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Literature review on Determinants Affecting Knowledge Sharing

Mohd Zarir Yusoff*, Mohd Saiful Izwaan Saadon,
Nurul Haqimin Salleh, Tomingan Kamaron and Hanafi Ahmad

Abstract--- *Knowledge sharing, which has been recognized as a part of knowledge management. It is defined as a willingness to share and to seek between two parties; knowledge seekers and knowledge owners. This action was held to warrant the organization in remain relevant and the continuity of knowledge to exist and evolve, regardless the availability of the knowledge owner. This paper aims to understand the current determinants which contribute to the knowledge sharing intention among knowledge workers and identifying potential future research from the literature review. The outcome from the findings will succor the researcher to determine the substantial factors from various determinants of personnel and organization. In addition, the outcome from the paper also aims in assisting the personnel from the academia in finding the proper channel to reach the knowledge worker and hence gaining the respective knowledge which beneficial to them from the port operator industry themselves.*

Keywords--- *Knowledge Sharing, Knowledge Worker, SECI Model, Port Industry.*

I. INTRODUCTION

The concept of knowledge can be translate as a conscience or norms which gain from previous experience upon performing certain task assigned or via learning activities which gain from observation, reading and etc. has currently received huge attention from both academia and industry (Parent, MacDonald, & Goulet, 2014).Al-Busaidi, Olfman, & Al-Busaidi, (2017) in their research mentioned that, personnel who have a knowledge has been distinguished as an asset towards assisting peers, organization, community, industry and nation to achieve benefits. In addition, Safayet Rahman, Md Zahidul Islam (2017) stated that the existence of knowledgeable workers has become an important solution for the organization to sustain their level of competitive as knowledge has been recognized to be the most strategic important resource. Knowledge management been defined as a process which the organization create, explore, search and apply the knowledge with the purpose to improve the performance of an organization (Ardichvili, Page, & Wentling, 2003). Such interpretation is aligned with Nonaka, (1995) who mentioned that the concept of knowledge management basically refers to a sequence of practices applied by organization to detect, generate, embody and distribute knowledge to be reuse, create an alertness and encourage learning culture within the organization.

According to Carlson (1999) and Grant (1996), knowledge management can be explained as a formal process in identifying the types of information embedded in organization which can be used to benefits others in the organization (Noaman, A.Y. and Fouad, F2014). In addition, previous research also showed that knowledge

Mohd Zarir Yusoff, Netherlands Maritime Institute of Technology. E-mail: zarir@nmit.edu.my*
Mohd Saiful Izwaan Saadon, Universiti Malaysia Terengganu. E-mail: saiful.izwaan.umt.edu.my
Nurul Haqimin Salleh, Universiti Malaysia Terengganu. E-mail: haqimin@umt.edu.my
Tomingan Kamaron, Netherlands Maritime Institute of Technology. E-mail: tomingan@nmit.edu.my
Hanafi Ahmad, Netherlands Maritime Institute of Technology. E-mail: hanafi@nmit.edu.my

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management can be used in ensuring the availability of the knowledge to the knowledge seeker or people who need it. It protects assets of wisdom's longevity, provides opportunities for improving decision-making, enhancing services and products through increased wisdom, value-enhancing and providing flexibility (Ardichvili et al., 2003; Asian Productivity Organization, 2002).

Previous research proved positive relation in the behavior and level of competitiveness of an personnel, group of people, and organization through knowledge management activities (Safayet Rahman, Md Zahidul Islam, 2017; Zheng, 2017). The knowledge management activities have been practiced towards ensuring the continuity of the knowledge in assisting the organization to remain competitive and relevant (Hishammudin et al., 2003). This is also include maritime industry and ports.

Review of Maritime Transport which was published by International Maritime Organization (IMO), stated that even though the development of international trade activities that using vessel as their mode of transport have slightly decrease by 2.3%, the sea borne transportation still been considered as huge contributor in supporting towards the development of the nations via supporting the international trade (UNCTAD, 2016). In addition, De Langen (2015) who discussed the matters arising on port performance mentioned that 80 per cent of overall international trade is disseminated via ports. Therefore, ports played an important role towards linking the developing countries which have port communities to international trade.

As changes occurred due to globalization, it indirectly affect the way how the maritime transport activities are managed which significantly influence on trade volume, it's costing and economic competitiveness. In light of that matters, port of calls must therefore be able to cope with the dynamic complexities of port management to sustain and create jobs in developing countries with port communities hence the requirement on a good knowledge management is crucial in ensuring the availability of the knowledge even though the absent of knowledge owner in the organization.

