

The effect of Knowledge Management Systems on Organizational Ambidexterity: A Conceptual Model

Abstract:

Knowledge management (KM) is considered an important strategic tool to maintain performance and survive a fluctuating environment. The effective implementation of KM initiatives helps organizations gain the ability to balance contradictory demands, known as organizational ambidexterity, to gain a competitive advantage. The purpose of this study is to develop and argue a theoretical model demonstrating the connection between knowledge management systems (KMS) and organizational ambidexterity through the mediation effects of knowledge-sharing behavior (KSB) and innovative work behavior (IWB). This paper draws on the task-technology fit (TTF) model, KM, and organizational ambidexterity literature to build a theoretical model for how KMS (characteristics and perceived TTF) and KSB interact to produce IWB and organizational ambidexterity. This study also suggests a methodological approach and analysis procedure to test the theoretical model empirically. Finally, the study acknowledges some research limitations and provides several recommendations that are useful for academic researchers.

Keywords: Knowledge Management System, Knowledge Sharing Behavior, Innovation, Organizational Ambidexterity, Organizational Performance

1. **Introduction**

In today's knowledge-based economy, knowledge management (KM) is attracting growing interest from practitioners and researchers. The imperative role that KM plays is at both individual and organizational levels. A dynamic environment, intense rivalry among organizations, and the race for innovations and sustainability emphasize the importance of knowledge as an avenue for organizations to gain a competitive advantage and survive the volatile environment (Small & Sage, 2005).

KM is about performing activities that involve discovering, sharing, and applying knowledge in terms of resources and people skills to improve the influence of knowledge on business goals (Becerra-Fernandez & Sabherwal, 2015). KM can reduce expenses, raise awareness among workers concerning events within an organization, promote investment in intellectual capital, and encourage the adaptation of technology (Alzayat & Alqutawi, 2010). The availability of effective knowledge management systems (KMS) can help to accomplish these benefits.

However, the rising trend has resulted in the proliferation of studies attempting to determine how knowledge assets can be effectively managed and measured in order to bring real value to organizations (Khalique et al., 2018). There is a wide range of KM implications in organizations, but there is also a growing body of evidence that shows that few are successful. This has caused controversy regarding KM's effects on various organization performance indicators (Al Rashdi et al., 2019; Ali et al., 2019). Due to these conflicting results, there is a call to shed more light on the organizational processes, systems, and other context-dependent factors that may determine the variations in the association between KM and organizational performance. This line of research advocates that KMS must be aligned with contextual factors and other organizational processes (Asiaei & Bontis, 2020).

This study focuses on the issues associated with the implementation of KMS. The lack of knowledge contribution from KMS users could cause system failure, which prevents employees and organizations from fully utilizing the system to maximize their learning, innovation, and capabilities to balance the contradictory demand that is known as organizational ambidexterity (Becerra-Fernandez & Sabherwal, 2015; Popadiuk et al., 2018).

In the literature, there are several studies about KM and KMS, but only a few discuss and explore KMS, knowledge-sharing behavior (KSB), innovative work behavior (IWB) (Anser et al., 2020), and organizational ambidexterity (Yang et al., 2016; Cegarra-Navarro et al., 2021). This study aims to investigate the influence of KMS on the individual's willingness to share knowledge and how this affects IWB. In addition, the author seeks to answer the question: how does KMS influence organizational ambidexterity through the mediation roles of KSB and IWB? As such, the contribution of the present study is mainly twofold. First, it proposes a model that combines KMS, KSB, and organizational ambidexterity. Also, the study suggests some modifications that can improve the theory of task-technology fit (TTF), since several studies show it lacks the cognitive aspect of the system users (Kankanhalli et al., 2005; Wu et al., 2007; [Lin & Huang, 2008](#)).

In the next section, the theoretical background of the key concepts of this study is discussed, followed by an explanation of the proposed model and its theoretical foundation. The suggested methodological approach and measurement for empirically testing the proposed model are also presented. Lastly, the limitations and several possible streams for future studies are stated.

2. **Theoretical Background**

This section presents the theoretical foundations underpinning the proposed theoretical model to discuss and explain the possible associations among KMS, the TTF model, KSB, IWB, and organizational ambidexterity.

Knowledge Management System and TTF Model

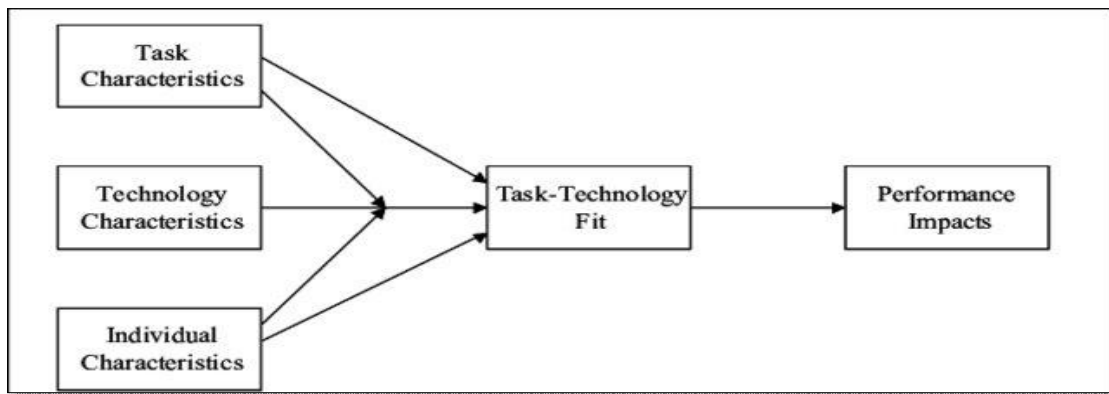
KMS is a relatively new field of research that emerged in the literature around 1994. It is the result of a synergic application of the latest technology and social and structural mechanisms (Becerra-Fernandez & Sabherwal, 2015). KMS refers to the process of using technology to support the use of KM mechanisms to create, transfer, and implement knowledge (Dimitrijevic, 2014). Alavi and Leidner (2001) defined a KMS as an information system (IS) developed to support and enhance the organizational processes of knowledge creation, storage, retrieval, transfer, and application. Effective implementation of KMS can help an organization effectively use existing knowledge, create new knowledge, take suitable action, and accomplish sustainable and competitive goals. Moreover, a KMS plays a vital role in improving organizational learning, innovation, and competitiveness by enhancing organizational and individual performance (Lin & Huang, 2008; El Said, 2015).

