Investigating Factors for E-Knowledge Sharing amongst Academic Staff

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***Abstract*-Knowledge sharing has been considered a significant component of success in Knowledge Management (KM). In the most organizations KM is often inadequate when it comes to knowledge sharing, especially between staff who work in universities. In order to encourage knowledge sharing, it is important to know why/where/when employees choose to contribute or to receive shared knowledge. The purpose of this research is to investigate the factors that affect academics' behavior towards knowledge sharing by using Web technology. A synthesis of factors which already exist in current theory, i.e., the Unified Theory of Acceptance and Use of Technology, as well as other factors which are always explored independently in research studies, are combined to a Knowledge Sharing Technology Model has constructed. The model identifies the key factors that affect the uptake of knowledge technologies in universities.**

Keywords-Knowledge management; Knowledge sharing Technology, Web technology; the Unified Theory of Acceptance and Use of Technology (UTAUT).

I. INTRODUCTION

Over the last few years, the majority of the largest global corporations have Knowledge Management projects to support their development and growth [1]. It is widely recognized that organizations benefit by establishing appropriate knowledge management system to increase their efficiency. The main activities in Knowledge Management [2] are acquiring, sharing, and storing the knowledge. It is recognized that the most crucial activity of all is knowledge sharing since most knowledge is held as tacit knowledge by people [3]. However, Knowledge Management is often inadequate when it comes to knowledge sharing, especially between staffs [4]. Thus, novice staffs are unable to capture valuable information while there is no knowledge sharing mechanism between staff, this can affect staff performance, when tacit knowledge from experts is often lost as the knowledge has not been made explicit codified. So this may result in a poorer employees experience and lower staff achievement.

In the last few decades, the use of technology in supporting Knowledge Management process has been widely recognized, which are sharing and reusing of knowledge and technology represents a highly visible solution while information technology provides direct assistance in the processes of Knowledge Management [5]. Web technology is the most effective technology used in Knowledge Management [6]. Web technology is based on a particular set of technologies enabling users to interact and collaborate with each other in social media: it can be termed the 'Social Web', as it incorporates a strong social component [7]. Sharing knowledge via web technology can be very effective among staffs, who work in universities, such as Wiki or Blogs.

This work considers that application of Knowledge Management to Universities in the Saudi Arabia. The Universities are lacking in management technology system for the academic process. Consequently, tacit knowledge of expert academics is lost, as the knowledge has not been documented. Thus, the novice academics are unable to use useful information, as no knowledge has been shared among academic staff. There are insufficient studies regarding the academics perspective on knowledge sharing technology [8] and their use in Saudi Arabia universities. The majority existing studies are conducted in international commercial organizations. The aim of this research is to investigate factors that influence academics' behavior toward knowledge sharing via web technology.

This paper is structured as follows. Section II provides additional background to the work. Section III describes a conceptual mode that is being used to understand knowledge sharing in Universities in Saudi Arabia. Section IV discusses how this model is to be validated, the paper concludes with a discussion in Section V.

II. BACKGROUND

A. Knowledge Sharing

Knowledge sharing is a mutual relationship between sender, who provides knowledge, and receivers, who are seeking knowledge, exchange of information gained from

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experiences, is used to support an individual who is working towards a common goal [9]. Sharing and distributing knowledge is positively linked to Knowledge Management [10] found that knowledge sharing is based on individual behavior, as people do not accept the value of sharing knowledge unless they think it is important. Thus, changing people's behavior is the challenge in Knowledge Management [11] and knowledge sharing behavior is the central process of knowledge management.

Knowledge sharing behavioral is typically affected by certain factors either positively or negatively, hence this research focuses on knowledge sharing technology behavioral factors.

Knowledge sharing behavior is viewed as the degree to which academics actually share their knowledge with their colleagues via Web technology. In practice, knowledge sharing can be considered from two aspects: behavioral and technological.

B. *The Unified Theory of Acceptance and Use of Technology (UTAUT)*

The Unified Theory of Acceptance and Use of Technology (UTAUT) model was defined by Venkatesh et al. [9] and extended the Technology Acceptance Model (TAM), which is the most widely applied model of user acceptance and usage [12]. UTAUT provides a useful tool for managers needing to assess the likelihood of success for new technology [9].

The UTAUT model examined the determinants of user acceptance and usage behavior and found that all contribute to the usage behavior [13]. This research takes advantages of UTAUT to examine staff behavior toward knowledge sharing technology by considering in some factors that will present next section.

