

An International Perspective on Knowledge Management in SMEs: Implementation and Barriers to Success

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Abstract: Knowledge Management provides the potential for organisations to improve their productivity and efficiency. Many existing studies of Knowledge Management focus on large organisations whilst significantly less consider Knowledge Management in SMEs. Studies which draw global comparisons of Knowledge Management in SME's are particularly rare. Therefore, the aim of this study is to identify and investigate similarities and differences in the current Knowledge Management Practices in SMEs in UK and Thailand within the manufacturing sector. A survey in the form of questionnaires was distributed to SMEs in the manufacturing Sector in Thailand and the United Kingdom via online survey software Qualtrics or paper based version depending on the participants' preference. In total there were 384 respondents from 36 manufacturing SME's across Thailand and the UK. Responses are from a range of business sectors including automotive, aerospace, packaging, food and beverages etc. The results shows that 78.1 percent of employees in Thai SMEs consider their organisation to have a formal Knowledge Management approach whilst less than half of UK employees consider this to be the case. Findings show similarities between UK and Thai SME's in terms of the biggest barrier of capturing knowledge, sharing knowledge and storage - these being lack of clear guidelines on the Knowledge Management approach and capturing knowledge and lack of time in both sharing and storing knowledge. One difference identified in barriers to Knowledge Management between the two countries is that in Thailand the biggest cultural barrier to knowledge sharing is extra workload whilst for the UK this is lack of awareness of other people's needs and requirements. Overall, this paper presents barriers to Knowledge Management in SMEs and considers the global perspective by highlighting similarities and differences between the UK and Thailand. By understanding these barriers, and transferring lessons internationally SMEs can work towards solutions to improve the performance of Knowledge Management activities in their organisation to achieve improved overall company efficiency. These results are part of wider study which aims to share best practice between the United Kingdom and Thailand through carrying out in depth case studies.

Keywords: knowledge management (KM), small and medium enterprises (SMEs), manufacturing, Thailand, The United Kingdom (UK)

1. Introduction

1.1 Knowledge management

Knowledge Management has become a very important topic in both business and academic field in recent years. The definition of Knowledge Management varies widely depending on perspectives such as business, intellectual and knowledge science etc. The business dictionary defines knowledge Management as "strategies and processes designed to identify, capture, structure, value, leverage, and share an organization's intellectual assets to enhance its performance and competitiveness. It is based on two critical activities: (1) capture and documentation of individual explicit and tacit knowledge, and (2) its dissemination within the organization". Dalkir (2011) mentioned Rigby's definition on the intellectual perspective, Knowledge Management can be defined as developing systems and processes to acquire and share intellectual assets. It improves the generation of useful, actionable and meaningful information and seeks to increase both individual and team learning in the organisation. However, the most simple and common definition is the awareness of getting the right knowledge to the right people at the right time to improve the organisation (Seng et al, 2002). This definition is adopted in this study.

In general, Knowledge Management is applied to various extents within organisations regardless of the existence of a formal approach or system. This is especially true in SMEs. Capturing, sharing and storing knowledge is typically part of everyday life in SMEs although employees do not recognise that they are engaging with Knowledge Management (Hutchinson and Quintas, 2008). At present, successful Knowledge Management offers many potential benefits to organisations such as better quality decision-making, improving overall organisational efficiency, improving the quality of product/ service, reducing process lead-time and operational costs, improved competitiveness in the market (Siddique, 2012). Edvardsonn and Durst (2013) claimed that SMEs can benefit from Knowledge Management as well such as improved process, employee development and

customer satisfaction which is really importance for SMEs because SMEs are mostly operate depend on customer needed.

1.2 Small and medium enterprise (SME's) in manufacturing sector in UK and Thailand

The definition of UK and Thai SMEs is summarized in Table 1a and 1b as below. The number of employees, annual turnover and annual balance sheet are considered as a criteria for UK SMEs. Whereas, number of employee and fixed asset are the criteria used for Thai SMEs. The only difference in terms of headcount for SMEs in UK and Thailand are for medium-sized companies where the largest number employees to qualify is 250 for UK and only 200 staff for Thailand.

