

Employee Behavioural Intention Towards Acceptance of Knowledge Management Systems in Bangladesh

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Abstract

In Bangladesh, the degree of Knowledge Management System (KMS) practiced in companies is currently not up to the mark. It appears that companies are having a difficult time making use of KMS because of the reluctance of the employees to accept the practice of KMS. Therefore, the study attempts to identify the factors that will lead to the acceptance of knowledge management system by using an integrated model of Technology Acceptance Model and KMS diffusion model. The proposed research model is tested on the basis of data collected from 270 respondents via partial least square (PLS) approach. The findings of the research indicate that perceived usefulness and perceived user-friendliness have a significant influence on behaviour intention whereas perceived risk has a negative influence on behaviour intention. Management support showed positive influence on perceived usefulness. On the other hand, the study findings revealed that organizational factors and individual factors have no significant influence on perceived usefulness. This study provides a better understanding of the awareness of the owner and policymaker about KMS adoption in their provision in business field. Owners who are interested in using KMS may find the results useful to guide their efforts.

Keywords: Knowledge management systems, organizational factors, individual factors, management support, perceived risk.

1. Introduction

After 1990, the popularity and practice of knowledge management have increased rapidly. Knowledge management activities such as knowledge sharing, organizational learning, and data mining of all activities enhance the employee performance and facilitate knowledge integration in their respective organizations. That is why, most of the business organizations are trying to get information on their customers as well as skills and experiences of employees from their KMS. According to Huang and Lai (2014), managing information and creating knowledge has become a source of competitive advantage for the organizations.

Moreover, flourishing in the fields of information, communication and technology in this knowledge-based economy, every organization is now busy in getting maximum benefit by using KMS (Akhavan et al., 2006). Furthermore, the importance of expanding the knowledge management system has created a new field in the research

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area. The majority of the previous studies on KMS are published by examining issues related to practice, implementation, cases of success and failure of knowledge management systems (Alavi and Leider, 1999). Many researchers have conducted studies to identify critical factors for adopting this system and their advantages (Prado Tamez, 2014). However, very few scholars conducted research on employee responses to use knowledge management systems and a few research works have been done on KMS adoption in developing countries. i.e. Bangladesh (Kale and Little, 2005).

Recently, almost all small and large organizations have been trying to use knowledge management system for managing their knowledge successfully to support the development of e-commerce or e-industry in Bangladesh (Hossain et al., 2015). Therefore, the practice of KMS in different organizations is increasing day by day and consequently, the number of knowledge-intensive jobs in Bangladesh is also increasing. However, the economic impact of acceptance of KMS or ICT is only 7.3% for creating value (Bilbao-Osorio et al., 2016). In that case, to implement the KMS successfully for getting its benefits, every employee in an organization requires accepting the KMS, specially, in Bangladesh, it is needed to implement KMS like other countries that have successfully implemented this practice in their country. On the other hand, in some studies researchers have identified that most influential factors on employee acceptance of KMS are individual factors, management support and organizational factors (Xu and Quaddus, 2005a).

In addition, the manager should always be concerned about KMS users' risk perception for successful KMS implementation in an organization, as KMS users, especially employees, may require additional training to adjust the new KMS (Nath et al., 2013b). Still, there is no study which has empirically tested those factors on the perspective of the employees in the context of Bangladesh. Therefore, this research addresses the employees' behavioural intention towards accepting knowledge management system and considers the most popular KMS diffusion model. Here, the researchers have incorporated perceived risk as an external variable to measure or identify the risk perception of the employees while using KMS in their respective organizations, since prior studies have not provided in depth insight on employees' risk factor in using the KMS in their respective organizations.

2. Literature Review

2.1. Knowledge, Knowledge management and Knowledge management systems

A significant amount of literature has been published on the topic of knowledge and knowledge management during the last twenty years. According to Oxford Dictionary, "knowledge is the sum of what is known and resides in the intelligence and the competence of people (Blackburn, 2005). Davenport et al., (1998) published a paper in which they described the concept of knowledge; they state that knowledge is a combination of information from different disciplines such as sociology, economics, and management science with experience, context, interpretation, and reflection of human activities. M. Alavi and Leider (1999) define knowledge as a process of converting raw data into meaningful information and storing that information for

creating, sharing and distributing among the employees to generate new knowledge.