In general, five activities are involved in knowledge management; knowledge acquisition, knowledge innovation, knowledge storage, knowledge sharing and knowledge applications (X. Zhang, Liu, Chen, & Gong, 2017). For the first activities, Knowledge acquisition involves various activities in obtaining the existing or new knowledge either within the organization or from various internal and external sources. Knowledge innovation has been interpret as a relationship between the personnel and the environment. Such relationship resulted from four different methods used in knowledge innovation activities ie; socialization, externalization and combination and internalization (Hassan, Arif, & Sidek, 2015). As for knowledge storage, Tzortzaki & Mihiotis, (2014) referring it to the process of selecting suitable place of knowledge so that it is available and easy to find when it is needed. It can be found in the form of printed copies or media in electronic media which is easier to share with anyone in the organization.

Knowledge application has been explained as the ways which the knowledge owner utilize and embed the know-how and know-what into organizational routines, through the creation of an innovative products or services, as well as advancement in the existing products and services provided by the organization (Tzortzaki & Mihiotis, 2014). Last activity; the knowledge sharing further refers to formal partnership between knowledge owner nd knowledge

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seeker in sharing activities through meetings, seminars, informal discussions and other activities (Safayet Rahman, Md Zahidul Islam, 2017).

According to Liu & Li (2012), the sharing knowledge has been defined as a voluntary behavior in ensuring the acquired knowledge can be utilized in conjunction with other personnels or organizations. In light that matters, each personnel or party involved in this activity should have a mutual acceptance. The activities of knowledge sharing could be limited due a certain barriers from norms and culture which, require an intervention from the organization in monitoring such things (Abbasi et al., 2016; Wamitu, 2015). Different organization will have different working environment which have an influence in this knowledge management activities (Haque, Ahlan, Razi, & Subiyakto, 2017). According to Chin, (2005), having knowledge sharing in practice, it will assist the worker to solve problems, the reduction in doing the same mistakes and the creation of a new solution have been defined as one of the positive changes which can be made through knowledge sharing. For example, the solution to the problems faced by workers from other departments within the same organization may be in personnels from different departments.

The success of several organizations from the, medical, academic, and service industries have set an example to other organizations to pay attention on knowledge management. The Ministry of Transport Malaysia has also seen the significant of knowledge management which been portrait in their human resource management strategic plan in 2013 which mentioned that, the creation of learning organizations was introduced by promoting the Ministry of Transport to engage knowledge through the "Knowledge sharing session" every month. (Kementerian Pengangkutan Malaysia, 2013).

Supply chain plays vital role in the logistic management and ports are the integral parts as the node between the land-leg and the sea-leg. Expectedly the port are playing increasingly active function as dictated by internationalization and globalization through international trade (Pantouvakis, Chloloudis, Dinas 2010). Ports these days are experiencing changes due to these and unavoidably be part of the change agent itself. Ports are now executing changes from the traditionally ‘mass production system’ characterised by same product, with the same services and productivity level (Chlomoudis, Karalis, Pallis, 2003). As a result ports are no more being regarded as homogenous entities, but rather as complex and heterogeneous entities (Meersman, Van de Voorde and Vanelsander, 2010). The port players have also increased in numbers which include – shippers, shipping lines, logistics companies, warehouse operators, transporters and even manufacturers. The playing fields are now extended to include both national and international players (Meersman et. al). Inevitably it results in increasing demand for highly specialized port facilities, services and operation systems.

The maritime sector is also experiences persisting changes where the ship size are getting bigger and bigger to take advantage on the economies of scale and unitization of cargo by using containers (Stopford 2000) The speed at which these changes are making wave are parallel with the wave of globalization which cut across capital and skill labours boundaries. The shipping lines are pushing forward in finding opportunities to reduce operation cost by increasing service calls and covering wider service areas, especially through strategic alliance (Lu H. A. Cheng J. and Lee T. S 2006). On the other hands the ports have to be more flexible, efficient and most of all provide state-of-art facilities.

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These changes and development had affected the port greatly in terms of organization structure, style of management and operation system, resulting the port to attain the modern port status according to Meersman, Van de Voorde and Vanelslander (2003). Ports are now set to take on a much bigger role in that, i. it accommodates the requirements of up-to-date shipping requirement, ii. the port users demand for modern facilities, efficient operation, up-to-date management system and cost effectiveness, iii. The seemingly efficient connection to the port hinterland. This involvement especially under maritime and port cluster concept is covered extensively by Porter (1985). Peter Langen and Elvira (2012) echoed on the above concept but focus more on the cluster culture with respect to cluster leader and the distribution of labour and information.

As was mentioned earlier, the mass production system (Thompson, 2003) is now replaced by a new production system which are driven by:

1. Changes in technology and organization behaviour. This include modern state-of-the-art facilities and equipment, advance information systems, organization structure and advance logistics structure.
2. Liberalisation of the world market. Internationalization and globalization has widely open the world market giving possibilities to trade anywhere around the world.
3. Greater involvement of the private sectors in every aspect of the economies and thereby reducing the government intervention.

