Knowledge Management in Southeast Asia Countries Company

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Notes	ABSTRACT
  	Knowing the connection between company's success factor from knowledge management will be a great finding for other companies. The purpose of this research is to analyze how companies implement Knowledge Management (KM) based on the four KM lifecycles by Bukowitz and Williams The data comes from any scientific paper about the implementation of KM in companies in Southeast Asia from 2016 until 2022. This research utilized Systematic Literature Review (SLR) based on the PICOC methodology. This systematic literature review observes and identifies the KM implementation through the KM lifecycle. KM lifecycle consists of four cycles: get, use, learn, and contribute. The get stage consists of three main modes of implementation: company ways of seeking information to decide, company ways of seeking information to solve a problem, and company ways of seeking information to innovate. The use stage consists of two main modes of implementation: company ways of combining information in new/different ways and company ways of combining information in exciting practices. The learning stage consists of one primary mode of implementation: company ways of learning from experiences to create a competitive gain. The contribute stage consists of one primary mode of implementation: employee ways of dispatching their knowledge to the communal knowledge base. **Keywords:** Knowledge management; Infomation management

1. INTRODUCTION

Southeast Asia, a region with the majority of emerging nations, is intensively working to expand its economy and industries. The company's position (private sector) as a business organization is required to compete in finding the latest breakthroughs and innovations to survive in this competitive environment. An introduction to the Australian government's Gross Domestic Product (GDP) survey stated that companies are the main engine of the country's economic growth. Businesspeople from successful companies can grow, provide jobs, and then can

provide tax revenue so that they become investments in a country (Commonwealth of Australia, 2017).

Innovation is possible dependent on the professionalism of the company's human resources. A company's ability to perform its work effectively can be largely attributed to its quality human resources, but when these resources are combined with a positive atmosphere at work, various solutions to business challenges might emerge. Knowledge management (KM) is one of the corporate work environments that encourages employee innovation. The knowledge transfer process is a common name for knowledge management in businesses. Companies commonly carry out this activity as part of the company's employee management. In the past research by Maalaoui et al. (2020) proved that the inefficiency of KM itself is causing poor growth in new social ventures of a company. A well-identified KM lifecycle or process will help the company's management (Maalaoui et al., 2020). Therefore, examining KM by finding the most critical aspect is crucial. Another paper by Saratchandra and Shrestra (2021) stated that cloud-based KM systems (C-KMS) as the tools for succeeding in the implementation of KM do not work in a small company. It indicates the flexibility of KM implementation based on each company's characteristics, geography, and even the culture attached (Saratchandra & Shrestha, 2022). That research shows the importance of KM in company but not yet stated which part of KM will be the key to success in operating a company.
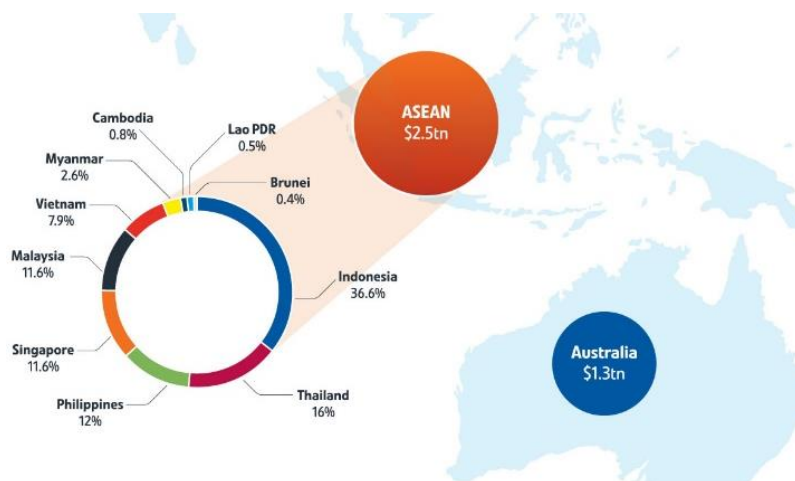

Figure 1: ASEAN GDP compared to significant economies in the region in 2017
Source: IMF World Economic Outlook database GDP of ASEAN April 2017