Table 1a: Definition of SMEs in UK (European commission, 2005)

Enterprise category	Headcount	Annual Turnover	Annual Balance sheet
Micro-sized	less than 10	less than €2 million	less than €2 million
Small-sized	less than 50	less than €10 million	less than €10 million
Medium-sized	less than 250	less than €50 million	less than €43 million

Table 1b: Definition of SMEs in Thailand (Ministry of Industry, 2002)

Industry Sector	Small Business		Medium Business	
	Number of Employees	Fixed Asset (Million THB)	Number of Employees	Fixed Asset (Million THB)
Manufacturing	Less than 50	Less than 50	51 - 200	50 - 200
Service	Less than 50	Less than 50	51 - 200	50 - 200
Wholesale	Less than 25	Less than 50	26 – 50	50 - 100
Retail	Less than 15	Less than 50	16 – 30	30 - 60

Small and Medium Enterprises (SMEs) play an important role in the most economies, especially in developing countries. SMEs account approximately 45% of employment rate and 33% of national income (GDP) in emerging economies. As stated by the latest Thai SME's white paper report (2015), Thai SME's account for 80% of overall employment in Thailand and 67.4% of the overall manufacturing employment rate is employ under SMEs manufacturing. Likewise, UK SMEs accounted for 60% of all employment in the private sector with 47% on turnover rate and manufacturing SMEs account for 10% in terms of employment and turnover rate.

It is clearly to say that, SMEs has a potential outcome in improving global economy. However, the previous study in Knowledge Management in SMEs still particularly rare. Therefore, this study is aim for investigating of current practice of Knowledge Management in SMEs in manufacturing in UK and Thailand. Then, by understanding of this, lesson-learnt will be develop to benefit for SMEs in manufacturing in 2 countries to be able survive in compete global market.

2. Literature review

This section will cover a brief overview of literature relevant to this paper focusing on studies of Knowledge Management in SME's, Knowledge Management in SME's across different countries.

Knowledge Management allows SME's to store, analyse, interpret, share and reuse the knowledge within organisation as part of their daily activity (Saini, 2013) which in turn could help SME's to improve their organisational performance. However, there are still some challenges for SMEs. A classic example is how to transfer tacit to explicit knowledge. This is so important because tacit knowledge is usually held by an experienced person and it can be challenging to articulate, capture and share. This can lead to knowledge just disappearing when one key person leaves the company. Investment is another key barrier to SME's implementing Knowledge Management.

A systematic literature review approach was selected to investigate current Knowledge Management in SMEs in UK and Thai SMEs in the manufacturing sector. A number of keywords were carefully selected to identify related research in the Proquest database. The selected keywords were Knowledge Management, KM, Small and Medium Enterprise, small and medium firm, SMEs, compare, comparative and comparison. In total 214 publications were identified. However, once abstracts were reviewed, it was found that 6 publications were related to Knowledge Management in SMEs. However, none focus on a comparison between different countries.

So this is confirmed that there is lack of research on Knowledge Management in SMEs which draws comparisons between countries. Massaro et al conducted a literature review of the 10 most important journals of Knowledge Management and found that only few studies out of 79 papers focus on comparative analysis between countries with limitation only in the important developed country (e.g. USA, Canada and European countries) (2016). It is also difficult to make comparison as the definition of SMEs is difference in some locations and industries.

As the comparative analysis research of Knowledge Management in SMEs is an area lacking investigation, this study focusses on the comparison study between UK and Thai SMEs as a representative of western vs eastern countries and developed v's developing countries. In order to facilitate accurate comparisons in term of the definition of SMEs, this study focusses specifically on the manufacturing sector where the size of enterprise and number of employee is quite similar between the UK and Thailand.

A summary of the finding of these six papers which focus on the study of Knowledge Management and SMEs can be found in table 2.