A port is basically a service provider (Jessica 2010). Branch (1988) has provided a useful insight by explaining the port services as having reliability, quality service, high sailing frequency, competitive rates, information technology and professional management. According to UNCTAD (2016), as early as 1910s ports around the world had executed changes in their organization structure and operation system which can be termed as strategic moved. With this strategic move the ports are able to improve their services by offering high level of flexibility and adaptability covering all front – the shipping side, port users (transporters and manufacturers within the port area), the logistics players as well as the hinterlands requirement.

II. LITERATURE REVIEW

Al Busaidi et. al (2017) and J. Zhang (2017) mentioned that knowledge-based assets are an essential resource requirement in allowing a country, organization and personnel to achieve many advantages such as increasing productivity, innovation and decision-making. Knowledge management systems are translated as a technology integration and tools built with the purpose of assisting the process of knowledge management (Becerra-Fernandez et al., 2004, p.33).

Previous studies also state that there are various factors contributed to the sharing of knowledge, among which are personnelfactors (Al-Busaidi, Olfman, & Al-Busaidi, 2017; Zheng, 2017; (Boateng, Agyemang, Okoe, & Mensah, 2017), organizational (Al-Busaidi et al., 2017; Zheng, 2017; Roger Fullwood, 2017) and peers (Al-Busaidi et al., 2017). The list of these factors not only plays a role for contributors to the involvement of personnels, personnel groups or organizations on the sharing of knowledge, but it also becomes a barrier to such engagement.

From the view of personnel factors, Al-Busaidi et al., (2017) who conducted study on the effect of personnel factor (knowledge worker), peer factor (peer), technological factor, organization and sector factors towards

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knowledge workers' intentions to share knowledge using IOKSS mentioned that previous studies have largely focused on knowledge management but focus more on organizational levels and less emphasis on inter-organizational systems. Emphasis on the involvement of knowledge sharing among knowledge workers (knowledge workers) is poorly observed. The personnel factors has been interpret by Al-Busaidiet al., (2017) into three; technology self-efficacy, image and knowledge efficacy. According to Kankanhlli et al. (2005), technology self-efficacy has been referred as a personnel's' judgment that they can execute and control effectively the technological skills. In addition, Al-Busaidi et al., (2017) mentioned that knowledge workers' technology self-efficacy may influence their perception of sharing their knowledge with the use of innovations intechnological such as inter organization knowledge sharing system (IOKSS).

The second element in personnel factor is image which been defined by Bock et al. (2005) as the level to which a personnel believes by their involvement in knowledge sharing activities it will improve their positionin the organization. In addition, Moore and Benbasat, (1991) and Venkatesh and Davis (2000) have also stated that an image can be an important factor for sharing knowledge, as it can improve the other social recognition on their credibility and reputation not only the organization but also in their whole professional dominion, which consequently will emboldens them to share their knowledge. The last element in personnel factor; knowledge efficacy has been described by Al-Busaidi et al., (2017) as a state of which a personnel feel they arehaving an enough knowledge which is deemed by others inside or outside of their organization.

From the perspectives of organizational factors, previous researchers have identified organizational culture, technology competency and organizational structure as the main element in contributing to knowledge sharing activities among respondents. Gold et al. (2001) pointed organization culture as one of organizational commitment where senior managers endorse KMS initiative and reward knowledge exchange reduces personnel experts' fear of losing their values. Second element in organizational factors; organization culture has also received huge attention by previous researchers such as Davenport and Prusak, (1998) and Gold et al., (2001) toward understand its role in affecting attitudes of respondents in KM activities. According to, the organizational culture play significant role in assisting interorganizational system in supporting various activities including knowledge sharing. According to Safayet Rahman and Md Zahidul Islam, (2017), the positive impact of management support can be recognize as one the example to Ajzen's (1991) social influence theory as the incentives have encourage the employees to make the efforts to create and codify their knowledge from implicit to explicit.

Apart from the determinants of culture, Gold et al., (2001) mentioned that structure as one of the key factors that contribute to knowledge sharing activities and KM effectiveness. Element of structures has been prove by O'Dell and Grayson, (1998) to sanction personnel's behaviors such as hoard of knowledge via the implementation of divisions, departments and functions rather than collective behavior which can inhibit effective KM across the organization. Commitment by the organizations through the structure positively related to encourage knowledge sharing in organizations (Al-Alawi et al., 2007). In addition, Lin (2006) has also pointed that having centralized organizational structure significantly hinders the effectiveness of knowledge sharing.

