Adapting Knowledge Workers With Knowledge Management System and its Use in Organization

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Abstract. A Knowledge Management System (KMS) is very important for organization to applying and using knowledge management practices. These include data-driven object around business productivity, a competitive business model, business intelligence analysis, and more. A KMS is made up of different software modules served by a central user interface. Some of these features can allow for data mining on customer input and histories, along with the provision or sharing of electronic documents. The purpose of the case study is to identify the adaptation of knowledge worker when using the KMS in organizations. Studies are made on critical aspects of Knowledge Management System research, case study, general review, and conceptual papers that were written by researchers in the topic of interest.
Keywords: Knowledge, Knowledge Management, Knowledge Management System, KMS, Knowledge Worker, KM Tools, KM Practices, KMS Initiatives

1   Introduction

Syahrul, Emma, Muhaimin, and Siti (2016), Hassan, N. A. H. M., Yunus, A. M., & Mansor, A. N. (2017) stated that knowledge is important in managing organizations, and must be recognized as such. Knowledge management as the deployment of a comprehensive system that enhances the growth of an organization's knowledge (Salisbury, 2003). Nonaka (2000, as cited in Gao, Li, and Nakamori, 2002) defined knowledge as justified true and skill, a dynamic human process of justifying personal belief and skill towards the truth. Lee and Hong (2002) described that knowledge management has become part of today's new management terminology. Many leading world-class organizations are implementing Knowledge Management. Schultze and

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Leidner (2002, as cited in Li, Liu and Liu, 2016) termed that knowledge management practices and technologies are now widely implemented by organizations to increase their effectiveness, efficiency, and competitiveness. Schultze and Leidner.

From an organizational point of view, Sharda, Delen and Turban (2014), defined that knowledge is a vital asset and a significant resource of any organization. Knowledge management contents typically focus on a firm's strategic objectives such as innovation, improved performance, competitive advantage, as well as success stories and lessons learned (El Said, 2015). Wang (2016) summarized that as knowledge becomes an increasingly valuable and important organizational asset, many firms anticipate that implementing the knowledge management systems (KMS) will effectively support and enhance organizational knowledge management activities. Knowledge resides in the brain of people and tacit in nature. It is also a factor of production in its own right and distinct from labor in organizations. Besides, knowledge is the sum of what is known and resides in the intelligence and the competence of people. The development and utilization of both the individual and collective knowledge of an organization and its members should be an ongoing program for any new executive.

The Knowledge Management System used by knowledge workers should aim to be fully utilized effectively and efficiently by employees so that it can easily be adapted into the working environment quickly. The KMS should be optimized to be the main knowledge worker's success factor but also should be straightforward enough that it can be easily adapted by the workers.

In this case study, an effort will be made to discover the adoption knowledge worker using Knowledge Management System in the organization. The focal objective of this study is to identify the utilization of KMS that adopted by knowledge workers in another way the following objectives were deployed to cover the overall objectives of this case study.

- To enhance the adoption Knowledge Management System by knowledge worker in the organization.
- To identify the current state of engagement with the Knowledge Management System in the organization.
- To improve the gain of competitive advantage by using the Knowledge Management System in the organization.
- To increase organization productivity by using Knowledge Management System.

2 Literature Review

Defining Knowledge Worker

Peter Drucker (1956) came out with a term of knowledge worker where knowledge becomes the main resource in manual work. Manual work is physical work done by people and it's much more different that done by using machines or animals. At the same time, manual work defines as most of the responsibilities involving human

physical effort. Moving forward, knowledge workers also defined as a mental representation of possible relationships among things, events and relationships in different kinds of levels (Baumeister, 1991). In between the discussion or decision making these workers most likely to focus on filling and reaching the gaps of understanding, sensible and connection. It could be challenging since interaction could create distress if ones do not reach the exact understanding. As stated by Sousa & Dierendonck (2010) in making a decision it requires deep reflection and the need to display an impactful to the tasks, hence a knowledge worker tends to study for a longer time.

Defining of Knowledge Management System

According to Lin and Tseng (2005) defined Knowledge Management System is the rapid development of the internet and information technology pushed the world into the era of a new economy. Damodaran and Olphert (2000, as cited in Li, Liu and Liu, 2016) explained that Knowledge Management Systems are information systems that are perceived as facilitating organizational learning by capturing important content and process 'knowledge' and making it available to employees as necessary. Alavi and Leidner (2001) well-defined that Knowledge Management System is an information system that is specifically developed to facilitate the processes of creating, storing, retrieving, transferring, and applying organizational knowledge. Dimitrijevic (2014, as cited in El Said, 2015) simplified that Knowledge Management System is a system for applying and using knowledge management principles throughout a process to create, transfer, and apply knowledge in organizations.