Table 2: Summary of literature review

Item	Authors	Title	Year	Main Finding
1	Burke, M.E.	Knowledge sharing in emerging economies.	2011	Freely sharing information is one of the new factors in Eastern Europe. The research aims to investigate the barrier in sharing knowledge/ information in SMEs. The paper is focusing on Hungary SMEs and found out that there is a need to increasing on training. In order to success in business, a clear dynamism, passion and motivation are needed for Knowledge sharing in SMEs.
2	Cerchione, R. R., Esposito, E. and Spadaro, M.	The spread of knowledge management in SMEs: A scenario in evolution	2015	The paper presents that although commonly SMEs are poor financial and human resource but currently technological innovation is cheaper and user friendly so SMEs can overcome this problem. Therefore, the accessible of Knowledge Management system in SMEs is increasing and able to contribute overall growth of their performance.
3	Maguire, S. , Koh, S.C.L. and Magrys, A.	The adoption of e-business and knowledge Management in SMEs.	2007	The paper suggested in order to manage Knowledge Management in SMEs to achieve the company goal, SMEs need support in Knowledge Management in several aspects such as education, training, developing the tools and methods of Knowledge Management.
4	Massaro, M., Handley, K., Bagnoli, C. and Dumay, J.	Knowledge management in small and medium enterprises: A structured literature review.	2016	The literature review study shows several suggestion practitioners and policy makers. Several variables have the impact on Knowledge Management should be consider by manager, for instance, human factor (ex. personal motivation, ambition and individual barrier) and organizational factor (i.e. management support, organizational culture and internal resource. Moreover, tool to support social interaction is considered as a key element that effect the Knowledge Management.
5	McAdam, R. and Reid, R.	SME and large organisation perceptions of knowledge management: Comparisons and contrasts.	2001	The paper is compares on Knowledge Management in SMEs and large organisation. The results show that understanding of Knowledge Management and implementation of Knowledge Management in large organisation are recognised in term of scientific and social element while Knowledge Management in SMEs sector is less advanced on systematic and lack of investment in Knowledge Management. Also, lack of resource for strategic business improvement plan is an issue in SMEs.
6	Sparrow, J.	Classification of different knowledge management development approaches of SMEs.	2005	There is evidence that SMEs face difference challenges to the large organisation. This study investigate Knowledge Management in different group of SMEs 1. "Unengaged business" 2. "comprehensive Knowledge Management businesses" 3. "knowledge-ownership oriented bossiness" 4. "learning and co-production oriented businesses". This study found out that difference groups access Knowledge

Item	Authors	Title	Year	Main Finding
				Management in difference way such as unengaged businesses group is more likely less access / attempt in their Knowledge Management approach whereas the "learning and co-production oriented businesses" group that appreciate of their knowledge and feel able to secure business from their knowledge and so on.

3. Research methodology

A survey in the form of a questionnaire was developed and used in this study. A survey approach was selected because it is ideal for online implementation and is an appropriate tool for addressing multiple topics and drawing clear comparisons (Nardi, 2014). Surveys are also low cost in terms of time and budget (Gillham, 2008). An online questionnaire was used in this study for convenience of distribution to 2 difference locations.

The aim of the questionnaire is to investigate the similarities and differences in current Knowledge Management Practice in UK and Thai SMEs in manufacturing sector. The guidelines recommended by Sommer, R. and Sommer, B. (2002) and Gillham (2008) were used as to develop this questionnaire. A pilot test was then adopted to make sure the questionnaire is understandable and interpreted correctly. Once the questionnaire was improved based on the feedback, it were translated in to Thai using back translation to make sure that both the English and Thai version are accurate.

The questionnaire was distributed to UK and Thai SMEs involved in the manufacturing industry during July 2015-September 2016. In order to reach all SME's both online and paper base versions were made available (Postage and hand delivered) in both English and Thai language. The online version is available at: https://stratheng.eu.qualtrics.com/jfe/form/SV_baAzjC102IS8BYp. The total responses was 384 questionnaires from 36 SMEs in UK and Thailand (16 UK SMEs and 20 Thai SMEs). The responses cover a range of various business sectors including automotive, aerospace, packaging and food and beverage. A cross-section of employee roles was captured from each company i.e. management, operational and administration. More details are provided in Table 3 and Figure 1a and ab.