There are four kinds of KMS that provide KM solutions for organizations: knowledge discovery system, knowledge capture system, knowledge sharing system, and knowledge application system (Becerra-Fernandez & Sabherwal, 2015). Nevertheless, Hansen et al. (1999) argued that regardless of the different formats and types of KMS, they can be classified into two main categories based on the technology employed to support either a personalization approach or a codification approach (as cited in Lin & Huang, 2008). This argument was later upheld by Alavi's (2000) two proposed models: the network and repository models. The network model focuses on socialization and connecting individuals to exchange knowledge. The repository model focuses on the codification and storage of knowledge to facilitate knowledge reuse (Alavi & Leidner, 2001). Moreover, the dimensions of the organizational impacts of KMS are people, process, products, and organizational performance, which means that KMS can affect an organization at several levels by two main processes. First, the KMS process can improve organizational performance by creating knowledge that participates in the four dimensions' improvement. Second, it can enhance performance by directly improving all four dimensions (Becerra-Fernandez & Sabherwal, 2015).

The TTF model developed by Goodhue (1995) argues that there should be a good fit between information technology (IT) and the tasks it supports so that the system is efficiently used and improves the system user's performance (Goodhue & Thompson, 1995). As depicted in Figure 1, the TTF model consists of five constructs: task characteristics, technology characteristics, and individual characteristics that jointly affect the TTF, with performance as the outcome. According to the TTF model, the outcome of KMS usage might vary depending on the "configuration and the task for which it is used" (Lin & Huang, 2008, p. 411; Goodhue & Thompson, 1995). Goodhue claimed that TTF positively influences performance. Later, Goodhue and Thompson developed the TTF model to include utilization as a mediation between TTF and performance; this model is called the technology-to-performance chain. Tasks are any actions that are performed with the purpose of converting inputs to outputs to fulfill the necessity of information. Another important term in the TTF model is technology, which is composed of a vast array of IT, including hardware, software, etc.

(Lin & Huang, 2008). This study is interested in two important constructs in the TTF model: technology characteristics and task-technology fit. According to Goodhue and Thompson, technology characteristics refer to the underlying features of the technology of the IS used by individuals. Task-technology fit refers to “the degree to which a technology assists an individual in performing his or her portfolio of tasks.... the correspondence between task requirements, individual abilities, and the functionality of the technology” (Goodhue & Thompson, 1995, pp. 216–218).

Figure 1 TTF model (Goodhue & Thompson, 1995)



Several studies have tested the validity of the TTF model. Ye and Johnson (1995) conducted an empirical study that elaborated on the ability of the explanation facilities of KMS to encourage usage and enhance user performance. In addition, Wixom and Todd (2005) suggested that information accuracy and accessibility positively influence perceived usefulness, thus motivating system use in the KM context. Nevertheless, the TTF model neglects the “personal cognition dimension,” which several empirical studies proved to have an influence on the use of KMS, eventually influencing the individual’s contribution to the system and KSB. Therefore, several authors attempted to overcome this limitation by expanding the TTF model or integrating it with existing models to offer explanatory power. According to Lin & Huang (2008), these studies can be categorized into three themes based on their contributions: 1) integrating TTF with Davis’ (1989) technology acceptance model (TAM) (Wu et al., 2007; Klopping & McKinney, 2004), 2) extending TTF with Ajzen’s (1991) theory of planned behavior (TPB) (Kankanhalli et al., 2005; Lam et al., 2007), and 3) combining TTF with individual ability constructs, such as self-efficacy and individual differences (Jarupathirun & Zahedi, 2007; Lee et al., 2007).

The previous studies have shed light on the importance of the users’ acceptance of the KMS for its successful implication and achievement of the intended goals. Several studies, similar to those stated previously, agreed on the importance of the users’ cognition, such as perceived usefulness, trust, and behavioral intention (Strong et al., 2006; Lin & Huang, 2008; Chai & Kim, 2012; Wang et al., 2013). Specifically, KSB is an important concept that takes into account that perceived TTF and technology characteristics can have a substantial impact on the level of the users’ engagement in KSB. Recent research focused on personal cognition, such as studies by Strong et al. (2006) and Lin and Huang (2008), that investigated the influence of TTF on self-efficacy concepts. Other studies

examined the impact of TTF on social ties, such as Chai and Kim (2012) and Wang et al. (2013). This paper argues that TTF and a system's technological characteristics are important influencers on KSB in the workplace.

