed according to intrinsic and extrinsic motivational factors for interview content analysis, guided by the findings of the literature review. On the other hand, the researcher also welcomes any factors emerging from the data collected in this study.

FINDINGS

The interview data is analysed using intrinsic and extrinsic motivational factors. Intrinsic motivational factors consist of four sub-categories: altruism, knowledge self-efficacy, self-interest, and job autonomy. Extrinsic motivational factors consist of five sub-categories: rewards, reputation, networking, environment, and reciprocity. Both types of motivation are considered to be key to knowledge sharing in co-working spaces. The findings are reported in Table 2.

The findings reveal that motivational factors support knowledge sharing in co-working spaces. The most significant motivational factor was found to be networking, based on the fact that all management personnel mentioned it as the key means of encouraging individuals to share knowledge in co-working spaces. After networking, environment, and self-interest were both found to be equally important. The least important motivation factor was job autonomy. None of the interviewees considered reputation to be a motivator for sharing knowledge in co-working spaces.

It is also crucial to consider the results according to sector categorisation. Interviewees from the private sector revealed that intrinsic motivational factors were more effective than extrinsic. They advised that self-interest was the main motivational factor for encouraging users to participate in knowledge sharing activities. Most of the public sector focused on extrinsic motivational factors rather than intrinsic. They stated that budgets were set to provide rewards such as financial incentives, training courses, or incubation programmes to attract individuals to participate in knowledge sharing activities. Representatives from the higher education sector also focused on extrinsic motivational factors rather than intrinsic. They stated that networking and career opportunities were offered to encourage individuals to participate in knowledge sharing activities.

Intrinsic Motivational Factors

The following findings arose from the interviews:

Altruism

Only three interviewees from the private sector mentioned altruism as a key motivational factor for enhancing knowledge sharing, with the following examples:

Table 2

Intrinsic and extrinsic motivational factors provided by management personnel of 19 co-working spaces in Thailand

No.	Interviewee Code	**Sector**	Intrinsic Motivation				Extrinsic Motivation				
			Altruism	Knowledge self-efficacy	Self-Interest	Job autonomy	Reward	Reputation	Networking	Environment	Reciprocity
1	CWSP1	P	x	x	x	x			x	x	x
2	CWSP2	P	x	x	x				x	x	
3	CWSP3	P			x				x	x	
4	CWSP4	P							x	x	
5	CWSP5	P		x	x				x	x	
6	CWSP6	P							x		
7	CWSP7	P							x	x	
8	CWSP8	P			x				x		
9	CWSP9	P	x			x			x	x	
10	CWSP10	P			x				x	x	
11	CWSP11	P			x				x	x	
12	CWSP12	P		x	x				x	x	
13	CWSG1	G			x		x		x	x	x
14	CWSG2	G		x			x		x		x
15	CWSG3	G		x	x		x		x	x	x
16	CWSU1	U		x	x		x		x		x
17	CWSU2	U		x					x		
18	CWSU3	U		x	x				x		
19	CWSU4	U		x	x				x		
			3	**10**	**13**	**2**	**4**	**0**	**19**	**13**	**4**

Note: * P = Private sector, G = Public and U = Higher Education

'Each member could ask other members about something he/she did not understand. That member would then enjoy helping and finding answers for the other person.' – CWSP1

'Our programme had been running for about six years and there were many start-up teams within the six batches. They had all been pleased to join the programme as mentors and share their knowledge with applicants in the current batch.' – CWSP2

Knowledge Self-Efficacy

The importance of knowledge self-efficacy was highlighted by most interviewees from the public and higher education sectors. Here are some examples:

'We selected participants who were experts in financial technology and business to join the competition. These experts were organised into teams under various criteria. Finally, they could share their knowledge with each member to brainstorm, develop a new product, and present the solution to use in the pitching round.' – CWSG1