The questionnaire is divided into 3 parts with 31 questions. Part 1 captures general information about the company (7 questions). Part 2 investigates current practices in Knowledge Management and is separated into 3 key themes; capturing knowledge, sharing knowledge and storing knowledge. Finally, part 3 allows participants to make recommendations and suggestions on current knowledge management in their organisation.

4. Finding and analysis

Section 4 presents the data gathered from the questionnaire. General information about the participants was captured in the first part of the questionnaire such as actual company name (which have been removed), size of SMEs, number of employee and location, etc. In total 36 SMEs participated from various business sectors (16 UK SMEs and 20 Thai SMEs) Table 3 presents participants business sector and size of company.

Table 3: Participant details

Business Sector	Number of UK SMEs	Number of Thai SMEs
Automotive	-	4
Electronic Device	1	4
Material and Machinery	7	4
Packaging	-	6
Aerospace	1	-
Food and Beverage	-	1
Other	7	1
Total	16	20
Size	Number of UK SMEs	Number of Thai SMEs
Small	13	8
Medium	3	12
Total	16	20

Figure 1a and 1b shows the roles of respondents within each organisation. Total number of respondents are 384 employees (63 respondents from UK SMEs and 311 Respondents from Thai SMEs). It can be seen that a spectrum

of employee roles were accounted for across participants, for example senior manager, supervisor and administrator etc.