The results of a survey by the International Monetary Fund (IMF) in 2017 showed that the GDP of countries in Southeast Asia had reached 2.5 trillion US dollars, which is twice the GDP of the Australian continent, which is 1.3 trillion US dollars. Furthermore, a survey from the Asia Development Bank shows that the GDP of the Southeast Asia region is still stable at 5.2% (2022), even though it was negative at the start of the COVID-19 pandemic, namely -2.0% (2020). The two survey results show that companies in the Southeast Asian region have managed to survive and continue to strive to generate high profits. Therefore, the Southeast Asia region is quite interesting for many researchers to find out the application of knowledge management in companies, especially in 2016-2022. Economic projections at the World Economic Outlook conference by the IMF in 2017 stated that inflation would decline further in advanced economies, so economic growth was very high from 2016 until before the COVID-

19 pandemic in 2020. Southeast Asia's GDP, which is still stable, indicates that companies in this region continue to grow, strive to develop, and progress.

Since businesses in Southeast Asia strive to produce ever-increasing profits, this implies the use of knowledge management in a very effective and efficient manner. KM enables organizations to identify, capture, and effectively leverage collective knowledge in a company (Agrifoglio, 2015). KM also contributes toward Sustainable Developments Goals (SDGs) No. 9 *"Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation,"* especially fostering innovation in the organizations. Employees then use the knowledge management to finish tasks. Notably, top management in the company uses the knowledge for decision-making and produces inclusive policy. The collective knowledge captured during a lifecycle which in a model by Bukowitz and William (1999) named as KM lifecycle (Bartlett, 2021).

Another research about KM in the company, as conducted by Sensuse et al. (2018), shows that the most widely used KM success model dimension for implementing KM is organizational culture and personal culture dimensions. This dimension was the sub-variable of the capturing process in the KM lifecycle, which was interesting because the industries from Southeast Asia region have their culture uniqueness than others (Sensuse et al., 2018). Companies in Southeast Asia were able to maintain their production by stabilizing the GDP per region during the COVID-19 outbreak. Knowing the connection between company's success factor from KM will be a great finding for another company's R&D (research and development) to implement KM in their company. Thus, this research aims to analyze how companies in Southeast Asia implement KM based on the four KM lifecycle by Bukowitz and Williams (1999). The data comes from any scientific paper about the implementation of KM in company in Southeast Asia during 2016 until 2022.

2. METHODS

This research utilized Systematic Literature Review (SLR) based on the PICOC methodology. A systematic literature review identifies, selects, and critically appraises research to answer a clearly formulated question (Dewey & Drahota, 2016). Thus, the systematic review should follow a well-defined protocol or plan where the criteria are clearly stated before the review is conducted (Dewey & Drahota, 2016). This study used the PICOC method to conduct the literature review. PICOC method has been suggested to get the focus right (Petticrew & Roberts, 2006; Sabharwal & Miah, 2022). The steps for reviewing literature are as follows,

- Planning the review; specifying the database, classifying the research articles using keywords, designating inclusion and exclusion criteria

- Conducting the review; identify KM lifecycle implementation in the company

- Reporting the review; demonstration of findings and using data visualization tools to report findings

The inclusion criteria from this method are research articles that have domain about KM implementation in Southeast Asia's companies, and KM essential process held in the company toward the KM lifecycle. The search was limited to English full-text articles published from 2016 to present. Non-English language, duplicate articles, and no full-text articles will be considered as the exclusion criteria. Papers with case studies outside Southeast Asia countries also will be excluded.

