

Organizational Readiness and its Contributing Factors to Adopt KM Processes: A Conceptual Model

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Abstract

The main purpose of this paper is to propose a conceptual model that can be used to assess the organizational readiness and its contributing factors for KM process adoption. The authors propose that the organizational readiness should be assessed considering both organizational and individual factors. The model has been developed by integrating KM infrastructure and Unified Theory of Acceptance and Use of Technology (UTAUT). This model will enrich the KM literature, especially on KM readiness, while being the basis for other researchers and authors to develop further.

Keywords: KM processes, Organizational readiness, UTAUT, KM infrastructure.

1. Introduction

Knowledge has been identified as one of the main resources in the contemporary world (Nonaka & Takeuchi, 1995). Due to this recognition, many organizations attempt to adopt knowledge management (KM) processes to manage their knowledge properly. The processes of knowledge creation, storage, sharing, application, and protection have been identified as KM processes in the KM literature. The term KM and KM processes have been used inter-changeably by most authors, who perceived KM as a process. Today, the adoption of KM processes is widespread among business organizations all over the world. Because of these reasons, KM process adoption has gained much attention from academicians, researchers, and practitioners. However, little attention has been given

to the assessment of organizational readiness to adopt KM processes. In this context, the purpose of this paper is to propose a conceptual model that can be used to assess the organizational readiness for KM process adoption, by integrating KM infrastructure and Unified Theory of Acceptance and Use of Technology (UTAUT).

Following background section reviews the literature on organizational readiness for KM process adoption, KM infrastructures, and employee attitude towards KM processes adoption. The third section of this paper integrates the KM infrastructure and the UTAUT. Finally, point out the limitations of this model and the direction for future works.

2. Background

KM process adoption requires changes in the organizational setup and members' behavior. Siemieniuch and Sinclair (2004) point out that organizations and individuals need to exhibit certain characteristics in order to adopt KM processes. They have quoted the saying "if you would plant roses in the desert, first make sure the ground is wet". It is understood that introducing any change in any organization is difficult and, therefore, leaders are encouraged to assess the readiness of their organization to adopt those changes in advance. Organizational leaders, who intent to adopt KM process in their organizations, ask themselves 'Where to start?' and 'Is my organization ready?'. Holt *et al.*, (2007) stress that considering the magnitude of organizational commitment and resources often required to initiate adoption of KM processes, more attention should be given on KM readiness studies.

However, extensive review of KM literature shows that the literature on organizational readiness for KM process adoption is limited, and narrowly focused. The concept has not been fully explored yet. Still no one has proposed a conceptual model or framework or an instrument that has been recognized by the research community in the field of KM. The following section reviews the existing literature on readiness for KM process adoption.

2.1. Literature review on readiness for KM process adoption

Holt *et al.*, (2007) consider the receptive attitudes of organizational members as the readiness for KM process adoption. They have developed an instrument to assess the readiness for KM, which mostly concentrate on knowledge sharing process, and on human factors. Their readiness instrument does not measure the organizational physical and logical infrastructures, such as IT and organizational structure, which are considered influencing factors for KM process adoption. In addition, they have not proposed any conceptual model to identify the variables, and the relationship among the variables. Similarly, Taylor & white (2004) has explored six antecedents of knowledge sharing, based on observations, document review, and interview in the public health care sector in UK. They have focused only on knowledge sharing, one of the KM processes, rather than considering all KM processes. The findings have to be validated using quantitative research approaches. Meantime, Siemieniuch and Sinclair (2004), have proposed 14 steps to make an organization ready for KM. The proposal is still at conceptual level and not yet empirically validated. Likewise, Keith *et al.*, (2006) have stated that measuring KM readiness, based on KM enablers introduced by Lee & Choi (2003), is much suitable for a traditional organization. This also has to be empirically validated. In addition, Wei *et al.*, (2006) have investigated the readiness of Malaysian telecommunication industry to adopt KM by investigating the perceived usefulness and actual implementation of some variables such as, business strategy, organizational structure, knowledge team, knowledge audit, and knowledge map. Though they have used survey methods, they do not have focused comprehensively on the matter and not have used any research framework to identify the dependent and independent variables and relationship between them.