Polanyi (1967) revealed that knowledge is of two types: explicit knowledge, and tacit knowledge. Explicit knowledge means academic or technical knowledge that is described in formal language in print or in electronic media, like manuals, mathematical expressions, copyright and patents (Sivalogathan and Wu, 2013). Implicit Knowledge sharing that can be expressed in verbal, symbolic, or written form but has yet to be expressed. (e.g., know-how, know-where, know-whom, expertise) (Zhan, et al., 2011). Nonaka, Byosiere, Borucki, and Konno (1994) point out that knowledge creation in an organization is a process of interactions between explicit and tacit knowledge. The tacit knowledge means personal skills, the know-how of particular things or process, ideals, values, and mental models but that knowledge are more difficult to express and share with others (Jones and Leonard, 2009). Cognitive psychologists divided knowledge into two different ways declarative knowledge and procedural knowledge (Anderson, 1990). The declarative knowledge is that knowledge which can and has been expressing an idea or feeling of the individual in an organization fluently and coherently; on the other hand, procedural knowledge is knowledge about how to do a particular task in an organization (Nickols, 2000). Employee knowledge is the soul of knowledge management in an organization (Wiig, 1997). Davenport et al., (1998) explains, "Knowledge management is the process of capturing, distributing and effectively using knowledge." According to Abiagam and Usoro (2012), knowledge management (KM) is all managerial activities which help employees create new knowledge and share this knowledge with another employee for improving organizational and individual performance in an organization. Knowledge management is a process for generating new knowledge; organizing knowledge systematically and communicating both tacit and explicit knowledge of employees to other employees for improving productivity in their workplace (Alavi and Leidner, 2001). Zschockelt (2009) states that, "Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets."

Several studies have found that KMS works in the organization for the managing of all knowledge by designing various IT tools and procedure (Alavi and Leider, 1999). According to Xu and Quaddus (2005b), KMS practices vary among users in different organizations. Gallupe (2001) describes that knowledge management systems must be capable of handling and securing knowledge. Knowledge management system shows the structural relationship model of how people, knowledge and technology work together in an organization (He and Wei, 2006).

2.2. Technology Acceptance Model (TAM)

The most widely used technology acceptance model for describing an individual's acceptance of Information and technology factors is TAM (Al-Haderi, 2013). It was initially developed by Davis (1989) and has been viewed as one of the most critical theory extensions of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980). Davis (1989) noted that Perceived Usefulness (PU) is individual's beliefs regarding which information system to use or not to use because people tend to adopt the system

quickly when they have a perception that information system will help them improve their job performance. The other belief, Perceived Ease of Use, denotes "the degree to which an individual believes that using an information system would be free of effort"(Davis, 1989, p. 320).

2.3. KMS Diffusion Model

KMS diffusion model is the most popular model in the area of adoption and diffusion of KMS practice in an organization. This model was developed by Xu and Quaddus (2005b). The authors traced the concept of KMS diffusion concept in such a way that new innovative system of KM and social system support the prospective users of KMS in an organization (Xu and Quaddus, 2005a). They summarized the stage of KMS adoption by the employee, which is divided into six stages. The First stage is an initiation, the second stage is adoption, the third stage is pilot implementation, the fourth is organic growth, the fifth is organizational implementation and the last stage is diffusion that occurs in an organization. Many other scholars have proposed a modified model for the implementation of KMS to meet different viewpoints from this model (Hester, 2010).

2.4. Perceive Risk

The concept of risk perception was first investigated in social and behavioural science research by Bauer (1960).The author mentions the significant relationship of perceived risk between uncertainty and consequences associated with the individual behaviour of action (Lu et al., 2005).Scott and Vessey (2002) highlight the need to manage perceived risk factor of the employees in an organization for successfully implementing knowledge management system. However, the adoption risk of KMS by employees in an organization has generally received less attention because in this field, most of the research has been conducted on the viewpoint of consumer risk perception on customer knowledge management system (CKM) (Poba-Nzaou et al., 2008). Keil et al., (2002) performed experimental investigations on the set of risk factors to accept IT by an American manager in an organization; they identified two major risk factors for KMS acceptance by the employee. The first risk factor is the changing the scope of work and second risk factor is the changing roles and responsibilities in an organization after accepting the new KMS. For that reason, we extended TAM model with the Perceived risk variable as an external variable in these system's acceptance.

3. Statement of the Problem

Imran (2009) has revealed that Bangladesh also faces the same problem for the implementation of the information system, and it is accepted by users in an organization. According to Dutta et al., (2015), among 144 countries Bangladesh is ranked 111th in firm-level technology absorption, 130th in business-to-business internet use and 124th in business-to-consumer internet use. On the other side, it's position in Individual use of internet is 128th. These statistics indicate that Bangladesh is below the standard of network readiness or acceptance of ICT compared to other less income countries. Siddike et al., (2012) discussed that the KMS implementation challenges

faced by the organizations are the infrastructural development and the removal of organizational and psychological barriers. Rasoulinezhad (2011) highlighted the need for ICT skill, knowledge education and awareness influence on positive attitude for accepting KMS public sector in Bangladesh. A few researches have been conducted on knowledge management practice as well as the problems and benefits of KMS in Bangladesh perspectives (Imran, 2009). However, no study has been conducted based on the public and private sector in Bangladesh to integrate both the Technology Acceptance Model and the KMS diffusion model in the arena of employee behavioural intention on KMS acceptance in Bangladesh. Therefore, the present study attempts to conduct empirical study grounded on these two theoretical models and perceived risk factors as additional external variable for investigating the influence on KMS acceptance among the users of Bangladesh.