'We were established more than five years ago and encouraged various partners to collaborate in supporting entrepreneurs or start-ups in the medical, digital, and food business. We developed a programme to nurture them through funding or coaching. Therefore, everyone could apply their knowledge and share it with others in the programme. This enhanced their performance and effectiveness. After finishing the programme, they could commercialise their own products or services to expand the business in the future.' – CWSU1

Self-Interest

Representatives from all sectors highlighted self-interest as an important intrinsic motivational factor for knowledge sharing in co-working spaces. Interviewees stated that:

'I had more than 20 years' experience in banking and was the CFO of a start-up company. I was also a specialist in financial technology. For this reason, many members asked me questions about start-up businesses or finance. I gave them some good suggestions that they could apply to their jobs or for developing new businesses in the future.' – CWSP5

'Many entrepreneurs were interested in aerospace and participated in our activities. The activities involved many interesting topics to which they could apply knowledge from their own businesses.' – CWSG3

'The younger generation could attend topics in which they were interested. They could then share the knowledge gained from that topic. Therefore, they aimed to develop their own businesses further or apply for interesting jobs in the future.' – CWSU3

Job Autonomy

Only two interviewees from the private sector highlighted the freedom of work as a factor for encouraging members to share knowledge among the community. The following is one such example:

'Most of our members have come from other countries to work in Chiang Mai,

Thailand, in the short term. Each member worked autonomously and took a hot desk as his/her workspace. This meant they did not know other members before they joined the community. However, they always helped or shared their knowledge with other members when receiving requests for help or were asked questions about work.' – CWSP9

Extrinsic Motivational Factors

Findings from the interviews are presented as follows:

Rewards

Only one interviewee from the public sector and one from the higher education sector focused on rewards as a means for encouraging individuals to share knowledge.

'We organised a competition on drone technology and invited entrepreneurs who were interested to participate in this activity. We also set up monetary rewards or training programmes to motivate participants. They would share their expertise with others and receive a reward if such knowledge was valuable and useful to society.' – CWSG3

Networking

All interviewees mentioned networking, making it the key motivational factor for knowledge sharing in co-working spaces. The following examples are from interviewees in all sectors:

'We had three co-working centres inside and outside the university, two of which were located at the student centre and the library in the university, with the third in the local community centre outside the university. We would set up the consulting centre and provide recommendations for businesses. It provided an opportunity for students and other people to participate in this activity. As a result of the consultation, businesses became more effective and some students had the chance to start their own businesses after graduating from university.' – CWSU2

'This co-working space was established to build an interior design studio and co-creation spaces in Bangkok. Most of our members were Chinese and Taiwanese companies. We also supported them in cooperating with Chinese and Taiwanese public companies. Additionally, we were a start-up hub, consisting of entrepreneurs, investors, and consultants as the biggest Taiwanese community in Thailand.' – CWSP6

'We always set up business nurturing programmes every year. Everyone is able to develop their ideas or current projects and then share and pitch them to the committee. Thus, if someone was selected by the committee then he/she could join the programme and benefit from networking by building relationships with participants, developing career opportunities, or business connections through this project.' – CWSG2

Environment

Thirteen interviewees recommended that all co-working spaces should promote the existence of a cooperative environment in order to encourage knowledge sharing among members. Here are some examples from interviewees in the private sector:

'We had a policy and setup environment in which members could share new ideas or knowledge with each other.' – CWSP2

'We had many kinds of digital nomads from overseas in our co-working space. Of course, they did not know each other. So, our team decided to set up an activity called a "power lunch", where we invited all members to have lunch together and helped them to get to know each other. They could build new relationships and share knowledge or business opportunities.' – CWSP9

'Our key partner was the Thailand Creative & Design Center, which was founded to integrate Thai society and culture with modern knowledge and technology. The space was designed to look like a modern library with many books and e-books. We had a book rental system to provide members with interesting books or e-books. Additionally, we had many exhibitions, talks, workshops, or activities which members could join. We motivated members to be creative learners and develop their own designs from our model. Ultimately, we hoped they could develop new ideas or businesses by sharing and exchange knowledge.' – CWSP3