The above review of the literature confirms that the concept KM readiness has to be explored from different perspectives using different research approaches. Most of the available literatures are at conceptual level which has to be empirically

validated. Few studies on readiness for KM adoption have taken only the knowledge sharing process rather than taking whole KM processes into consideration. In addition, the studies have considered either human or organizational factors in isolation, which create a need of an approach combining both of these factors together. Therefore, the present authors propose that the readiness for KM process adoption should be assessed considering both organizational and individual factors. In this perspective, the organizational readiness to adopt KM process can be explained as, the availability of physical and logical infrastructures in the organization (organizational factors), and the willingness of the organizational members (individual factors) to adopt KM processes. The same view is supported in the literature as well. Siemieniuch & Sinclair (2004) believe that organizations can not expect to implement KM practices successfully to achieve all their goals in an environment, which is not conducive to their execution. At the same time, Holt *et al.*, (2007) insist that a critical question for organizations that are thinking of attempting to extract the value implicit from KM is to what degree are they ready to have KM successfully adopted by people in the organization. The organizational factors, which are considered as the pre conditions for KM process adoption, are called KM infrastructures in KM literature. The factors that influence on the willingness or positive attitudes of organizational members towards KM process are considered as the individual factors. In this background, the present authors propose a conceptual model combining both the organizational and individual factors. The following sections describe the relevance of KM process adoption and the KM infrastructure, and employee's attitudes.

2.2. KM infrastructure and readiness for KM adoption

To adopt KM processes in an organization, specified structural, physical, and logical changes are required in their conduct of operation. These preconditions, on which KM resides, have been defined as KM infrastructures in the KM literature (Becerra-Fernandez *et al.*, 2004, Gold *et al.*, 2001). KM infrastructure includes (1) KM supportive organizational culture, (2) KM supportive organizational structure, and (3) KM supportive IT infrastructure. In addition, several authors have stated these factors as the main contributing factors for adoption of KM processes, though they have termed them differently. For example, KM enablers (Lee & Choi, 2003) KM critical success factors (Al-Alawi *et al.*, 2007; Hung *et al.*, 2005; Wong, 2005),

influencing factors on KM (Holsapple & Joshi, 2000), and KM initiatives (Kulkarni *et al.*, 2007).

As an organization means a group of people with a common goal operating in a structured context, considering only the organizational factors is not enough in the assessment of organizational readiness for KM process adoption. Therefore, the perception and attitudes of the organizational members toward any change or activity have a major impact. Hence, the readiness of organizational members for KM process adoption also should be assessed, as the concept of KM is considered as not only merely as technical concept, rather it is considered as a fusion of socio technical concept (Jennex, & Zynger, 2007). It is worthwhile to consider at this point that, the economical term ‘demand’ which means the willingness and the ability to purchase a good or service. Merely a need or want (willingness) of people does not consider as readiness to create a demand. To consider as demand the willingness should be coupled with the ability (purchasing power). Similarly, the term ‘workforce’ includes the people who possess the ability and the willingness to work. From these two examples, it can be understood that the readiness to do or execute anything, one should have the willingness and the resources (or the ability) to do or execute. In this perspective, the organizational readiness to adopt KM process can be explained that the availability of physical and logical infrastructures in the organization (KM infrastructure), and the willingness (positive attitudes) of the organizational members to adopt KM

processes. Subsequent section explores the ways of assessing organizational members’ attitudes.