4. Objective of the Study

The general objective of this paper is to review the literature on KMS adoption comprehensively and develop an extension model of an employee acceptance of KMS with the help of TAM model and KMS diffusion model. The present research has added perceived risk as an external factor with existing literature to explain employee behaviour intention to use the KMS. The research investigates the risk perceptions of the employees regarding KMS acceptance. Finally, the findings of the study also attempt to create an awareness for the manager to effectively and efficiently practice the KMS in their respective organizations and to reduce the shortcomings relating to prior studies in the area of KMS adoption.

5. Research questions

Based on the objectives, the following research questions are formulated in this study:

- What are the key factors influencing employees' behaviour intention towards acceptance of KMS in Bangladesh?
- How do Technology Acceptance Model (TAM) and KMS diffusion model integrate to study those factors in the context of Bangladesh?
- What are the impacts of individual factors, organizational factors and management support on perceived usefulness of KMS usage in Bangladesh?
- What are the impact of perceived risk on employee behaviour intention of KMS usages in Bangladesh?

6. Proposed Research Model and Hypothesis Development

In this section, the process of selecting variables and developing hypotheses for our proposed model have been described elaborately. To understand the actual reason behind the factors affected by employee acceptance of KMS in Bangladesh, the conceptual model was developed with the help of unified TAM and KMS diffusion model shown in Figure 1. In the proposed model, three factors act as predictors of behaviour intention of the employees to use KMS and three other factors act as predictors of employee perceived usefulness matters. Furthermore, Perceived Usefulness also acts as a mediating factor between Perceived User-friendliness and

Behavioural Intention to use the system in this model. However, our present study attempts to identify systematically, the direct effect of employees' perceived risk on their Behavioural intention to use KMS. Based on the above literature, we theorize that employees will identify KMS as a risk factor for the acceptance of this technology. However, the employees will still be willing to use KMS. The following research model

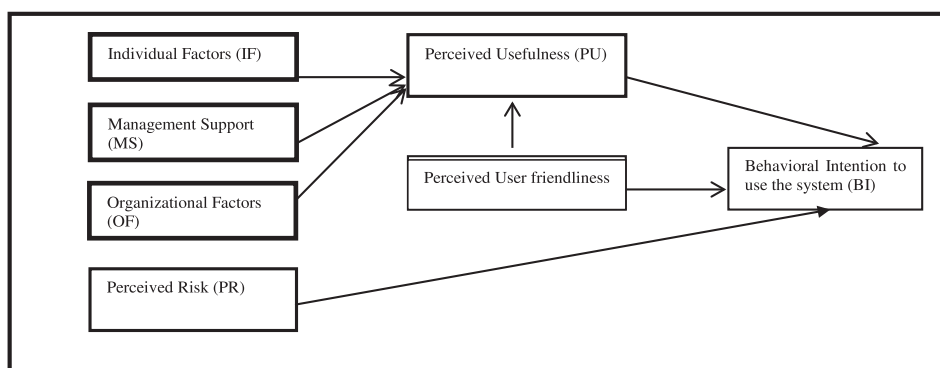


Fig. 1 Proposed research model

has been proposed (see Fig. 1)

6.1 Perceived Usefulness Determinants

6.1.1. Relationship between Perceived Usefulness and Individual Factors

In TAM model, Davis (1989) proposed that individual factor such as self-efficacy acts as an external factor that positively impact on perceived usefulness; it will also influence the acceptance of KMS by mediating the affects of perceived usefulness. In addition, there is a significant volume of published studies describing the effects of Individual Factors (IFs) on Perceived Usefulness (PU) for accepting new information system or KMS by the employee in a country (Xu and Quaddus, 2012). Therefore, the first hypothesis has been developed for the proposed model:

H₁: Individual factors influence the perceived usefulness positively.