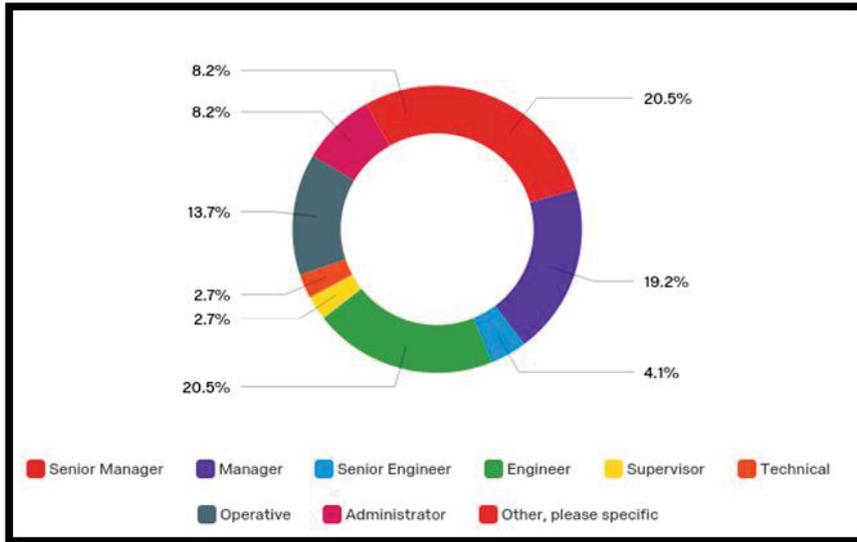


Figure 1a: Organisational roles of the respondents in UK SMEs

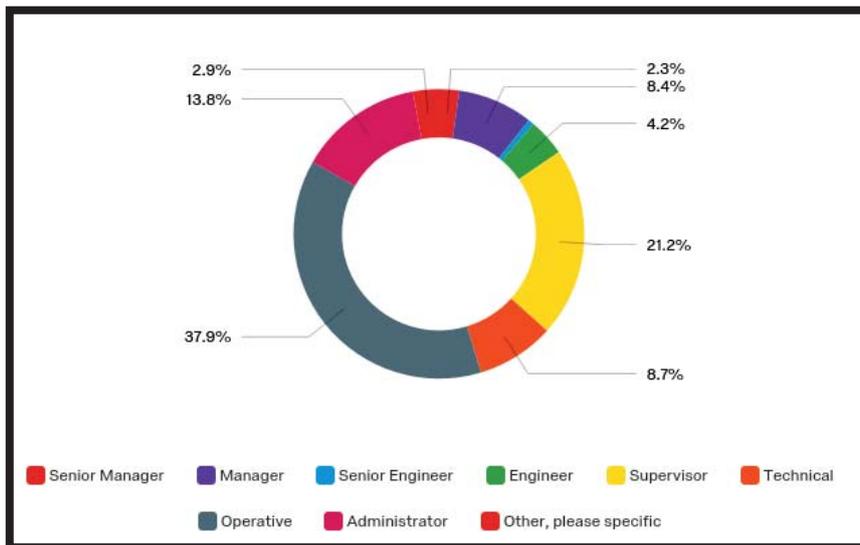


Figure 1b: Organisational roles of the respondents in Thai SMEs

Figure 2 represents how employees consider the status of Knowledge Management in their organisation. It clearly shows that almost 80% of Thai employee consider that there is formal Knowledge Management in their organisation which is almost double the number of UK staff who responded that their organisation had a formal Knowledge Management.

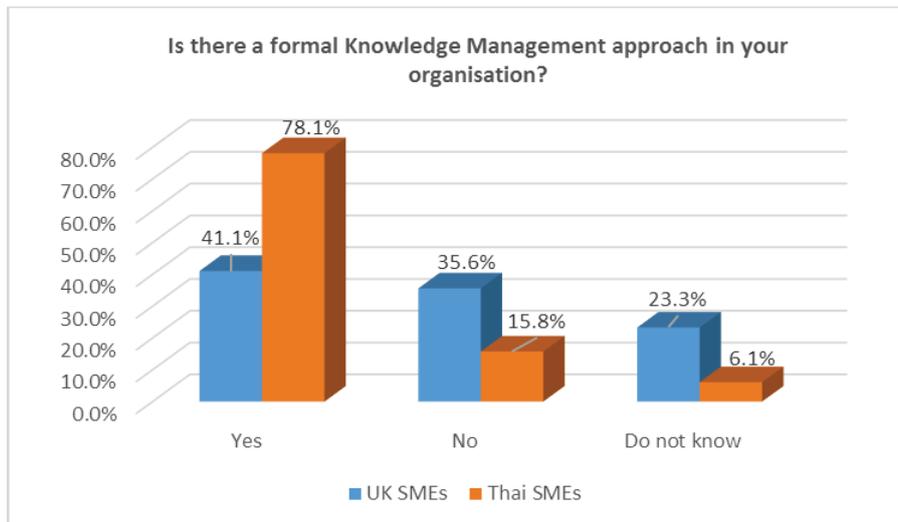


Figure 2: Knowledge management approach in organisation

Table 4 below shows employee perception of how organisations encourage Knowledge Management activities. It is clear from the responses that both UK and Thai SMEs in the manufacturing sector are encouraging their employees to participate in all aspects of Knowledge Management including capturing, sharing and storing knowledge. Results show that sharing knowledge is encouraged slightly more than other Knowledge Management activities in both countries which - 73% in UK SMEs and 70 % in Thai SMEs.

Table 4: Employees perceptions of organisational encouragement of knowledge management activities in UK and Thai SMEs

	Answer	UK SMEs	Thai SMEs
Does your organisation encourage employees to participate in Capturing Knowledge?	Yes	68%	66%
	No	32%	34%
Does your organisation encourage employees to participate in sharing knowledge?	Yes	73%	70%
	No	27%	30%
Does your organisation encourage employees to participate in storing knowledge?	Yes	67%	62%
	No	33%	38%

Table 5 shows the frequency of sharing knowledge among company employees i.e. colleagues and external organisations i.e. sharing with customers or suppliers, etc. It is seen from the results that sharing knowledge in UK SMEs occurs on a day to day basis with 61% of employees sharing their knowledge within their organisation on a daily basis. This demonstrates a clear difference from Thai employees with the percentage sharing knowledge on daily basis and once a week being approximately the same at just over 30 %. It is also highlights that Thai employees are more likely to share their knowledge by conversation/ verbally both internal and external to their organisation. While UK staff are more likely to share their knowledge externally via e-mail. Paper based documents are a popular way to share knowledge in Thai SMEs but not for the UK SME's.