Meanwhile, there are three main steps: planning the review with identifying research questions from the online database and screening the articles. This research uses the IEEE database. Several keywords were used to find relevant articles; *"Knowledge Management"* (by document title) AND *"company"* (in all metadata) AND *"Southeast Asia"* (in all metadata). The second step is selection by reading the abstract of each article. Every article from the research question that is unrelated will be eliminated. The description is presented after the third step of employing data visualization to convey the review.
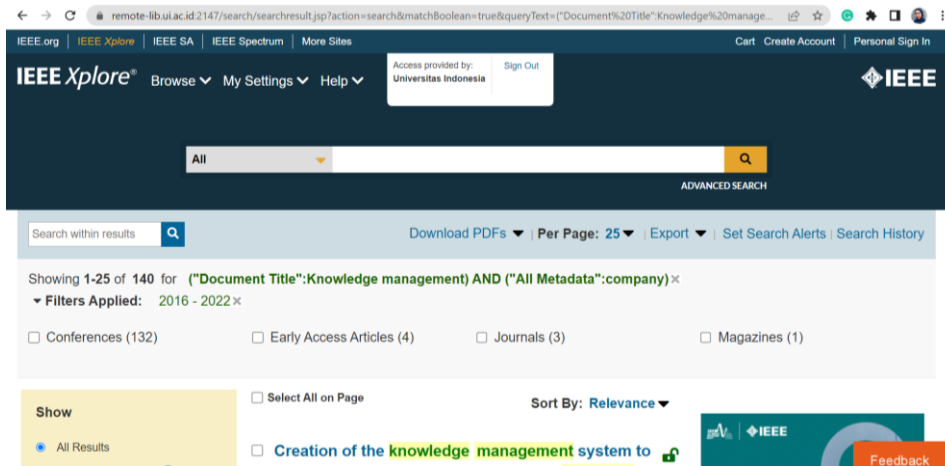

Figure 2: Search Result
Source: Photo by Author (2023)

After performing the initial article selection stage, the search returned 140 research publications. The second phase will be carried out according to the PICOC flowchart below once all of the full papers and their metadata have been downloaded.
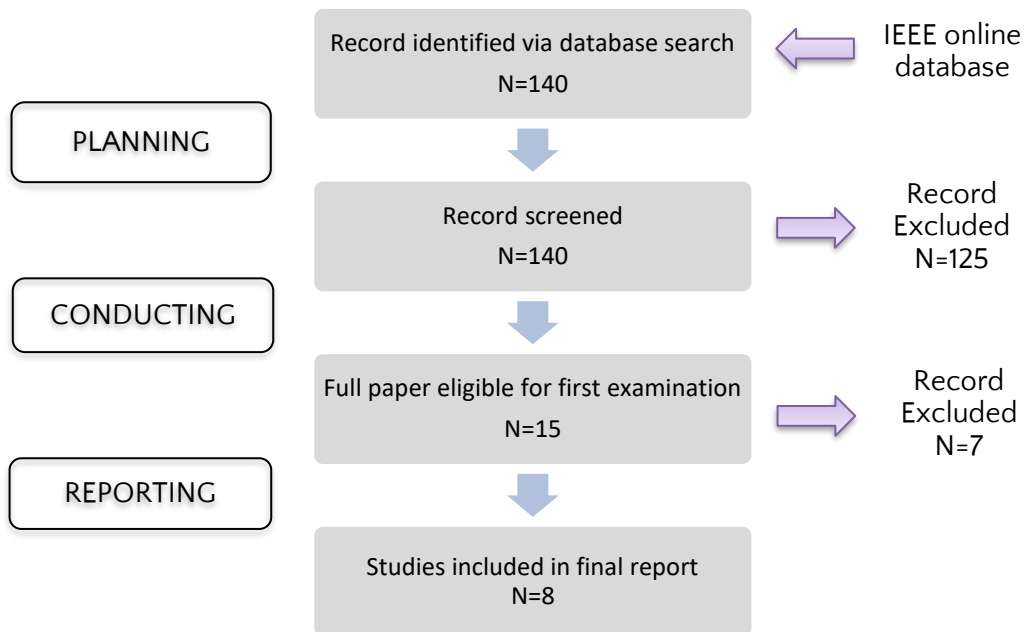

Figure 4: PICOC Flowchart
Source: Flowchart by Authors (2023)

21

The inclusion examination detailed criteria to generate eight final papers as follows;

- initial search using terms from the first step of the article selection process,

- articles must include case studies in Southeast Asia countries companies (First examination),

- articles must state the KM process or lifecycle as a research variable (Final report).