Knowledge-Sharing Behavior (KSB)

Knowledge is an intangible asset that increases when shared with other individuals (Halal, 2008). Organizations are always striving to encourage their employees to share their knowledge among the members. The availability of needed knowledge (explicit and tacit) for each member of the organization helps them to perform their jobs better because knowledge sharing improves the knowledge of the employee who owns it and the receiver of this activity (Halal, 2008). Moreover, it supports the organization in its decision-making process, competitiveness, capability, and it improves innovation performance. However, the challenge resides in the sharing of tacit knowledge because it is difficult to transform into explicit knowledge, and it constitutes the majority of knowledge exchange (Lee, 2003; Becerra-Fernandez & Sabherwal, 2015). Furthermore, Lee (2003) stated that tacit-to-tacit knowledge sharing contributes to 90% of total knowledge sharing, which further emphasizes the importance of tacit knowledge sharing. Effective knowledge sharing contributes to the transformation of an organization into a learning organization (Scarborough, 2003; Lin, 2007); therefore: "For many companies, getting employees to share knowledge and to contribute knowledge to organizational repositories is the focus of their knowledge management programs" (Small & Sage, 2005, p. 162). Knowledge sharing exists at two levels: organizational and individual. This study will focus on the individual level—specifically, the KSB of employees. Nevertheless, knowledge sharing is a fundamental factor for an organization to accomplish continuous innovation at both levels (Small & Sage, 2005).

Researchers proposed different definitions for the concept of KSB, but most of them are similar in meaning. Bartol and Srivastava (2002) described KSB as activities that convey or distribute organizationally related information, ideas, and expertise with one another. Lin (2007) defined KSB as social communication culture, which encompasses the exchange of employee knowledge, experiences, and skills among individuals within an organization. Schwartz (2006) introduced a broader definition by explaining KSB as an exchange of knowledge among and within individuals, groups, or organizations.

There have been several studies conducted to investigate the impact of KSB on IWB in the organizational context. In a study conducted by Yu et al. (2013) in the Taiwanese finance and insurance industry, the researchers tested the individual level of knowledge sharing and IWB of employees and KS collaborations with innovation. The results revealed that KSB activities improved IWB. Furthermore, Radaelli et al. (2014) performed research to examine the workers' KSB impacts on their IWB in four different healthcare organizations in a European context. The findings showed that workers who share knowledge also participate more in generating, promoting, and applying innovations, which means that the reaccumulation and transformation of knowledge have a positive impact on IWB. A study by Akhavan et al. (2015) of 22 high-tech companies in Iran aimed to assess if socio-psychological elements cause superior employee IWB. The results revealed that the employees' KSB advances their IWB. The creation, transformation, and utilization of knowledge by employees stimulate individual innovation; for instance, they can lead to quick and improved problem-solving ability and better response to challenges (Nold III, 2012; Akhavan et al., 2015; Radaelli et al., 2014; Yu et al., 2013). Effectual knowledge processes participate in the development of vital intangible resources to enhance performance (Nold III, 2012). Nevertheless, the relationship between KSB and IWB is still mostly underinvestigated, particularly in developing countries (Shanker, 2017; Anser et al., 2020). The literature still lacks sufficient studies that investigate KMS

impact on KSB and IWB and specifically, the mediation role of KSB between KMS and IWB (Shanker, 2017; Anser et al., 2020).

Organizational Ambidexterity and IWB

According to Janssen (2000), IWB refers to the process of intentional formation, development, and implementation of novel ideas to improve individual or organizational performance. Janssen suggested a model of IWB that encompasses three behavioral tasks: idea creation, idea promotion, and idea application. De Jong and Den Hartog (2007) suggested a similar structure, in which IWB is the identification of difficulties to develop and apply original ideas through several behavioral tasks for the purpose of enhancing the performance of employees or businesses. Both Janssen (2000) and Scott and Bruce (1994) viewed IWB as a complicated workplace behavior because it includes three sequential steps that an individual should accomplish. In step one, the individual creates an idea that is unique and valuable in any field. In step two, the proposed idea is promoted by colleagues when the individual becomes involved in social activities to gain support for the idea. In step three, an innovative model or prototype is developed to be tested and utilized by the employees and organization. Simple innovations can be achieved by individuals, but complex ones need collaboration teams and depend on a variety of knowledge and capabilities (Janssen, 2000; Scott & Bruce, 1994; Phung et al., 2017).

Organizational ambidexterity was introduced by Duncan (1976), and it refers to the organizational ability to manage contradicting demands and multiple strains in working with exploration and exploitation (as cited in Popadiuk et al., 2018). Some authors describe it as the organizational capacity to explore and exploit simultaneously (Carter, 2015), while others define it as a method of identifying the challenges that organizations face while managing two competing targets at the same time (Gibson & Birkinshaw, 2004). It is a complicated and multidimensional notion (Junni et al., 2013). Exploration is the organization's quest for experimentation, new directions, flexibility, and innovation, whereas exploitation is the organization's optimization and improvement of available resources, capabilities, knowledge, and technologies to gain efficiency and speed up implementation (Popadiuk et al., 2018). An organization needs ambidexterity capability to balance its strength and learning between the outcomes of exploration and exploitation to become effective (O'Reilly & Tushman, 2004). Organizational ambidexterity is a relatively new field of research, but because of its importance, it has become the focus of several studies from diverse areas, such as organizational adaptation and change, organizational learning, innovation, and strategic management (Severgnini et al., 2019). If an organization focuses on the exploration of its resources, it might find it challenging to adapt to environmental changes. However, if the organization did the opposite and focused on the exploitation of its resources, then it would not be able to utilize new ideas and innovate new processes and products (Junni et al., 2013). Resource constraints due to conflicting demands are the main cause of this situation, which leads to trade-off (Stadler et al., 2014). According to Lavie et al. (2010), organizations can pursue contradicting demands and goals, but they need to have strong organizational structures and team integration.