Figure 3 illustrates the barriers to Knowledge Management activities in UK and Thai SMEs from the employee's viewpoint. Figure 3 illustrates that the biggest barrier to capturing knowledge in UK and Thai SMEs are similar which is lack of clear guideline on Knowledge Management approach. However, the biggest cultural barrier to sharing knowledge is totally different between both countries with 38% of UK employees highlighting lack of awareness of other people needs/ requirement as the biggest barrier. Whilst knowledge sharing being extra workload is the biggest barrier for Thai SME's. Similarities between UK and Thai responses are that the biggest practical barrier for both countries sharing and storing knowledge are lack of time.

Table 5: The comparison of frequency with which knowledge is shared and how it is shared in small and medium sized firms

	UK SMEs	Thai SMEs
Frequency of sharing knowledge within organization	Daily 61%	Daily 34%
	Once a week 16%	Once a week 32%
	Once a month 11%	Once a month 17%
Frequency of sharing knowledge outside organisation	Daily 41%	Daily 26%
	Never 18%	Once a Week 21%
	Less than once a month 15%	Once a month 21%
Top 3 of how knowledge is shared within organisation	Conversation / verbally	Conversation / verbally
	E-mail	Paper based document
	Informal meeting	Formal meeting
Top 3 of how knowledge is shared outside organisation	E-mail	Conversation / verbally
	Conversation / verbally	E-mail
	Formal meeting	Paper based document