From the organizational point of view, Kanjanabootra, Corbitt and Nicholls (2013) highlighted that Knowledge Management System as a strategic system which suggests that for an organization to be able to be positioned well in the market they need to know what they must know and what they must do to achieve their goals. Besides that, it only describes what successful organizations have done from the beginning of time. Kuo and Lee (2011) stressed that the Knowledge Management System is an information system developed to support and enhance organizational processes of knowledge creation, storage and retrieval, distribution, and application. An effective KMS helps maximize the use of organizational knowledge resources to a firm's benefit. El Said (2015) described Knowledge Management Systems can play a significant role in improving organizational and individual performance.

Use of Knowledge Management System by Knowledge Worker

Li, Liu and Liu (2016) clarified at the very beginning of the process there are many knowledge management initiatives that fail due to employees actively or passively refusing to use a knowledge management system. Li, Liu and Liu (2016) further added that the use of knowledge management systems is mainly an individual decision. Meanwhile, the knowledge worker attitude toward the newly introduced KMS is not based on anything. Bertoni et al. (2005) claimed that implementing KMS is not just a technological issue, rather it concerns organizational culture, structure, process, and knowledge worker. Similarly it was mentioned by Rambeli, S. A., & Yunus, A. M. (2018) and Kuo and Lee (2011) stated that the purpose of developing KMS is to apply information technologies by knowledge workers for supporting and enhancing organ-

izational knowledge management. By using KMS firms gain a powerful source of
competitive advantage.

Lee, Wang, Lim and Peng (2009) identified that Knowledge Management System
implementation can be deeply adopted by knowledge workers according to the IT
innovation adoption processes. Un Jan and Contreras (2016) further added that
knowledge workers can identify in the model the variables that will improve the use
of a KMS to make it successful in a business environment. In line with Alavi and
Leidner (2001) identified that there are two categories in the Knowledge Management
System, 1) Knowledge management practices, defined as the set of techniques and
methods to support the organizational processes of knowledge creation, storage, and
transfer and 2) Knowledge management tools, supporting knowledge management
practices namely by the specific IT-based systems. Alavi and Leidner (2001) further
added the overlapping two perspectives:

1. Support the knowledge creation phase by using KM-Tools.
2. Support the knowledge storage phase by using KM-Tools.
3. Support the knowledge transfer phase by using KM-Tools.
4. Support the knowledge creation phase by using KM-Practices
5. Support the knowledge storage phase by using KM-Practices
6. Support the knowledge transfer phase by using KM-Practices

Tan and Hung (2006) investigated more about the use of innovative knowledge
creation tools. These authors underlined that the adoption of these tools allows
knowledge workers to manage the created knowledge efficiently and effectively and
organizations to facilitate the creation of networks. Lockett et al. (2009) examined the
adoption of a knowledge database to facilitate the process of knowledge storage.
Furthermore, Tan and Hung (2006) acknowledged that dealing with KM-Tools
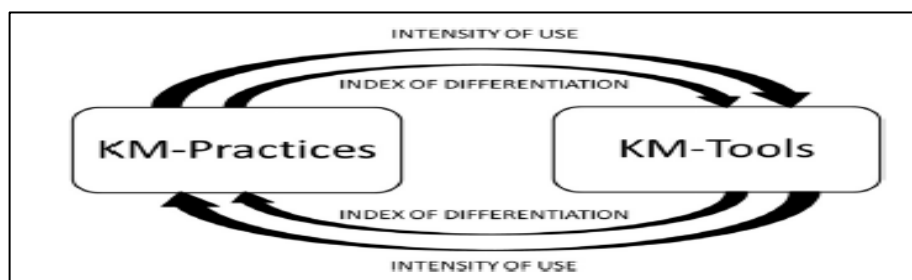improving the knowledge worker with the knowledge transfer phase.

Figure 1. Relationship of reciprocity between KM-Tools and KM-Practices
(Source: Cerchione and Esposito, 2016)

Shih et al. (2010) analyzed the adoption of brainstorming by knowledge workers as a very common team-oriented KM-Practice improving the knowledge creation phase. Hutchinson & Quintas (2008) underlined that organizations are more likely to adopt informal processes to manage knowledge by the knowledge worker. It believes that by using KMS, the achieving of sustainable competitive advantage from knowledge-based assets organizations aims to effectively use the existing knowledge to create new knowledge and to focus on the next action (Alavi & Leidner, 2001).

The process of successful implementation has three stages: assimilation, adoption and acceptance. Based on the author's opinion they identified factors affecting these three elements using the three comprehensive sets. This resulting from the author's research on the KMS implementation factors into the following categories:

Adoption
- Design influenced: Innovation characteristics, fit, expected results and communication characteristics.
- Design that not influenced: Environment, technological infrastructure, resources and organizational characteristics.