Reciprocity

Four interviewees revealed that the benefit of knowledge exchange among members in a co-working space is a key determinant in influencing members to share knowledge. The following is an example provided by one interviewee from the public sector:

'We supported any start-up joining our programme. Start-ups could receive benefits such as promotion, training programmes, or mentoring. However, we had an agreement between us that members would share the profits on a project. That meant we obtained mutual benefit from the business.' – CWSG1

DISCUSSION

The primary objective of this study is to preliminarily explore the intrinsic and extrinsic motivational factors of knowledge sharing in co-working spaces. The findings of the qualitative study imply that most interviewees perceive the motivational factors as important determinants for knowledge sharing in co-working spaces.

The Effects of Intrinsic Motivational Factors on Knowledge Sharing in Co-Working Spaces

The findings of this study imply that most management personnel of co-working spaces try to find interesting topics and activities to encourage individuals to participate. Most participants have the freedom to ask questions or share ideas with each other during the activities. Hence, they can gain new knowledge and ideas for applying to their related jobs. This finding does not accord with those of Rusu and Avasilcai (2014), who recognised that self-determination was a driver for improving knowledge sharing in organisations, as well as improving work performance and enhancing organisational outcomes.

More than half of the management personnel in co-working spaces expressed that knowledge self-efficacy impacted upon the knowledge sharing intentions and attitudes of users. This finding is consistent

with that of Lin (2007) who argued that the association of knowledge self-efficacy and knowledge sharing was highly significant. However, only three interviewees from the private sector believed that individuals felt pleasure in sharing useful knowledge, thus helping others to become more motivated in sharing knowledge. This finding is also reported by Lin (2007), who found that altruism positively affected employee attitudes towards knowledge sharing.

Moreover, various members working autonomously in these co-working spaces are unlikely to share anything with other workers. Only two interviewees from the private sector stated that the job autonomy of each user motivated them to share knowledge in co-working spaces. However, this result does not match the findings of Foss et al. (2010), in that employees were not happy with the availability of job autonomy, task identity, and feedback within their organisation.

The Effects of Extrinsic Motivational Factors on Knowledge Sharing in Co-Working Spaces

Regarding extrinsic motivational factors, all interviewees mentioned that networking was the most important for influencing knowledge sharing in co-working spaces. This suggests that members of these communities pursue a wide variety of careers and are likely to include students, freelancers, SMEs and start-ups, and such a variation is a good reason for building relationships with others. Moreover, all managers aimed to build networks and collaboration among members in the co-working space. The managers stated that they organise numerous unofficial activities such as beer parties, pizza parties, or trips to encourage users to get to know each other and improve their relationships. This finding is consistent with the research by Yang and Chen (2007), who found that collaboration and relationship building increased the willingness of individuals to share knowledge.

The finding regarding the environment does not accord with the results of Bock et al. (2005). They argued that the environment was not an important determinant of employee knowledge sharing in an organisation.

Regarding reciprocity, this finding aligns with that of Hung et al. (2011), who found that reciprocity was a key component, leading individuals to create new knowledge and ideas based on the knowledge shared by peers. Moreover, Lin (2007) indicated that reciprocity could affect knowledge sharing and result in long-term collaboration among employees in an organisation. However, reciprocity is not considered to be highly effective, given only four interviewees stated that it was a motivational factor for encouraging individuals to share their knowledge with others in the co-working spaces.

In terms of reward, the results of this study indicate that fewer management personnel agree that rewards should be used as a means of motivating workers to share knowledge in co-working spaces. Lin (2007) explained that organisational rewards such

as financial benefits or job security might not motivate employees to share knowledge within an organisation.