III. CONCEPTUAL MODEL

We have synthesized factors affecting knowledge sharing; some of these factors already exist for example UTAUT [14], while other factors, such trust, time, leadership and IT support, that are always explored [15, 16, 17 ,18] Overall, based on researchers reviews and the Unified Theory of Acceptance and Use of Technology (UTAUT), Knowledge Sharing Technology (KST) Model was developed, Figure 1.

A. *Motivation*

The biggest issue facing staff is the difficulties in sharing knowledge because of lack of time for preparing the subject to be presented and the fact that knowledge sharing activities require a high level of effort [19]. In this case, the staff should be encouraged to engage in knowledge sharing activities, and it is also unrealistic to assume that all staff contributes their knowledge. In fact, human beings will offer their knowledge when they expect reward, such as extra payment [20]. Also, in the case of the benefit expected from knowledge sharing, the benefit is not only more payment but also reciprocal benefit.

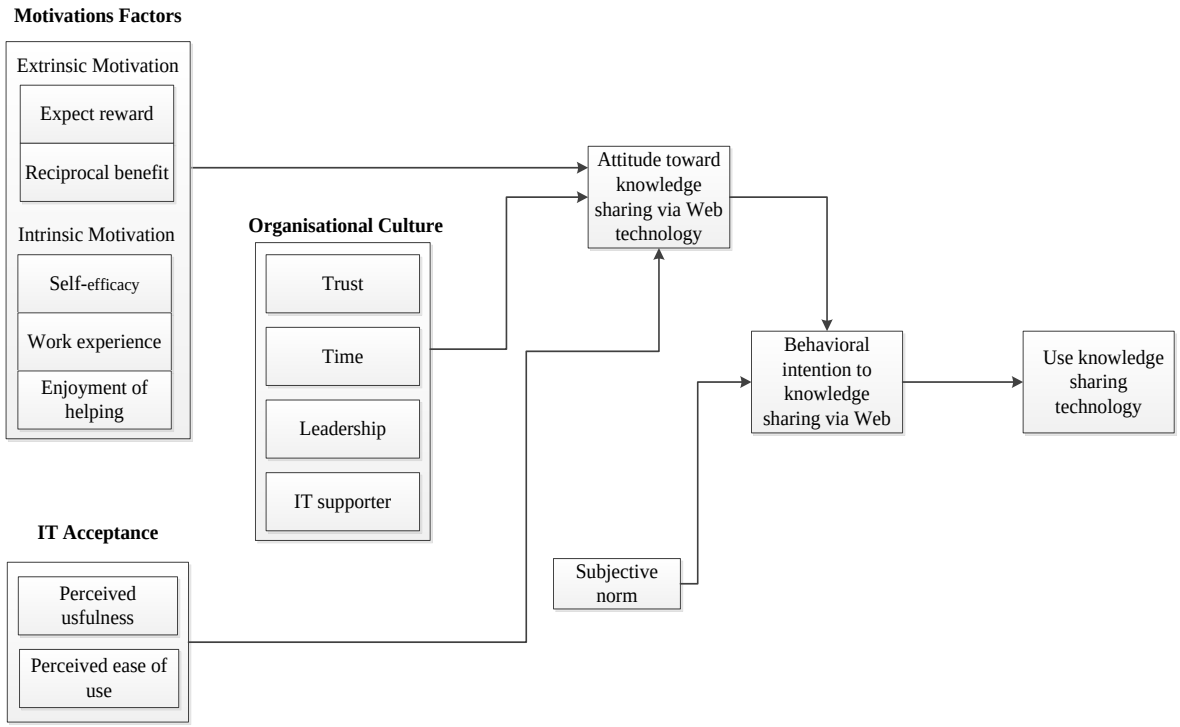

Figure 1 The Knowledge Sharing Technology Model (KST) of the factors that lead to successful adoption.

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There are some members of academic staff who contribute their knowledge because of their belief in their self-abilities and competences, and also the belief that their knowledge can help to work improvements; this is a self-efficacy factor.

Furthermore, work experience drives staff towards knowledge sharing in order to obtain satisfaction and pleasure [20]. Some individuals enjoy helping others, especially if they are working in group [21].

According to the UTAUT model, it can be assumed that the employees' attitudes towards knowledge sharing are dependent on intrinsic and extrinsic motivation. Intrinsic motivation is defined as perception that staff will share knowledge because he expect to obtain valuable outcomes, it includes expected reward and reciprocal benefit, whereas, extrinsic motivation defined as staff will share knowledge because the member of staff believes that they have valuable information that should be shared includes self-efficiency, work experience and enjoying helping others.