Acceptance
- Design influenced: Effort expectancy, performance expectancy.
- Design that not influenced: Social influences, attitude towards technology use.

Assimilation
- Design influenced: social system characteristics, process characteristics.
- Design that not influenced: Management characteristics, institutional characteristics.

Logically, not all systems apply these factors. Some are fairly straightforward and accepted in today's organizations. However, the strategic implications of implementing Knowledge Management Systems by knowledge worker that significantly aims to change the way things are done in the organization requires proper consideration and careful planning.

KM practices are characterized by the arrangement of strategies and the techniques to maintain and upgrade organizational processes of knowledge creation, transfer or sharing, application and storage. KM tools should characterize particular IT-based systems to support KM strategies and techniques. The assortment of KM strategies and techniques identifying with the way of knowledge tacit or explicit, potentially the process of KM. Besides, the knowledge worker is for the most part entrenched in the human resource and socialization overwhelming in the SECI cycle. Along these lines, this not shocking that the greater part of the practices that arranged to the management of tacit knowledge.

Respondents were asked about the current state of engagement with knowledge management. Based on the options given which are between thus the organization currently has implemented KM projects, evaluating KM or planning to use KM. The majority of the respondents viewed their organization as an organization that currently planning to use KM. Little that they did not know that they always participate in

knowledge management practices such as knowledge transfer, knowledge sharing, knowledge creation, knowledge acquisition and many more.

Competitive advantage is something every organization must determine to become the market leader for its business. A common view on how to assess competitive advantage is the resource-based view. To greatly enhance their chances of success while implementing the KM, the organization able to make adjustments and corrective actions accordingly. The objective in mind for achieving a competitive advantage is to harvest high-quality goods that can be sold for high prices on the market. Therefore, the quality must be higher than that of the competition, while the profit margin and revenue are not lower than industry rivals.

Each employee needs information to do their current tasks efficiently, but usually, employees suffer from information overload from an increasing change from time to time of sources. To get information that is accurate, and timely without search in the email, reading through loads of printed material and having to visit hundreds of web pages. Thus, knowledge management assistances address this problem through targeted subscriptions, tagging, personalized portals and enterprise search engines. These findings are the comparison of our case study to identify the adapting knowledge worker using KMS in organizations.

Adopted Knowledge Management System by Knowledge Worker

In this manner, this list was submitted to various knowledge workers in the field of information systems management. Therefore, the knowledge worker utilized to arrange a more list of KMS that ultimately examined by the management of the organization in the background of focus group discussion. Moreover, KMS got was utilized by the knowledge worker during the semi-organized meetings. The finding appears to demonstrate the knowledge worker takes an impression of the strategic value of KM and therefore adopts IT systems to bolster strategies and techniques to improve the organization's progressions of knowledge creation, transfer or sharing, application and storage. In any case, it additionally develops, knowledge workers adopt more old-fashioned KMS rather than new and more updated tools that are for the most part less expensive and less demanding to utilize.

Current State of Engagement with Knowledge Management System

Respondents were asked about the current state of engagement with KMS. Based on the options given which are between thus the organizations currently have implemented KM projects, evaluating KM or planning to use KMS. The majority of the respondents viewed their organization as an organization that currently planning for the knowledge worker to use KMS. Little that they did not know that knowledge workers always participate in knowledge management practices such as knowledge transfer, knowledge sharing, knowledge creation, knowledge acquisition and knowledge management system.

Knowledge Management System Improves the Gain of Competitive Advantage

Business Intelligence (BI) is one of the business structure which involves a variety of processes, tools, and technologies. It helps to transform the data into information

and information into knowledge whereby gives benefits to the organization. With an effective BI system, it assists the organization to gain knowledge about the competitive environment such as its customers, products and competitors which will make the organization aware and stay ahead of its competitors. Moreover, the BI system will help the management to plan the business strategy to improve the sustainability of the organization. Besides, it also improves the efficiency of the organizational operation. Through the BI system, it will lead knowledge workers to better decision making, data analysis and improve the business performance which can be used to gain competitive advantages.

Knowledge Management System Could Increase Organization Productivity
Kanban is a workflow application system that helps knowledge worker consolidate their tasks into buckets. Frequently, this bucket is the different phases of the workflow process. For instance, the organization might have a bucket for project planning and preparation, blueprinting, realization, final preparation and post-go-live support. As projects change from the planning phase and preparation phase to the post-go-live support phase, management can monitor and control where they are in the process and maintain realistic deadline goals for their customers. As projects move through the stages of the project phase, management can monitor which knowledge workers are implementing on different projects and at different stages

3   Recommendations and Discussion

This recommendation and discussion are the comparisons of our case study that deliberate about adapting knowledge workers using KMS in organizations.