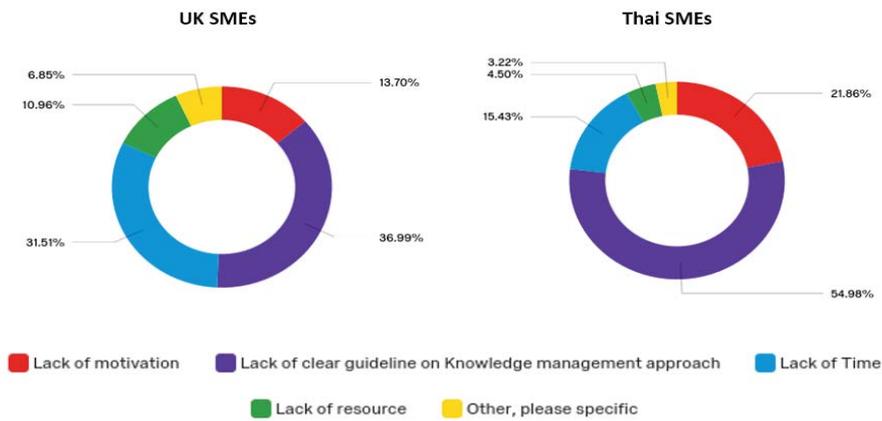


Figure 3: The biggest barrier to capturing knowledge

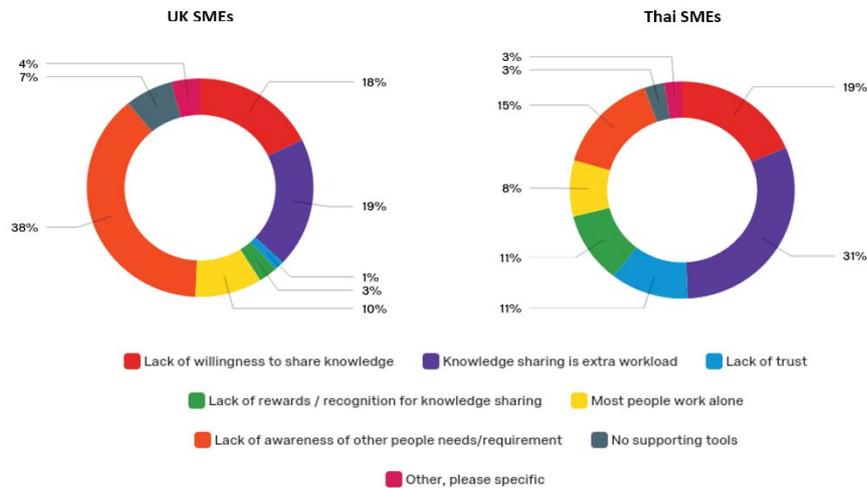


Figure 4: The biggest cultural barrier to sharing knowledge

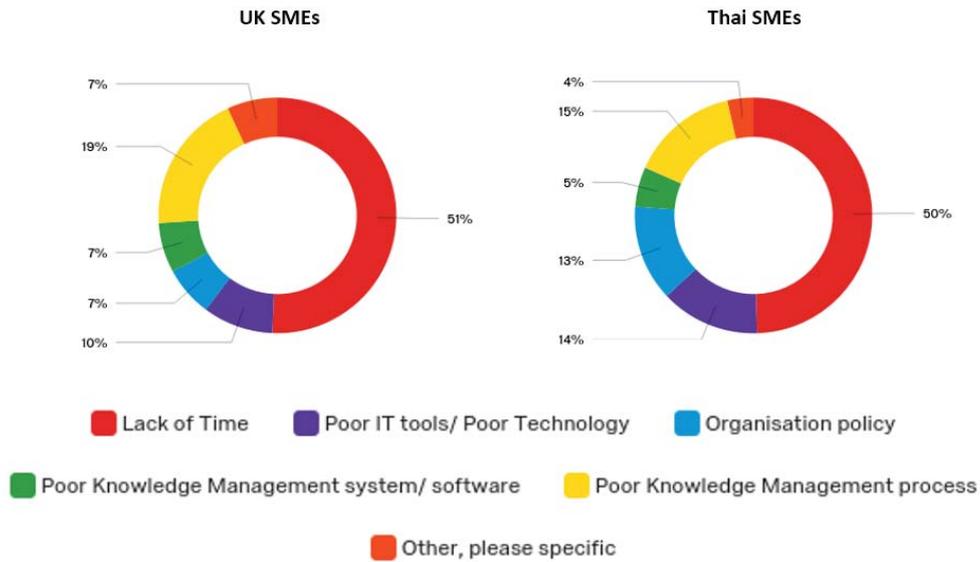


Figure 5: The biggest practical barrier to sharing knowledge

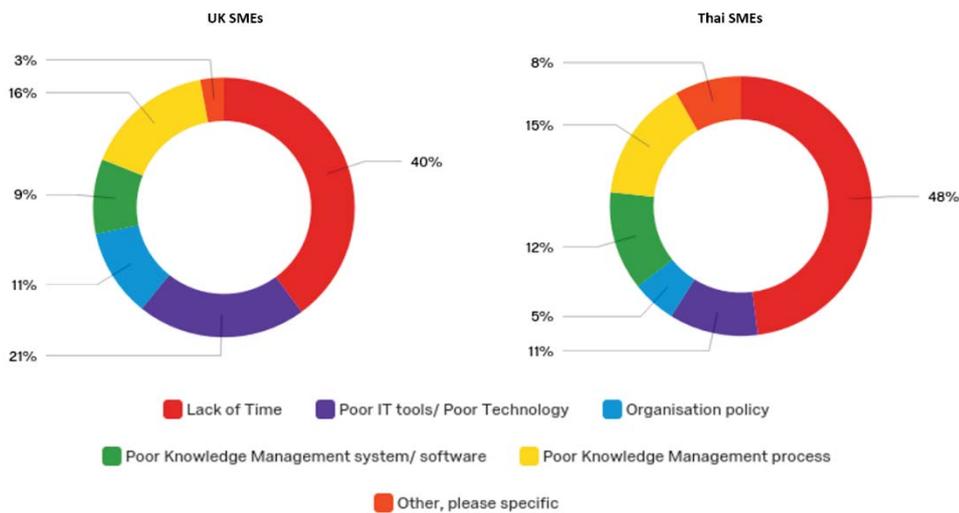


Figure 6: The biggest practical barrier to storing knowledge

5. Discussion and conclusion

This section will discuss the findings from the survey. First of all, this study shows that formal Knowledge Management approach is more widespread in Thai SMEs in manufacturing sector than the UK. Figure 2 illustrates that almost 80% of Thai employee consider there is formal Knowledge Management approach in their organisation. This is such a significant difference from UK employee’s viewpoint that only 41% consider this to be a case. Generally, both UK and Thai staff feel that they are encouraged by their company to participate in every aspect of Knowledge Management; capturing, sharing and storing knowledge which is more than 60% in each activity (table 4). Moreover, UK employees perceive that they are more encouraged by the company to participate than Thai employees in all activities. At this point, SMEs in the UK manufacturing sector have the potential to benefit from learning how Thai SMEs implement Knowledge Management in their organisation. While Thai SMEs could learn how UK organisations encourage their staff to participate in Knowledge Management activities. Potentially both UK and Thai SME’s will be benefit from this study.

From table 5, there are some differences in the frequency of sharing knowledge among employee. The highest frequency of sharing knowledge in UK SMEs in the manufacturing sector is daily (61%), following by once a week

(16%) and once a month (11%). Whereas the frequency of sharing knowledge in most Thai SMEs employees is daily and once a week (34% and 32%, respectively). Furthermore, the frequency of sharing knowledge with outside organisations is daily in both UK and Thai companies (41% and 26%, respectively). However, almost 20% of UK SMEs report that they never share their knowledge with external organisations. This could be because many SMEs are family-oriented. They do not want to share their knowledge to someone else and they do not believe in the benefit of sharing knowledge. This is close to previous study that the owner of SMEs controlled organisation knowledge and share only necessary knowledge to undertake their roles (Wee and Chua, 2013). Additionally, this may be linked to the fact that Knowledge Management is less widespread in UK SMEs.