Based on the detailed inclusion and exclusion criteria, the first examination process matched 15 papers. Some papers did not explain the KM process or lifecycle, so the second examination emerged to pick only related research. The final selection process matched eight papers used to analyze the implementation of KM in Southeast Asia countries.

3. RESULTS AND DISCUSSION

The Selected Papers

The final examination chose eight articles that matched with inclusion criteria. Table 1 shows the final examination papers.

Table 1. The selected papers

Paper Code	Title	Source	Author/Year	Purpose
A1	An empirical investigation of knowledge management in Vietnamese SMEs	17th International Conference on Computational Science and Its Applications (ICCSA)	Quoc Trung Pham and Duy Thai Nguyen / 2017	Identify the measurement scale of KM practices, and to explore the impact of KM practice on the performance of small and medium enterprises in Vietnam (Pham & Nguyen, 2017)
A2	Analysis of knowledge management implementation readiness in a technology services company	3rd International Conference on Science in Information Technology (ICSITech)	Prastyawan Aji Nugraha and Indra Budi / 2017	To know the readiness of knowledge management implementation and its factors that can be improved in the IT Service company(Nugraha & Budi, 2017)
A3	Analysis of Knowledge Management Readiness in P.T Artajasa Pembayaran Elektronis	International Conference on Informatics, Multimedia, Cyber and Information System (ICIMCIS)	Artini, et. al/ 2020	To describes the level of readiness of the Knowledge Management to know the level of readiness of PT Artajasa Pembayaran Elektronis in the application of knowledge management and identify the KM model following company needs(Artini et al., 2020)
A4	Data Mining Management for Implementation of Knowledge Management Using SECI Model and Data Testing	International Conference on Informatics, Multimedia, Cyber and Information System (ICIMCIS)	Mardiani, et. al/ 2019	To know the implementation of knowledge management models and the use of data mining using static tools (SECI Model) for testing the data obtained(Mardiani et al., 2019)
A5	Knowledge Management Study in Data Warehouse	International Conference on Information Management and Technology (ICIMTech)	Ali Gunawan and Stephen G. Kurnia/ 2018	To analyze problem in Knowledge Management in Marketing and Sales, proposing the advice and marketing strategy to product of PT

				Autochem Industry branch Indonesia (Gunawan & Kurnia, 2018)
A6	Knowledge Management to Increase the Human Resource Quality Case Study at PT. GAI	International Conference on Information Management and Technology (ICIMTech)	Ali Gunawan and Stephen G. Kurnia/ 2019	To identify the application of Knowledge Management carried out by industrial (PT. GAI) companies that require high HR capabilities (Gunawan & Kurnia, 2019)
A7	Research On the Impact of Knowledge Management Practice for Organizational Performance Indonesian Electronic Power Company	11th International Conference on Information Technology and Electrical Engineering (ICITEE)	Sensuse, et. al/ 2019	To know how the implementation of Knowledge Management impact on the organizational performance of Indonesian Electronic Power Company (Sensuse et al., 2019)
A8	Suitable Knowledge Management Process Implementation a case study of PT XYZ	9th International Conference on Information and Communication Technology (ICoICT)	Pratama, et. al/ 2021	To find a knowledge management process that is suitable for companies to be able to implement knowledge management more optimally (Pratama et al., 2021)

(Source: Authors (2023)

Understandably, various companies use KM as an ideology in strategy or as a success tool. Table 2 shows eight companies stated explicitly or anonymously in the papers analyzed.

Table 2. Company brief profile from findings

Article	Company name/initial	Company brief profile
A1	Vietnamese SMEs	There are 150 small and medium enterprises (SMEs) in different sectors which has approximately $204,23 per month. Those net incomes depict SMEs as a successful small company
A2	An IT company in Jakarta, Indonesia	This company run a consultant and digital management for government or other institution.
A3	PT Artajasa Pembayaran Elektronis	A company which provides effective and efficient electronic transaction services. Giving such services as consulting, planning, and managing people's or company's income.
A4	STEI SEBI Sharia Banking	A small bank based in vocational school. Using KMS tools to project a better knowledge transfer in the company
A5	PT Autochem Industry	A retail organization of HealthCare. Working towards chain supply to the main corporation.
A6	PT. GAI	Provide services in cargo and transportation. The problem arise in this company is how knowledge transfer affect the production sector.
A7	Indonesian Electronic Power Company	A national company that provides services to customers and the public in the electricity in Indonesia.
A8	PT XYZ (Port Cities Indonesia)	The company mainly focused their business on developing open-source enterprise resource planning (ERP) for the other companies.