B. Technology acceptance

In this work we examine two factors that influence individual attitude, perceived usefulness and perceived ease of use, which are the root constructs of UTAUT. Perceived usefulness is defined as the degree to which staff believes that using particular system would be enhanced to share knowledge. Perceived ease is defined as the degree to which staff believes that using particular system would be free of effort to share knowledge of use. They have shown evidence that these factors are strongly correlated with attitude towards the acceptance of information technology. When staff feel the technologies can be used in an easy way, it is more probable that they will present their knowledge. So their attitude to ease of use will affect an individual's knowledge sharing behavior. Also, staffs are more likely to share their knowledge when they feel that they have worthwhile information that is very useful for other staff.

C. Organizational culture

Organizational culture has a relationship with staff's communication and knowledge sharing behavior, as previous research has pointed out [22]. Most of studies [22] have suggested that organizations should create opportunities for employees' interaction and facilitates of knowledge sharing.

Trust has an indirect influence on knowledge sharing, which leads to increased sharing through technology. Trust is defined in this model as the degree of staff 's believe that other members are honest and have valuable and useful knowledge to share. Furthermore, other researchers have examined affect-based trust and cognition-based trust [23], and found that trust has an effect on sharing knowledge when staffs believe other team members are honest.

A further factor is time, Ford and Chan [10] and Ford and Staples [11] examined the influences of time on knowledge share, and found that the most staff unwilling to share their knowledge because of lack of time. Moreover, in [24] claims that time is one of the barriers to knowledge sharing in organizations, as adding information to the system is time consuming. However, the authors' opinion is that knowledge sharing is definitely non-consuming time, once the information is available in the system. Thus, staff can reach the valuable information that has been previously placed in the system more quickly, rather than searching in the other huge sources. Time is defined as the staff believes that sharing knowledge is non- consuming time while information is available on the system.

Furthermore, leadership in a team setting has relationship with knowledge sharing. According to Bain et al. [14], a team's expertise is more highly developed when there is a leader controlling the team in regard to knowledge sharing and moreover, providing a good quality of new ideas and encouraging staff to share their knowledge. So, leadership has an influence on employee's attitude toward knowledge sharing by using technology. We believe that the leadership, which is defined as to encourage employees to share knowledge, has a significant influence in the Saudi organizations' situation.

Knowledge Engineers provide direct assistance in the processes and circumstances to create knowledge [15]. The success of knowledge management is commonly based on implementation of new IT-based systems. Staff codifying and sharing knowledge by a system are required to be familiar with using the system or there is assistance for users who are unfamiliar with IT. In addition, among the fast growing technologies, the changing tools of the system there is continual improvement, so users should be kept up-to-date with new changes.

D. Subjective norm

According to the UTAUT model, the subjective norm is identified as the degree to which a staff member perceives whether social pressure will affect the performance of knowledge sharing technology.

IV. RESEARCH METHODS

This initial study will use both qualitative and quantitative research methods in two phases. In the initial phase we will use in-depth interviews, while the second phase will be conducted by using an online survey.

The interview includes mixed-methods of questions are divided into three categories; knowledge sharing; important of using Web technology and Knowledge sharing via Web. Interviews will be conducted with ten to fifteen expert and novice staffs who work in Saudi Arabian Universities. The interviews will be conducted across a number of disciplines. The purpose of the interviews was to investigate staff'

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opinion about knowledge sharing via Web technology and explore other unidentified factors and investigate that requirement toward knowledge sharing among staff and discover the abilities and acceptance of staffs in using Web technology in knowledge sharing purpose.

The survey will conduct after analysing the interviewees' answers. The target subjects will be staff who are practicing at universities in Saudi Arabia. In the survey, we will measure the items that are include the KST model Each item will be measured on a five-point Likert scale [25], ranging from strongly disagree (1) to strongly agree (5). The result of the survey will help to refine the KST model and then confirm it.

V. CONCLUSION

The research objective is to improve knowledge management in Saudi Arabia universities and to facilitate exchanging knowledge between staffs. Therefore, this study explored the effective factors of knowledge sharing using web technology by examining staff's behavior toward knowledge sharing. Using theoretical frameworks UTAUT to underpin the model and using existing research into knowledge management, the model has been constructed by combining, synthesizing and refactoring the factors, which have the most important effects in knowledge sharing using web technologies.

From the authors point of view, the knowledge management systems should be established in the Saudi universities based on all factors that will explore from empirical study, in such a way that they function in a more efficient manner. Exploring the factors will asset knowledge worker to build website for knowledge sharing purpose in Saudi Arabia universities.

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