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The third elements in organizational factors that contributed to knowledge sharing is technological competence. It been interpreted as the form of organization's support and commitment through development of technical systems and infrastructure within an organization which can positively contribute to knowledge workers' attitude in knowledge sharing activities that required an intervention of technology such as inter-organization knowledge sharing system (IOKSS). According to Robey et al., (2008); Yang and Maxwell (2011), having a well-matched technology and competent IT staff competency is a major enabler of IOS which may improves knowledge workers' attitude and adoption of IOKSS.

As the measurement of knowledge sharing, previous studies have investigated knowledge sharing based on attitude (Chen et al.2012); intention (Bock et al., 2005); or actual knowledge sharing behavior (Kankanhalli et al., 2005; Wasko and Faraj.,2005; Al-Busaidi et al.,2010). However, these studies, except for Bock et al. (2005), who assessed knowledge sharing as a general construct. Bock et al. (2005) assessed knowledge sharing from two dimensions explicit vs implicit knowledge.

III. METHODOLOGY

This research will be referring to Transfied et al. (2003) who implemented systematic literature review (SLR) via three consecutive stages, which include planning, execution and reporting. Figure 1 shows the systematic literature review (SLR) method that was used in this research. For the first stage, this research used the academic literature review focusing on the definition of knowledge sharing from all relevant articles, journals and conference papers. In the period of 7 years, from 2010 to 2017, there were 42 journals found with focus on "determinants affecting knowledge sharing among knowledge workers" by using the Mendeley search engine. This systematic literature review was important to answer the main research question of "what are the determinants affecting knowledge sharing among knowledge workers?" This method was used starting from the planning process involving 42 journals in the big scope of knowledge sharing' perspective. Secondly, the executing process involved 30 journals from the initial 42 journals in the first stage, which include the attributes of personnel and organizational. Finally, the reporting process was used to further narrow down the selection to 8 journals, using Mendeley search engine to find results on personnel and organizational determinants (Table 1).

IV. RESULTS AND FINDINGS

4.1 Determinants in affecting the knowledge sharing among potential respondents

Through the observation from Al Busaidi and Olfman (2017) in their research on knowledge sharing of amongst knowledgeable workers, it is undeniable that many researchers have also discussed the sharing of knowledge in various organizations and industries. Various facets have been studied in influencing knowledge sharing among personnels (L. Zhang et al., 2008; Zheng, 2017), communities (X. Zhang et al., 2017), departments (Muqadas, Rehman, Aslam, & Rehman, 2017; Roger Fullwood, 2017; Yusoff, Isa, & Abdullah, 2016) and organizations (Al-Busaidi et al., 2017; Zheng, 2017). Among the factors studied are personnel factors, colleagues, technology and organizations. However there is still an opportunity for future research to explore on understanding the above determinants in affecting knowledge sharing involvement among knowledge workers in interindustry from other

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countries. Such future research can complementing the gap from previous research specifically on sample deficiency problems.

4.2 Moderating effect of SEGI model

Apart from that, future research could also take an opportunity to study the moderating effect of SEGI model to the independent variable (personnels factors, peers factors, organizational factors etc) in knowledge sharing activities. In the literature review on knowledge sharing, there are many theories that have been applied in research such as Social Exchange Theory (SET), Social Capital Theory (SCT), Social Cognitive Theory (SCT), Expectancy Theory (ET), Theory of Reasoned Action (TRA) of Planned Behavior (TPB) (Liang et al., 2008). However, most studies focus only on one theory that points to the factors studied. For example, TRA, TPB and SCT to examine personnel factors while SET to study organizational factors (Mohd Bakhari, 2010). The potential research have been

Table 1

Year	Authors	Variables	Respondents
2017	Al **Busaidi**& Olfman	Personnels, Organizational, Sectors, Peers & Technologies	Knowledge workers from Hospital and Education Industry
2017	Roger Fullwood & Jeniffer Rowley	Personnels & Organizational	Knowledge workers from education industry
2017	Safayet Rahman et al.	Organizational	Bangladesh Business Organizations
2017	Muhammad Yasir et al	Personnel, Technology, Peers	Knowledge workers in Pakistan Research Universities
2017	Sanat Kozhakhmet Mohammad Nazri	Personnel, Peers	Small Medium Enterprises in Kazakhstan
2017	Margaret Burnette	Organizational & Sectors	Library Staffs
2017	Muqaddas et al	Personnel, Organizational & Technology	Public Sector Universities

V. CONCLUSION

This conceptual paper aims to understand the current two main determinants encouraging knowledge sharing intention among knowledge workers and identifying potential future research from the literature review. The outcome showed two significant findings through implementing the systematic literature review for the past 7 years: types of respondents and the implementation of SECI model as a moderator in affecting the knowledge sharing among knowledge workers in maritime industry. The findings from the literature review will assist the personnel from the academia in finding the proper channel to reach the knowledge worker and hence gaining the respective knowledge which beneficial to them in providing the relevant manpower who possess the significant knowledge that required by the industry.

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