Three separate literature streams have identified different approaches in which firms can become ambidextrous: structural, cyclical, and contextual. The structural stream was introduced by Tushman and O'Reilly in 1996, who defined ambidexterity as "the ability to simultaneously pursue both incremental and discontinuous innovation and change results from hosting multiple contradictory structures, processes, and cultures within the same firm" (Tushman & O'Reilly 1996, p. 24). They claimed that structural separation can help an organization develop ambidexterity ability. The second stream is cyclical ambidexterity, in which an organization moves through periods of exploitation and

exploration and adjusts its structures and processes accordingly (Chen & Katilla, 2008). The contextual stream is the focus of this study. Contextual ambidexterity includes organizational context, culture, and managers supporting employees via environmental management and development (Gibson & Birkinshaw, 2004). It can be defined as “the invisible set of stimuli and pressures that motivate a company’s professionals to develop their activities to achieve ambidexterity” (Popadiuk et al., 2018 p. 644). Several studies emphasized the vital elements of the organizational environment that influence ambidexterity; for instance, cultures, structures, processes, and systems (Popadiuk et al., 2018). To acquire ambidextrous ability, organizations need to have processes and systems that promote, support, and inspire employees to embrace ambidextrous behavior while they make decisions regarding the ideal approach to allocate time and resources to contradictory demands. This competence penetrates all organizational levels and functions to accomplish alignment and flexibility, which means that “the more the context is characterized by an interaction between discipline, elasticity, support and trust, the greater the ambidexterity level” (Popadiuk et. al., 2018, p. 644; Gibson & Birkinshaw, 2004).

Organizational Ambidexterity and KSB

Filippini et al. (2012) believed that KM simultaneously facilitates exploration and exploitation. Organizations need to have the two distinct learning modes of exploitation and exploration in order to accomplish a balance and maintain efficiency and innovation (Kang & Snell, 2009). Yet, discovering the appropriate balance between exploration and exploitation is a challenging task: “The basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability” (Levinthal & March, 1993, p. 105). In other words, the combination of the two learning modes is essential for short-term efficiency and long-term survival, but it is difficult to achieve.

The availability of an effective KMS can help an organization find an appropriate balance between exploration and exploitation. In a study conducted by Yang et al. (2016) on Chinese manufacturing companies to examine the influence of an electronic human resource management system (EHRMS) on organizational ambidexterity through the mediation role of the top management team (TMT) and the moderating role of knowledge-sharing intensity. The findings showed that EHRMS can affect organizational ambidexterity through the mediating roles of other resources or capabilities. A high level of TMT effectiveness, as a capability, may be achieved when firms successfully establish an excellent executive Strategic Human Resource Management (SHRM) system. Because of the availability of the SHRM system, the executives were able to instantaneously enhance the efficiency of current innovation approaches and obtain new technology. The results also showed that the level of knowledge sharing from middle managers to TMT members moderated the connection between TMT effectiveness and organizational ambidexterity (Yang et al., 2016). Therefore, firms need to balance the learning modes of exploitation and exploration in order to maintain efficiency in the short term and innovation in the long term (Kang & Snell, 2009; Filippini et al., 2012).

3. Research Model and Propositions

By drawing upon the arguments of the literature review and recent studies in the previous section, Figure 2 illustrates the proposed conceptual model of this study. The model has two paths: direct and indirect. In the direct path, TTF and KMS characteristics are the independent variables

(IVs) that positively affect KSB, which positively mediates the relationship between these two IVs and organizational ambidexterity. In the indirect path, TTF and KMS characteristics are the IVs that positively impact KSB. Then, KSB increases organizational ambidexterity through the mediation role of IWB. The conceptualization for each variable is demonstrated in Table 1. Three theories are applied to justify the relationships among the variables in the demonstrated model.

First, the TTF theory by Goodhue (1995) argues that the usability and effectiveness of a system depend on the suitability and fit between task and system characteristics. According to the TTF theory, the perceived TTF and technology characteristics will positively influence the usability of the system (Goodhue & Thompson, 1995). In this study, the author focuses on the KSB construct instead of the usability construct and argues that the theory applies to this construct and that the perceived TTF and technology characteristics will have a similar influence on KSB. Several studies have revealed that the availability of effective technology systems enhances KSB. Aside from that, effective technology systems encourage users to participate and share knowledge among organization members. Therefore, a suitable KMS positively impacts KSB, which then increases organizational ambidexterity capability (Filippini et al., 2012; Yang et al., 2016). Thus, the following propositions are presented:

H1: For the KMS users, the system's perceived TTF will positively influence their willingness to share knowledge.

H2: For the KMS users, the system's technological characteristics will positively influence their willingness to share knowledge.

The second theory is the knowledge-based view (KBV). The primary assumption of this theory is that organizations exist because of their ability to manage knowledge more efficiently than possible rival organizations. The theory also emphasizes the organizational need for high coordination and integration of learning by the employees in the organization (Kogut & Zander, 1992). Knowledge is a strategic resource for a firm that can create value through exploring and exploiting it by proper management to gain a competitive advantage (Zack, 1999). Thus, KM will enable an organization to outperform its rivals by operating more efficiently, as KM can reduce expenses, raise awareness among workers concerning events within an organization, promote investment in intellectual capital, encourage the adaptation of technology (Alzyadat & Alqutawi, 2010), and enhance coordination among organization members. The effectiveness of KM is associated with information and communication technology; therefore, the availability of KMS will positively influence employee participation, problem solving, and financial performance (Alavi & Leidner, 2001). Also, it enhances the capacity of employee improvisation, which could lead to innovation (Nisula & Kianto, 2016). These arguments lead to the following propositions:

H3a: For the KMS users, the users' willingness to share knowledge will positively mediate the positive relationship between the system's perceived TTF and the users' IWB.