Furthermore, the most common way that employees is sharing knowledge within organisations for both UK and Thai Manufacturing SMEs is via conversation/ verbally followed by e-mail and informal meeting whereas paper based document and formal meeting is the case for Thai SMEs. This could be a reflection on limited IT access for developing countries which also evident in the way that Thai and UK companies responded to questionnaire. All Thai SMEs responded to the paper based version of the questionnaire with only few UK companies preferring this method.

The barriers to Knowledge Management activities such as capturing, sharing and storing knowledge is also investigated in this study shown in (Figures 3-6). Similarities exist in the biggest barrier to Knowledge Management in UK and Thai SMEs in capturing, sharing and storing knowledge. Lack of clear guidelines on Knowledge Management approach (37% in UK SMEs and 55% in Thai SMEs) is an issue for capturing knowledge while lack of time is an issue for both sharing knowledge and storing knowledge. However, there is a difference in the biggest cultural barrier to sharing knowledge among UK and Thai manufacturing SMEs is lack of awareness for other people's needs/ requirement at 38.4% for UK SMEs while knowledge sharing creating an extra workload is an issue for manufacturing in Thailand (30.6%). The cultural barriers include lack of trust, lack of willingness to share, lack of awareness for other people needs/ requirement, knowledge sharing is extra workload and so on. This does not include policy, all IT issue and procedure etc. This may be attributed to a difference of cultures, willingness to help others and patience.

This paper is a part of wider study and based on questionnaire results gathered information within UK and Thai SMEs in manufacturing sector. The further statistical analysis will be carry on as well as the depth investigation case study to get better understanding of Knowledge Management approach in this 2 countries SMEs. Lesson learnt between UK and Thailand will be carried on to help SMEs to improve their performance and able to compete in global market.

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