Right Knowledge Management System Solutions
A positive KM drive is to actualize KMS solutions that join those social adjustments, processes and technologies that have the good possible for the knowledge worker to upgrade the knowledge and increase the worth to the organization. Therefore, this needs all sources and types of knowledge to become an integral factor to augment business success. To outlining KMS solutions, SMEs must think deliberately why they are required. Moreover, risk minimizers tend to utilize data warehouses, expert systems, yellow pages and comparable KMS technologies for finding and capturing occurrence knowledge.

Environment Needed to Maximize Gaining the Utilization of Knowledge Management System by Knowledge Worker
The environment should make the organization provide to maximize gaining the utilization of KMS mong knowledge workers. To make the knowledge worker feel that they can manage and take control of their work situation, some proper strategies should be taken place. Other than providing KMS, it is good to have an open and practice of KM. The communication strategy, plan and execution could make KM activities run smoothly. The communication strategy will facilitate KMS acceptance

and support by addressing issues that matter to the client, as it helps bring clarity to the change process.

As much as possible, communications will optimize effective channels deployed. Depending on the type of message to be conveyed, the level of engagement as well as target audience and purpose. There will be some learning that can be leveraged on. The involvement and engagement of the knowledge worker are important as they will be the people most impacted by the change. KM initiatives will need to sell the benefits of the new change but only after they have been given sufficient air time to share their views, concerns and ideas on how to move on the continuous improvement journey. Listed below are some of the activities proposed:

- Frequently and schedule knowledge sharing and transfer.
- Launch workshop.
- Engagement events.
- Town halls
- One on one hands-on lesson
- SAP online demo

Staff with Expertise in Information Literacy Leads to the Successful of Business Intelligence (BI) System

Even though BI is being supported by BI specialist and consultants, staff with expertise in Information Literacy is required to make sure they use of BI system will help the organization to call the right decision, improve the business performance and predict the future of the organization. Moreover, information about customers and competitors such as profitability, market share and branding is needed for the BI system to assist in data analysis for the organization. Thus, knowledge worker needs to know how to use and manage the information within the BI system which make access to information more effective and efficient. Moreover, knowledge workers also know to identify the resources available that can lead to information collection. This also applied to the tools and applications inside the BI system. Furthermore, the knowledge worker with this kind of skill will know and understand the business process across the departmental or organizational level. With this essential skill, the use of the BI system will fully be utilized by the knowledge worker and will give to the organization for planning and forecasting the business strategy.

Knowledge Management System is a Proper KM Tools That Can Avoid Redundant Work among Knowledge Worker

Sharing knowledge using proper knowledge management tools can avoid redundant work of the project team members. Generally, workforces do not like to spend time doing something over again. But they still do so all the time for a variety of causes. Therefore, avoiding duplication of effort can keep knowledge worker's morale up, streamline work and saves time, Abd Razak, et al (2017). By not spending more time reinventing the wheel, knowledge workers can have more time to explore in a different assignment. The personnel skills and knowledge of each member can be

a benefit for other team members in the department. To get a better the impact of the team, the organization needs the complementary expertise of the project team members. Usually, the impact and the biggest benefit of this is to employees with widely-varying capabilities and backgrounds. However, it becomes more difficult for each staff to know about everyone else as the number of employees increases. Thus, knowing what employee's expert can be very helpful at a time of need since employees learn from their own experience and apply it to their current requirements.

4   Conclusion

The purpose of this case study to compare our case study to identifies the adapting knowledge worker using KMS in organizations. Implications from the organization point of view, this case study highlights that they could further increase the impact of knowledge workers by better exploiting the opportunity offered by the new ICTs such as cloud computing, crowdsourcing systems, collaborative filtering, wiki.

This comparative case study concludes that organizations need to have a good knowledge worker to develop a system to manage their knowledge which is with a KMS. This system refers to a class of information systems applied to manage organizational knowledge. The objective of KMS is to support the creation, transfer, and application of knowledge in organizations.

The case study also reviews leads to proper planning and rollout that increase the chances of success knowledge workers using KMS. There are five important steps for a knowledge worker in developing a successful KMS that has measurable results:

- Develop in stages.
- Choose a high-value business process.
- Choose the right audience.
- Measure ROI during initial implementation.
- Use the preliminary ROI to project enterprise-wide values.

Therefore, organizations need to identify the problem or business challenge that the knowledge worker is going to address. This case study also stresses that organizations typically do not have dedicated knowledge workers to monitor the process of innovation in the field of KMS.

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