H3b: For the KMS users, the users' willingness to share knowledge will positively mediate the relationship between the system's technological characteristics and the users' IWB.

Third, the social cognitive theory (SCT) was developed by Bandura around the mid-1970s. SCT "views human behavior as an interactive, dynamic, and reciprocal network of personal factors, behavior, and the environment" (Huan & Xing, 2015, p. 1). The main assumption of SCT is that human action is triggered by three interacting factors: behavior, cognitive, and the person's external environment. It emphasizes the processes of learning and the interaction between multiple aspects

therein (Bandura, 1988). From a knowledge-sharing perspective, SCT implies that individuals will not share their knowledge with others if they are not confident of their capabilities and the outcome of the knowledge they share. The author argues that the perceived TTF of KMS will increase knowledge sharing because it enhances the individual's confidence in the shared knowledge output. Furthermore, individual innovation is correlated with both the cognitive aspect, such as knowledge, and non-cognitive aspect, which is personality. In an organizational setting, individual innovation is the result of motivation, knowledge, and contextual influences (Bandura, 1988). Pálsdóttir (2013) claimed that SCT has proven its significance in surveying motivations to share knowledge and to learn. Therefore, individuals are important actors in KMS because an organization is unable to create knowledge and innovate without individuals (Nonaka & Tekeuchi, 1995) who are motivated by an effective KMS to participate and share their knowledge and innovate. According to the TTF theory and the knowledge-based theory, if the users use the system and trust others to share their knowledge within the system (as they perceive the KMS as an important means to develop, disseminate, and utilize knowledge), employee innovation will increase in the workplace. The organizational ability to exploit resources and explore new opportunities will also increase organizational ambidexterity. Eventually, the organization will gain a competitive advantage over its rivals through the knowledge it has, and the intellectual capital created by the employees. Therefore, the following propositions are presented:

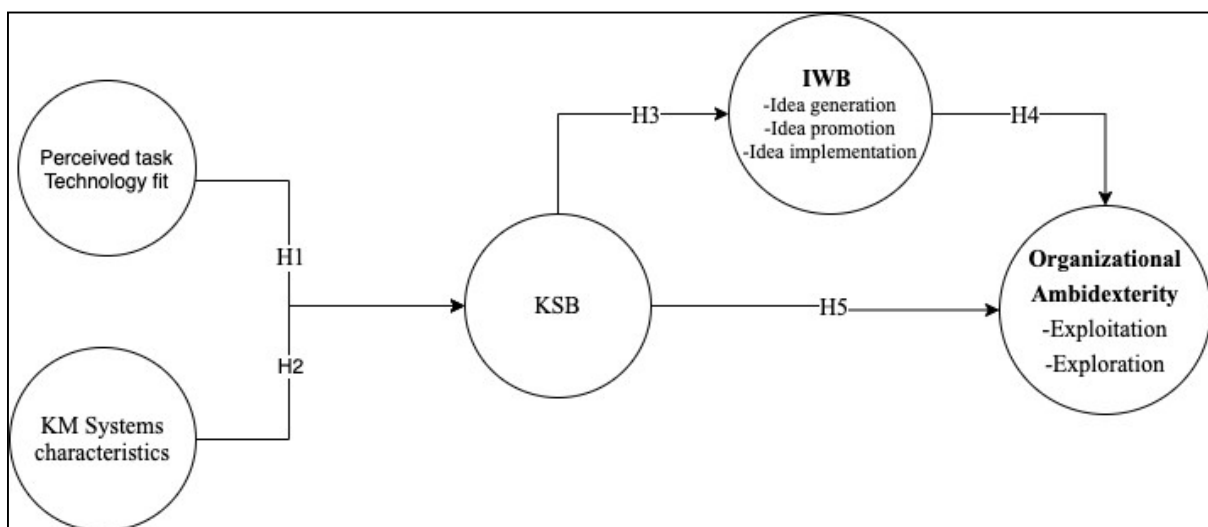
H4a: For the KMS users, IWB will positively influence the organization's ability for exploitation.

H4b: For the KMS users, IWB will positively influence the organization's ability for exploration.

H5a: For the KMS users, the users' willingness to share knowledge will positively influence the organization's ability for exploitation.

H5b: For the KMS users, the users' willingness to share knowledge will positively influence the organization's ability for exploration.

Figure 2 *Research Model*



4. **Methodology**

The proposed method for empirically testing the theoretical model is the quantitative method, and the questionnaire is the primary tool for data collection. The population of the study will be organizations that have implemented KMS, and the managers and employees would be the appropriate respondents. The study questionnaire is divided into two groups. The first group encompasses 29 items for employees, and the second group contains 6 items for managers. According to Podsakoff et al. (2003), using two samples to participate in the questionnaire can help minimize the issue of common method bias of self-reported information. Table 1 shows the adopted measures for each construct. All the measures are established scales that have been previously tested and validated. The internal reliability test for the constructs' scales ranges from 0.9 to 0.5.

The suggested assessment of the measurement model has four main steps. In the first step, Cronbach's alpha will be used to test the internal reliability of the scales. In the second step, confirmatory factor analysis (CFA) will be conducted to examine the measurement of model fit to a data set. CFA is important in the analysis procedure because it allows researchers to identify and test the significance of factor loadings for each indicator (Dimitrov, 2012). Moreover, CFA will be applied to address construct validation with three criteria: reliability, convergent validity, and discriminant validity (Hamann et al., 2013). In the fourth step, structural equation modeling (SEM) will be run. SEM is a suitable approach for the proposed conceptual model because its multivariate method permits simultaneous analysis of all hypotheses in the model instead of testing them separately. It enables the researcher to test for direct and indirect paths in a model in one step. SEM also considers the influence of multiple mediators simultaneously (Hayes et al., 2017). The SEM method is recommended over other analysis methods because it produces model fit information regarding the reliability of the hypothesized mediational model and indications for the credibility of the proposed mediation model (Imai & Tingley, 2010).