2.3. Employee attitude and UTAUT

There are many theories and models in information systems (IS) and change management literature, which can be used as a basis to measure the attitudes and behaviors of employees. For instant, the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Theory of Planned Behavior (TPB), and so on. Meantime, Venkatesh *et al.* (2003) have proposed a Unified model, called the Unified Theory of Acceptance and Use of Technology (UTAUT) (see figure 1) by integrating eight models and theories of individual acceptance, such as TRA, TAM, TPB, Motivational Model (MM), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization, Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT). Though these theories are commonly been used to assess the individual acceptance of technologies/systems, some models have been used in other context as well. For example, TAM has been tested and validated from different technologies’ adoption perspectives, including Knowledge Management Systems (KMS) (Money & Turner, 2004). In addition, Wu & Li (2007) has used TAM to explain employees’ attitudes toward and behavior intentions concerning the implementation of KM program. Moreover, intensive review of literature shows that the basic concept of TAM has been used in some other field and context as well to measure the readiness of adoption.

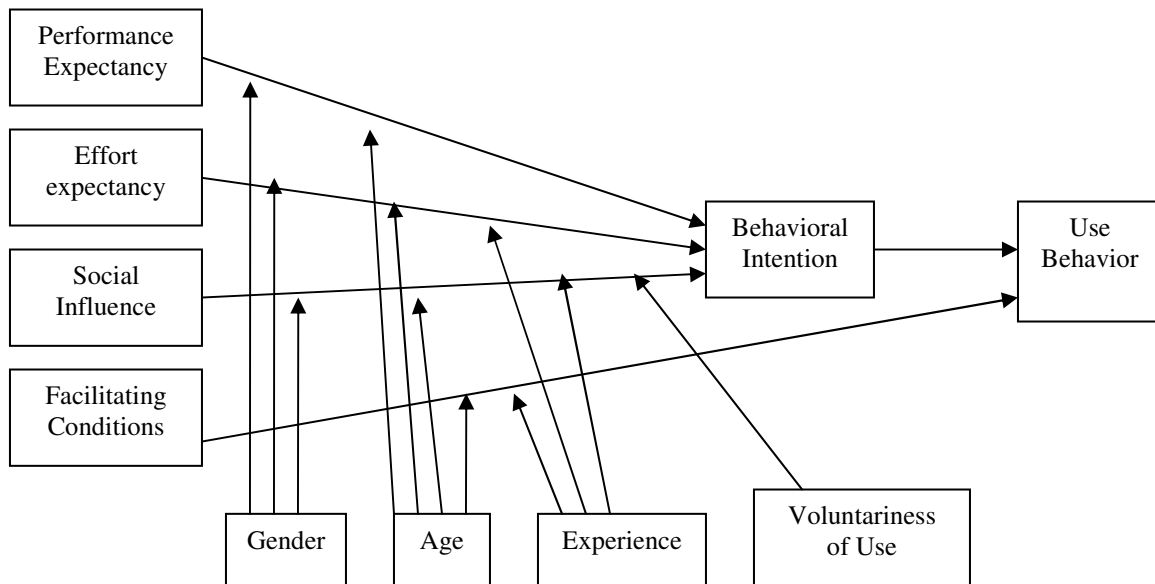


Figure 1. Unified Theory of Acceptance and Use of Technology (UTAUT) (Source Venkatesh *et al.*, 2003)

For instant, TAM being used in adoptability of ecommerce (Venkatesh *et al.*, 2003), acceptance of laptop program (Elwood *et al.*, 2006), and internet usage (Fusilier & Durlabhji, 2005). Meantime, the ease of use, one of the independent constructs of the TAM, has been cited as an important consideration for KM process adoption in the KM literature (Wong 2005; Loyarte & Rivera, 2007; Al-Alawi, *et al.*, 2007; Bozbura, 2007). In this backdrop, the integration of UTAUT with KM infrastructure is acceptable to assess the organizational readiness.