(Source: Authors (2023)

Most of those companies used KM as a key success tool. Therefore, identifying knowledge transfer and knowledge lifecycle is part of the company's principal task (Gunawan & Kurnia, 2019).

KM lifecycle shows the process of KM, such as knowledge creation, sharing, and preservation. Identifying the KM process led to a broad understanding of KM implementation. Therefore, using the KM lifecycle to explain KM implementation in the company is possible. As stated in Table 2, companies that implement KM as a major part of industry's task also perform the four KM lifecycles: get, use, learn, and contribute stage. Some companies also realized how important KM boost their way toward innovative works. In brief, Table 3 shows the company's final report of KM implementation.

- **The Get** stage shows how the company looks for information required to make decisions, solve problems, or innovate. Based on the literature review of 8 papers, all papers say that companies were already looking for information required to make decisions, solve problems, or innovate. The get stage consists of three main modes of implementation: company ways of seeking information to make a decision, company ways of seeking information to solve a problem, and company ways of seeking information to innovate.

- **The Use** stage shows how companies combine the information in new and exciting ways to foster organizational innovation. Based on the literature review of 8 papers, only four papers implement KM in this stage. The use stage consists of two main modes of implementation: company ways of combining information in new/different ways and company ways of combining information in exciting practices.

- **The Learn** stage shows how companies point to the formal process of learning from experiences to create a competitive gain. Based on the literature review of 8 papers, only five papers implement KM in this stage. The learn stage consists of one primary mode of implementation: company ways of learning from experiences to create a competitive gain.

- **The Contribute** stage fosters employees to post what they have learned to the communal knowledge base. Based on the literature review of 8 papers, only five papers implement KM in this stage. The contribute stage consists of one primary mode of implementation: employee ways of dispatching their knowledge to the communal knowledge base.

Table 3. KM Lifecycle Implemented in Company

KM Lifecycle	KM Implementation in Company	Paper Code
Get	✓ Company seeking for information to make decision ✓ Company seeking for information to solve problem ✓ Company seeking for information to innovate	A1, A2, A3, A4, A5, A6, A7, A8
Use	✓ Company combining information in new/different ways ✓ Company combining information in interesting ways	A2, A3, A5, A6,
Learn	✓ Company learning from experiences to create competitive gain	A2, A5, A6, A7, A8
Contribute	✓ Employee posting their knowledge to the communal knowledge base	A2, A4, A5, A6, A7

(Source: Authors (2023)

4. CONCLUSION

This systematic literature review observes and identifies the KM implementation through the KM lifecycle in Southeast Asia Countries. KM lifecycle consists of four cycles: get, use, learn, and contribute. This systematic literature review is based on the PICOC methodology, starting with 140 initial studies collected from IEEE databases. Through the article selection process

obtained, eight eligible articles were to be analyzed. Paper codes A2, A5, and A6, show the implementation of all KM lifecycles in companies. The use stage is implemented by companies in four papers (A2, A3, A5, and A6). This stage is the lowest stage of the implementation of KM. The learn and contribute stage has the same number of company implementations toward KM. Five papers explain the performance of learn and contribute stages in companies. Lastly, all companies seem to implement the get stage. It shows how companies intensively use information to make decisions, solve problems and innovate.

This study still possessed several drawbacks. Eight is a small amount in conducting a literature review. Moreover, the review did not analyze a specific case study domain. The critical issue found during this research is the importance of adding field research so that there will be more case studies about KM implementation in companies, industries, or organizations. This investigation shows how organizations (companies, Non-Governmental Organizations, etc.) also might implement KM successfully. In future studies, the researchers could prioritize and classify which area is essential to indicate KM's implementation. Evaluating the method of implementing KM in this study can also be done in future works.

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