Table 1 *The formal definitions of constructs and adopted measures*

CONSTRUCTS	DEFINITION	MEASURES
Technology characteristics	“The technological dimensions that are part of effective knowledge management include business intelligence, collaboration, distributed learning, knowledge discovery, knowledge mapping, and opportunity generation in carrying out their tasks.” (Lin & Huang, 2008, p. 414)	9 items, (Gold et al., 2001)
Perceived task-technology fit	“The perception that the KMS capabilities match with the user's task requirements.” (Lin & Huang, 2008, p. 414)	8 items, (Jarupathirun & Zahedi, 2007)

Knowledge-sharing behavior	“A social interaction culture involving the exchange of employee knowledge, experiences, and skills through the whole department or organization.” (Sihombing, 2011, p. 26)	3 items, (Lin, 2007)
Innovative work behavior	“The extent to which employees behave to create, promote, and implement new ideas in a group or organization.” (Phung, et al., 2017, p. 229)	9 items, (Janssen, 2000)
Organizational ambidexterity: exploration	“The tendency of a firm to invest resources to refine and extend its existing product innovation knowledge, skills, and processes.” (Athuahene-Gima, 2005, p. 62)	3 items, (Athuahene-Gima, 2005)
Organizational ambidexterity: exploitation	“The tendency of a firm to invest resources to acquire entirely new knowledge, skills, and processes.” (Athuahene-Gima, 2005, p. 62)	3 items, (Athuahene-Gima, 2005)

5. **Limitation and Future Studies**

This is a conceptual study; thus, the key limitation is it is theoretical in nature and provides no empirical evidence to support the findings. Future research can test the propositions within an organizational setting. Furthermore, the proposed model only considers two factors of KMS (KMS characteristics and TTF). Additional analysis can be performed to examine other factors of KMS, such as KMS capabilities and KMS self-efficacy (Lin & Huang, 2008). This study does not differentiate between different types of KMS, which could influence the perceived TTF of KMS. In the future, scholars can consider the influence of different types of KMS and their functionalities on organizational ambidexterity. Further research may also consider other dimensions for organizational ambidexterity, such as agility and discipline (Boehm & Turner, 2004), alignment and adaptability (Napier et al., 2011).

6. **Conclusion**

To summarize, knowledge is the new fuel for organizations because it sustains their competitiveness and innovativeness. This study proposed a theoretical model to answer the question of how KMS influences organizational ambidexterity through the mediation roles of KSB and IWB. In addition, it investigated the issue of the lack of knowledge contributions from KMS users that could cause a system failure, which prevents employees and organizations from fully utilizing the system to maximize their learning and innovation (Lin & Huang, 2008; Wang et al., El Said, 2015; Becerra-Fernandez & Sabherwal, 2015). This study has theoretical and practical contributions.

This study contributes to the theoretical discussion in the fields of KM and organizational performance. It proposed a model that combines KMS, KSB, and organizational ambidexterity and illustrated the association among them via three theories: TTF, KBV, and SCT. This study shed new light on the link between KMS and organizational ambidexterity, since the literature lacks studies in this field. This study appears to be the first to propose the mediating effects of KSB and IWB on KMS and organizational ambidexterity.

From a practical perspective, the study underlines the importance of selecting a suitable KMS, and managers should consider it to stimulate knowledge sharing among their employees, which can enhance their innovativeness. This study also provides some related implications that will inspire managers to adopt strategies aimed at improving KMS implementation and boosting organizational

ambidexterity. The theoretical model offers insights into the organization's need to assess its capabilities and make better decisions regarding the direction of KM initiatives.

There are some limitations associated with the present study. First, the paper is theoretical without empirical evidence. It is recommended for future research to empirically test the developed model using the suggested measures in different sectors, such as the service or public sectors. Second, the study did not consider contextual factors that might affect the effectiveness of the KM system. Thus, it is recommended for future research to expand the proposed mode and incorporate contextual factors such as organizational structure and culture.