3. Integration of KM infrastructure and UTAUT

As previously discussed, one of the components of KM infrastructures is IT infra structure. IT and the Knowledge Management Systems (KMS) are much needed components for an effective KM process adoption. Indeed, technology adoption and KMS adoption are basically similar. Therefore, integrating these two concepts is logically acceptable. One of the main two independent constructs in the UTAUT model is 'performance expectancy', which has been defined as 'the degree to which an individual believes that using the system will help him or her to attain gains in job performance' (Venkatesh *et al.*, 2003). In KM context, it can be redefined (modified) the same construct as 'Performance expectancy of adopting KM processes' that means 'the degree to which the organizational members believe that adopting KM processes will help them to attain gains in job performance individually and collectively'.

According to Davis (1989), perceived usefulness, one of the root construct of performance expectancy, influenced (reinforced) by rewards and top management support (Grandon & Pearson, 2004). These two variables have been considered in the KM literature as KM supportive organizational culture. The other two variables of organizational culture, understand the value of KM and the alliance of KM strategy with the organizational strategy, should have positive relationship with the performance expectancy. Without understanding the value of KM, there is no possibility to perceive usefulness of adopting KM processes. At the same time, without an alliance with both KM and organizational strategy, organizations can not expect any improvement in their performances. In this background, it can be expected that the KM supportive organizational

culture and IT infrastructure can influence on perceived usefulness.

The other main independent construct in the UTAUT model is 'Effort expectancy', which has been defined as 'degree of ease associated with the use of the system' (Venkatesh *et al.*, 2003). In KM context, the construct can be redefined as 'Effort expectancy of adopting KM processes' that means 'The degree to which organizational members believe that adopting KM processes would be easy and comfortable'. The variables, such as user friendliness and easy to access, which are used in the UTAUT, could be used to measure the effort expectancy of KMS as well. In addition, though the technology is considered as one of the essential supporting factors for KM process adoption, if the logical structure of the organization does not support it, the organizational members will feel uneasiness to adopt KM processes. Therefore, the organizational structure should support flexibility in the conduct of operation (decentralization). At the same time, there should be some organizational members who are in charge for KM initiatives (KM oriented organizational positions). Furthermore, 'communities of practice' nowadays mostly depends on IT. Therefore, it can be expected that IT infrastructure and organizational structure can influence on effort expectancy of adopting KM processes.

Based on the above discussion, by integrating KM infrastructure and UTAUT, the basic research model has been proposed (see Figure 2). There are three independent constructs in the model; KM infrastructure, performance expectancy of adopting KM processes, and effort expectancy of adopting KM processes. KM infra structure (organizational factors) is considered as the pre condition for KM implementation, which has an indirect influence on adoption of KM processes. This construct was developed based on Grandon & Pearson's (2004) research model (based on TAM), in which they have considered availability of financial resources and technology resources as organizational readiness. Lehman *et al.*, (2002) also has considered adequacy of resources as a construct to measure the readiness for change. Other two independent construct performance expectancy and effort expectancy are taken from UTAUT.