Reputation has no significant influence on knowledge sharing, which is in contrast to the findings of Wasko and Faraj (2005), who suggested that reputation could have a positive effect on an individual's intention to share knowledge within their community.

The Effects of Motivational Factors on Knowledge Sharing in Co-Working Spaces in Terms of Sector

Although the motivational factors for knowledge sharing in co-working spaces are significant, this study also reveals that they differ in importance according to the sector.

Management personnel from the higher education sector focused on extrinsic motivational factors rather than intrinsic. The findings of this study are in accord with those of Mansor et al. (2015) and Saad (2013), who explained that the environment, rewards, networking, and reciprocity could encourage individuals to share knowledge in the context of the higher education sector. None of the interviewees mentioned reputation as a determinant of knowledge sharing, in contrast to the study by Cheng et al. (2009). Some of the findings in their study showed that academicians wished to gain the reputation of being an expert in a specific knowledge domain.

Based on the public sector, most interviewees placed greater importance on extrinsic motivational factors than intrinsic. The majority of findings do not concur with those of Chen and Hsieh (2015) and Olatokun and Nwafor (2012) who demonstrated that knowledge self-efficacy and altruism received more support than organisational rewards for knowledge sharing in public organisations.

The findings from the private sector indicate that intrinsic motivational factors are more effective than extrinsic for knowledge sharing in co-working spaces. This finding concurs with the research by Lin (2007), in that altruism and knowledge self-efficacy were found to have a greater influence on knowledge sharing than rewards in terms of private organisations.

From the discussion, it is evident that most findings concur with those in the existing literature. However, this study contributes new and significant findings concerning the motivational factors affecting knowledge sharing in the context of co-working spaces. The emerging factor in this study is self-interest which is important for encouraging individuals to share knowledge in co-working spaces.

Practical Implications

Certain practical implications arise from the above discussion. Furthermore, this study reveals that knowledge sharing is useful for individual members, teams, and management personnel in co-working spaces. Accordingly, management personnel should aim to change their goals to motivate members to engage in knowledge sharing activities. Firstly, networking should be a part of creating a knowledge sharing culture to foster the relationship and interpersonal interactions of individuals in co-working

spaces. For all sectors, co-working spaces should have community managers who understand and stimulate users to engage with each other. Moreover, most users are likely to gain new experiences or information from knowledge sharing among members in co-working spaces. However, they can also experience personal satisfaction from networking and sharing knowledge with the community in the co-working space. Secondly, management personnel should set up an appropriate environment in the co-working space by giving individuals a sense of freedom and readiness to help others. Hence, the environment has a positive psychological impact by encouraging individuals to participate in knowledge sharing activities in co-working spaces. Finally, management personnel should develop knowledge sharing strategies in terms of individual interests to motivate individuals to join in knowledge sharing activities with other members in the co-working space.

CONCLUSION

The primary objective of this study was to use a qualitative approach to explore the intrinsic and extrinsic motivational factors for knowledge sharing in co-working spaces in Thailand from the perspective of different management personnel.

The findings of this study support the idea that many aspects of motivation encourage users to share their knowledge in co-working spaces. The main contribution highlights that management personnel is more likely to use extrinsic motivational techniques to encourage members to share their knowledge than intrinsic motivational methods. Additionally, the most significant motivational factor influencing knowledge sharing in co-working spaces is networking.

Based on the sector aspect of co-working spaces, the private sector tends to attribute more importance to intrinsic motivational factors than extrinsic. On the other hand, interviewees from both the public and higher education sectors suggested that extrinsic motivational factors are more effective than intrinsic.

However, there are several limitations to this study that require further research. Firstly, the sample was drawn from co-working spaces in Thailand. Therefore, a study on other countries may produce alternative results, given that different cultures in co-working spaces tend to influence knowledge sharing among users. Secondly, the interviewees in this study were management personnel from 19 co-working spaces. Additional research should be conducted on users of co-working spaces to highlight what they believe would motivate them to share knowledge.

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