3 **References**

- Akhavan P., Hosseini S.M., Abbasi M., & Manteghi M. (2015). Knowledge- sharing determinants, behaviors, and innovative work behaviors: An integrated theoretical view and empirical examination. *Aslib Journal of Information Management*, 67(5), 562-591.
- Al Rashdi, M., Akmal, S. B., & Al-shami, S. A. (2019). Knowledge Management and Organizational Performance: A Research On Systematic Literature. *International Journal of Innovative Technology and Exploring Engineering*, 8(6S4).
- Alavi, M., (2000). Managing organizational knowledge in R. Zmud (ed.), *Framing the domains of IT management: Projecting the future through the past*, Cincinnati Ohio: Pinnaflex Educational Resources.
- Alavi, M., & Leidner, D. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25, 107–136.
- Ali, A. A. S., Kumar, S. S., Sreejith, B., & Singh, G. S. (2019). Employee perception of impact of knowledge management processes on public sector performance. *Journal of Knowledge Management*, 23(2), 351–373.
- Alzyadat, M., & Alqutawi, M. (2010). The level of political knowledge in social studies teachers in Jordan and its relationship with some variables. *Islamic University Journal*, 18, 399- 428.
- Anser, M., Yousaf, Z., Khan, A., & Usman, M. (2020). Towards Innovative Work Behavior through Knowledge Management Infrastructure Capabilities: Mediating Role of Functional Flexibility and Knowledge Sharing. *European Journal of Innovation Management*.
- Asiaei, Kaveh & Bontis, Nick. (2019). Translating knowledge management into performance: The role of performance measurement systems. *Management Research Review*. 43, 113-132.
- Atuahene-Gima, K. (2005). Resolving the capability: Rigidity paradox in new product innovation, *Journal of Marketing*, 69, 61–83.
- Bandura, A. (1988). Organizational applications of social cognitive theory. *Australian Journal of Management*, 13, 137–164.
- Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: the role of organizational reward systems. *Journal of Leadership and Organization Studies*, 9, 1, 64-76.
- Becerra-Fernandez, I., & Sabherwal, R. (2015). *Knowledge management systems and processes*. New York, Ny Routledge.
- Boehm, B., & Turner, R. (2004). Balancing agility and discipline: Evaluating and integrating agile and plan-driven methods. In IEEE, *Proceedings. 26th International Conference on Software Engineering*, 718-719.
- Carter, W. R. (2015). Ambidexterity deconstructed: A hierarchy of capabilities perspective. *Management Research Review*, 38(8), 794-812.
- Cegarra-Navarro, J.-G., Jimenez-Jimenez, D., & Garcia-Perez, A. (2021). An Integrative View of Knowledge Processes and a Learning Culture for Ambidexterity: Toward Improved Organizational Performance in the Banking Sector. *IEEE Transactions on Engineering Management*, 68(2), 408–417.
- Chai, S., & Kim, M. (2012). A socio-technical approach to knowledge contribution behavior: An empirical investigation of social networking sites users. *International Journal of Information Management*, 32(1), 118-126.

- Chen, E. L., & Katilla, R. (2008). Rival interpretations of balancing exploration and exploitation: Simultaneous or sequential? In S. Shane (Eds.), *Handbook of technology and innovation*
- De Jong J.P.& Den Hartog D.N. (2007). How leaders influence employees' innovative behavior. *European Journal of Innovation Management*, 10(1), 41–64.
- Dimitrijevic, L. R. (2014). Risk assessment of knowledge management system. *Online Journal of Applied Knowledge Management*, 3(2), 114–126.
- Dimitrov, D. M. (2012). *Statistical methods for validation of assessment scale data in counseling and related fields*. American Counseling Association PP - Alexandria, Virg.
- Filippini, Roberto, Güttel, Wolfgang & Nosella, Anna. (2012). Ambidexterity and the evolution of knowledge management initiatives, *Journal of Business Research*. 65.
- El Said, Ghada R. (2015). Understanding Knowledge Management System antecedents of performance impact: Extending the Task-technology Fit Model with intention to share knowledge construct, *Future Business Journal*, (1)2, 75-87.
- Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47(2), 209-226.
- Gold A.H., Malhotra A., & Segars A.H. (2001). Knowledge management: an organizational capabilities perspective, *Journal of Management Information Systems* 18(1), 185–214.
- Goodhue, D. L., & Thompson, R. L. (1995). Task technology fit and individual performance. *MIS Quarterly*, 19(2), 213–236.
- Goodhue, Dale L. (1995). Understanding user evaluations of information systems, *Management* 41(12). 827-1844.
- Halal, W. E. (2008). *The logic of knowledge: making sense of the new principles that govern organizations and economics*. George Washington University.
- Hamann, P. M., Schiemann, L. B., & Guenther, T. W. (2013). Exploring the dimensions of organizational performance: A construct validity study. *Organizational Research Methods*, 16, 67-87
- Hayes, A. F., Montoya, A. K., & Rockwood, N. J. (2017). The analysis of mechanisms and their contingencies: PROCESS versus structural equation modeling. *Australasian Marketing Journal (AMJ)*, 25(1), 76-81
- Huan, X. (2015). The Role of Social Cognitive Theory in Understanding Firm Innovation. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2608744>
- Imai K, Keele L,& Tingley D. (2010). A general approach to casual mediation analysis, *Psychological Methods*. 15(4):309–334.
- Jarupathirun S.,& Zahedi F.M. (2007). Exploring the influence of perceptual factors in the success of web-based spatial DSS, *Decision Support Systems* 43 (1), 933–951.
- Junni, P., Sarala, R. M., Taras, V., & Tarba, S. Y. (2013). Organizational ambidexterity and performance: A meta-analysis. *Academy of Management Perspectives*, 27(4), 299-312.
- Kang Sung-Choon& Snell Scott A. (2009). Intellectual Capital Architectures and Ambidextrous Learning: A Framework for Human Resource Management. *Journal of Management Studies*; 46 (January): 65-92
- Kankanhalli, A., Wei, B.C.Y K. (2005). Understanding seeking from electronic knowledge repositories: an empirical study, *Journal of the American Society for Information Science and Technology*, 56 (11),1156–1166.