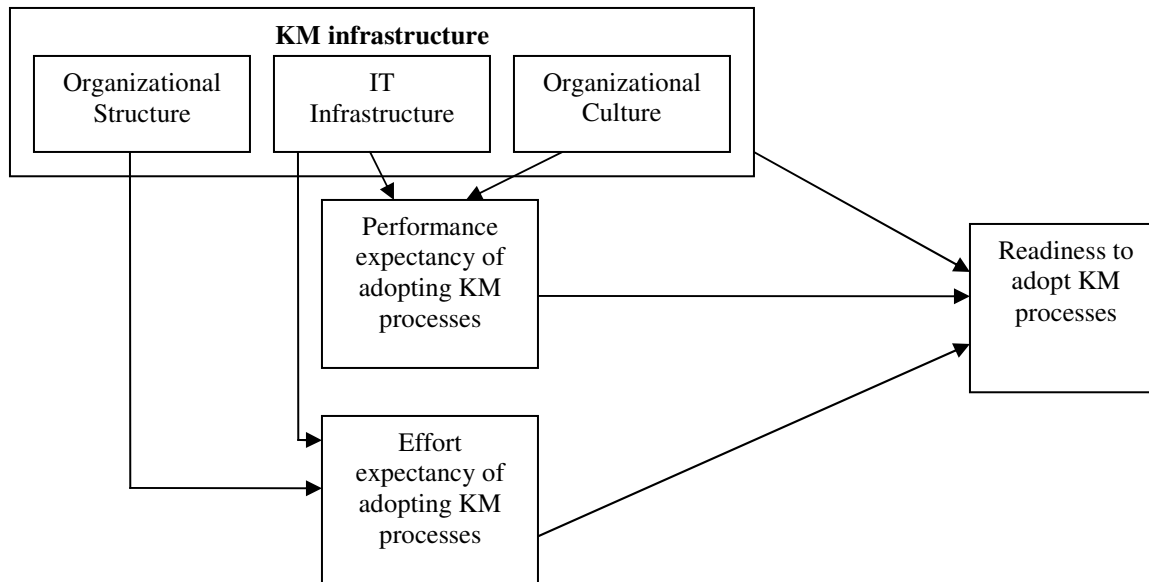


Figure 2. Integrated KM process adoption model.

In this integrated model, though effort expectancy is an independent construct, it is expected that it could be influenced by organizational structure and IT infrastructure. Similarly, performance expectancy is influenced by IT infrastructure and organizational culture. It is believed that readiness to adopt KM process will lead to KM process adoption, as the theory of planned behavior (TPB) establishes that perceptions influence intentions, which influence the actual behavior (Grandon & Pearson, 2004). Please see Table 1 for construct definitions, and Tables 2-7 for root construct, definitions, and scales.

4. Conclusion

The authors propose a conceptual model by integrating KM infrastructure and UTAUT to assess organizational readiness for KM process adoption. They believe that this model will assess both organizational and individual factors which determine the overall readiness of an organization for KM process adoption. Therefore, this model can be used as the basis for future studies in this area. Though the model appeared to be good enough to assess the readiness for KM process adoption, the constructs have to be theoretically well supported. Variables that represent the constructs should be identified. In addition, the model has to be tested empirically at different context by using different samples, and different research methodologies.

Table 1. Construct and definition

Readiness to adopt KM processes	Receptive attitudes of organizational members to adopt KM processes
Performance expectancy of adopting KM processes	The degree to which the organizational members believe that adopting KM processes will help them to attain gains in job performance individually and collectively.
Effort expectancy of adopting KM processes	The degree to which organizational members believe that adopting KM processes would be easy and comfortable.
Organizational Culture	The degree, to which an appropriate organizational culture that encourages people to adopt KM processes, exists in the organization.
Organizational Structure	The degree, to which an appropriate organizational culture that encourages people to adopt KM processes, exists in the organization.
IT Infrastructure	The degree, to which an IT infrastructure that support KM process adoption, exists in the organization.

Table 2. Organizational Culture: Root constructs, definitions, and scales

Construct	Definition	Items
Collaboration (Lee & Choi 2003)	Degree of active support and helps in organization	1. Our organizational members are satisfied by the degree of collaboration. 2. Our organizational members are supportive. 3. Our organizational members are helpful. 4. There is a willingness to collaborate across organizational units within our organization. 5. There is a willingness to accept responsibility for failure.
Trust (Lee & Choi 2003)	Degree of reciprocal faith in others' intentions, behavior, and skills toward organizational goals	Our company members... 1. are generally trustworthy. 2. have reciprocal faith in other members' intentions and behaviors. 3. have reciprocal faith in others' ability. 4. have reciprocal faith in others' behaviors to work toward organizational goals.

		5. have reciprocal faith in others' decision toward organizational interests than individual interests. 6. have relationships based on reciprocal faith.
Learning (Lee & Choi 2003)	Degree of opportunity, variety, satisfaction, and encouragement for learning and development in organization.	Our company ... 1. provides various formal training programs for performance of duties. 2. provides opportunities for informal individual development other than formal training such as work assignments and job rotations. 3. encourage people to attend seminars, symposia, and so on. 4. provide various programs such as clubs and community gatherings. 5. members are satisfied by the contents of job training or self-development programs.