- Khaliq, M., Bontis, N., Shaari, A. N. B J., Yaacob, M.R. & Ngah, R. (2018), Intellectual capital and organisational performance in Malaysian knowledge-intensive SMEs. *International Journal of Learning and Intellectual Capital*, 15 (1), 20-36.
- Klopping I.M., & McKinney E. (2004). Extending the technology acceptance model and the task-technology fit model to consumer e-commerce, *Information Technology, Learning, and Performance Journal* 22 (1). 35–48.
- Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, 3, 384–397.
- Lam T., Cho V., & Qu H. (2007). A study of hotel employee behavioral intentions towards adoption of information technology. *International Journal of Hospitality Management* 26 (1.).
- Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *Academy of Management Annals*, 4(1), 109-155. DOI: 10.1080/19416521003691287
- Lee C.C., Cheng H.K., & Cheng H.H.. (2007). An empirical study of mobile commerce in insurance industry: task–technology fit and individual differences, *Decision Support Systems* 43 (1). pp. 95–110.
- Lee L.L.. (2003). Knowledge Sharing Metrics for Large Organizations, in: *Knowledge Management: Classic and Contemporary Works*, W. Ives, B. Torrey and C. Gordon, eds, The MIT Press, Cambridge, MA.
- Levinthal Daniel A. & March, James G. (1993). The Myopia of Learning. *Strategic Management Journal*; 14 (Winter): 95-112
- Lin, Tung-Ching & Huang Chien-Chih (2008). Understanding knowledge management system usage antecedents: An integration of social cognitive theory and task technology fit, *Information & Management*, 45(6), 410-417.
- Lin, H. (2007). Effects of Extrinsic and Intrinsic Motivation on Employee Sharing Intentions, *Journal of Information Science*, 33, 3, 135-149.
- Napier, N. P., Mathiassen, L., & Robey, D. (2011). Building contextual ambidexterity in a software company to improve firm-level coordination. *European Journal of Information Systems*, 20(6), 674-690.
- Nisula, A. M., & Kianto, A. (2016). The role of knowledge management practices in supporting employee capacity for improvisation. *The International Journal of Human Resource Management*, 27, 1920–1937.
- Nold III H.A. (2012). Linking knowledge processes with firm performance: organizational culture, *Journal of Intellectual Capital*, 13(1), 16- 38.
- Nonaka, I. & Takeuchi, H. (1995). *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation* (1st ed.). London: Oxford University Press.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organisational Psychology*, 73, 287–302.
- O’Reilly III, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review*, 82(4), 74-81.
- Pálsdóttir A (2013) Social cognitive theory. In Wilson TD (eds). *Theory in Information Behaviour research*. Sheffield, UK: Eiconics Ltd. [E-book] ISBN 978-0-9574957-0-8.
- Phung, D., Hawryszkiewicz, I., & Ha, B. (2017). *The influence of knowledge sharing behavior and transactive memory systems on innovative work behavior: A conceptual model*. 227–232. <https://doi.org/10.1109/KSE.2017.8119463>

- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Popadiuk, Silvio, Rosa Souza Luz, Aruana, Kretschmer, Caroline. (2018). Dynamic Capabilities and Ambidexterity: How are These Concepts Related? *Revista de Administração Contemporânea*. 22. 639-660.
- Radaelli G., Lettieri E., Mura M., & Spiller N. (2014). Knowledge Sharing and Innovative Work Behaviour in Healthcare: A Micro-Level Investigation of Direct and Indirect Effects, *Creativity and Innovation Management*, 23, 400–414.
- Sabrina O. Sihombing (2011). Understanding Knowledge Sharing Behaviour: an Examination of the Extended Model of Theory of Planned Behaviour. *Journal the winners*.12 (1). 24-39.
- Scarbrough H. (2003), Knowledge management, HRM and innovation process, *International Journal of Manpower*, 24(5), 501-16.
- Schwartz D. G. (2006), *Encyclopedia of Knowledge Management* IGI Global.
- Scott S. G. , & Bruce R.A. (1994) Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, 37, 580-607
- Severgnini, Elizandra, Takahashi, Adriana Roseli Wunsch, & Abib, Gustavo. (2019). Risk and Organizational Ambidexterity: A Meta-Synthesis of a Case Study and a Framework. *BBR. Brazilian Business Review*, 16(5), 470-499.
- Shanker R., Bhanugopan R., Beatrice I.J.M., Heijden Van Der, & Farrell M., (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, 100, 67-77,
- Small, C., & Sage, A. (2005). Knowledge Management and Knowledge Sharing: A Review. *Information Knowledge Systems Management*, 5, 153–169.
- Stadler, C., Rajwani, T., & Karaba, F. (2014). Solutions to the exploration/exploitation dilemma: Networks as a new level of analysis. *International Journal of Management Reviews*, 16(2), 172- 193.
- Strong, D.M., Dishaw, M.T., & Bandy, D.B. (2006). Extending task technology fit with computer self-efficacy. *Advances in information Systems*, 37(2-3), 96-107.
- Tushman Micahel L. & O'Reilly III Charles A. (1996) Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*; 38 (Summer): 8-30
- Wang, Y., Meister, D.B., & Gray, P.H. (2013). Social influence and knowledge management systems use: evidence from panel data. *MIS Quarterly*, 37(1), 299- 313.
- Wixom, B. H., & Todd, P. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16(1), 85–102.
- Wu J.H., Chen Y.C., & Lin L.M. (2007). Empirical evaluation of the revised end user computing acceptance model, *Computers in Human Behavior* 23 (1). pp. 162–174.
- Ye, L. R., & Johnson, P. E. (1995). The impacts of explanation facilities on user acceptance of expert systems advice. *MIS Quarterly*, 19(2), 157–172.
- Yu, C., Yu, T., & Yu, C. (2013). Knowledge sharing, organizational climate, and innovative behavior: A cross-level analysis of effects. *Social Behavior and Personality: An international journal*, 41, 143-156.
- Yang, Chen & Guiyao, Tang & Cooke, Fang & Jin, Jiafei. (2016). How Does Executive Strategic Human Resource Management Link to Organizational Ambidexterity? An Empirical Examination of Manufacturing Firms in China: Strategic Human Resource

Management and Organizational Ambidexterity in China. *Human Resource Management*. 55.

- Zack, M. H. (1999). Developing a knowledge strategy. *California Management Review*, 41, 125–145.