Table 3. Organizational Structure: Root constructs, definitions, and scales

Construct	Definition	Items
Centralization (Lee & Choi 2003)	Degree of authority and control over decisions	Our company members.... 1. can take action without a supervisor (R).

		<p>2. are encouraged to make their own decisions (R).</p> <p>3. do not need to refer to someone else (R).</p> <p>4. do not need to ask their supervisor before action (R).</p> <p>5. can make decisions without approval (R).</p>
Formalization (Lee & Choi 2003)	Degree of formal rules, procedures, and slandered policies	<p>In our company...</p> <p>1. there are many activities that are not covered by some formal procedures (R).</p> <p>2. contacts with our company are on a formal or planned basis.</p> <p>3. rules and procedures are typically written.</p> <p>4. members can ignore the rules and reach informal agreements to handle some situations (R).</p> <p>5. members make their own rules on the job (R).</p>

Table 4. IT infrastructure: Root constructs, definitions, and scales

Construct	Definition	Items
IT support (Lee & Choi 2003)	Degree of IT support for collective work, for communication, for searching and accessing,	<p>Our company...</p> <p>1. provides IT support for collaborative works regardless of time and place.</p>

	<p>for simulation and prediction, and for systematic storing.</p>	<p>2. provides IT support for communication among organizational members.</p> <p>3. provides IT support for searching for and accessing necessary information.</p> <p>4. provides IT support for simulation and prediction.</p> <p>5. provides IT support for systematic storing.</p>
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Table 5. Performance Expectancy: Root constructs, definitions, and scales

Construct	Definition	Items
Perceived Usefulness (Davis 1989)	The degree to which a person believes that adopting KM processes would enhance his or her job performance.	<p>1. KM process adoption would enable me to accomplish tasks more quickly.</p> <p>2. KM process adoption would improve my job performance.</p> <p>3. KM process adoption would increase my productivity.</p> <p>4. KM process adoption would enhance my effectiveness on the job.</p> <p>5. KM process adoption would make it easier to do my job.</p> <p>6. I would find KM process adoption useful in my job</p>

Job-fit (Thompson <i>et al</i> , 1991)	How the adoption of KM processes enhance an individual's job performance.	<p>1. KM process adoption will have no effect on the performance of my job (R).</p> <p>2. KM process adoption can decrease the time needed for my important job responsibilities.</p> <p>3. KM process adoption can significantly increase the quality of output on my job.</p> <p>4. KM process adoption can increase the effectiveness of performing job tasks.</p>
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Table 6. Effort Expectancy: Root constructs, definitions, and scales

Construct	Definition	Items
Perceived Ease of Use (Davis 1989)	The degree to which a person believes that Adopting KM processes would be free of effort.	<p>1. Adopting KM processes would be easy for me.</p> <p>2. Adopting KM processes would be clear and understandable for me.</p> <p>3. I would find the adoption of KM processes would be flexible.</p> <p>4. It would be easy for me to become skillful by adopting KM processes.</p>
Complexity (Thompson <i>et al</i> , 1991)	The degree to which the KM processes is perceived as	1. Adoption of KM processes takes too much time from my normal duties.

	relatively difficult to understand and adopt.	<p>2. Adoption of KM processes is so complicated; it is difficult to understand what is going on.</p> <p>3. Adoption of KM processes involves too much time doing mechanical operations.</p> <p>4. It takes too long to learn how to adopt KM processes to make it worth the effort.</p>
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Table 7. Readiness to adopt KM processes, definitions, and scales

Construct	Definition	Items
Intention to adopt KM process	Receptive attitudes of organizational members to adopt KM processes	<p>1. Assuming I have the option to adopt KM processes, I intend to adopt it.</p> <p>2. Given that I have the option to adopt KM processes, I predict that I would adopt it.</p>

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