6.1.2. Perceived Usefulness (PU) and organizational factors

Organizational factors act as an external factor with extended TAM model which was first highlighted by Igarria et al., (1997). They describe internal and external supports by the organization that are essential for the successful implementation of information system in an organization. Xu and Quaddus (2005a) reported that organizational performance growth, organizational structure, culture, IT infrastructure, organizational processes, IT function etc. are the factors related to adoption and diffusion of KMS in a country. Previous researches have shown that organizational factors positively influence acceptance of information system (Hung et al., 2005). Amoako-Gyampah and Salam (2004) suggested that organizational process re-engineering is always required for successful ERP implementations in an organizational scale. So, the second hypothesis for our proposed model is:

H₂: Organizational factors positively influence perceived usefulness.

6.1.3. Perceived usefulness and Management support

Management support means employee beliefs on top management support they get for doing and performing their activities correctly” (Igbaria et al., 1997). Xu and Quaddus (2005a) analysed the necessity of Management support for the acceptance of KMS in an organization; they found that management experiences, manager’s risk-taking ability, top management support and initiative for IT development are essential factors for successful implementation of KMS. Similarly, Venkatesh & Morris (2003) found that facilitating condition provided by the manager in an organization essential for the acceptance of Information system by the user. For that reason, the third hypothesis developed by us for our proposed model is:

H₃: Management support positively influences the perceived usefulness.

6.1.4. Perceived Usefulness (PU) and intention to use KM system

Perceived Usefulness to use KM system means, individuals will be creating new services and innovation, improve their productivity, reduce cost and save time, increase their learning capability over the period by the use of KMS (Butler et al., 2007, p. 236). Ozlen (2013) performed experimental investigations on the benefit of KMS usage based on a survey on the front-and-back office staff; they reported that both kind of wicker performance and knowledge of learning the increased consequence of usage of KMS. Thus, our fourth hypothesis for the proposed model is:

H₄: Perceived Usefulness positively influences the intention to use KM system.

6.1.5. Perceived Usefulness (PU) and Perceived User-friendliness

In the survey of adoption of KMS in Bangladesh, most of the respondent said that they adopt knowledge management system when they find it easy to use and is user-friendly (Xu and Quaddus, 2012). Davis (1989) reviewed the available literature on information system acceptance and summarised that perceived ease of use or learning positively influences Perceived Usefulness. Numerous studies have been attempted to explain the positive relationship of Perceived Usefulness (PU) with Perceived user-friendliness (Venkatesh and Bala, 2008). On these grounds, we have developed the fifth hypothesis for our proposed model:

H_{5a}: Perceived user-friendliness positively influences Perceived Usefulness (PU).

H_{5b}: Perceived user-friendliness positively influences the intention to use KM system.

6.1.6. Perceived risk and Intention to use KM system

Fear appeals or to protect the self from danger have been found as the impact on changes in the attitude of the individual in a particular situation (Maddux and Rogers, 1983, p. 470). De Ruyter et al., (2001, p. 4) defined Perceived risk as “the degree to which innovation performance and psychological risks are attributed to the innovation.” The study tries to investigate the direct inverse relationship of behaviour intention with employee use of the KMS (Nath et al., 2013a).

In that event, the researchers have developed the sixth hypotheses for the proposed model:

H₆: Perceived risk negatively influences Intention to use KM system.

7. Research Methodology and measurement Development

This study is quantitative and uses 26-items questionnaire based on literature review. The survey was conducted in Dhaka city, the capital of Bangladesh. All employees who use KMS in Dhaka city were considered the population of this research. The sampling procedure was the non-probabilistic for convenience due to the ease of access of researchers to the KMS user. The research used a convenience sample method for collecting data. In most of the exploratory research, convenience sampling method is used by the researcher for getting research related necessary information quickly, efficiently and cheaply (Sekaran, 2006, p. 277). A total of 350 questionnaires were distributed in different organizations among the different categories of employees and 290 valid copies were returned. A response rate of 0.77% and 20 questionnaires were incomplete, these questionnaires were omitted from the data analysis. All of the questions were closed-ended, and the survey instrument was a 7-point Likert scale questionnaire survey (Sekaran, 2006, p. 214), divided into two sections. The first section, instrument construction, has adopted seven constructs from different studies on internet, technology and KMS adoption from different countries. Items measuring Perceived Usefulness comprises of 4 items while Perceived User-friendliness comprises of 4 items and Behavioural intention comprises 3 items taken from Davis (1989). The extended TAM incorporates three external variables adopted from KMS diffusion model given by Quaddus and Xu (2005), which are individual factors consisting of 4 items and management support consisting of 4 items, organizational factors having 4 items and perceived risk factor comprised of 3 items taken from Dabholkar (1996), (Meuter and Bitner, 1998) and (Murray, 1991). The second section has included five questions which consist of demographic profile. The study has used IBM SPSS 21.0 and Structural equation modelling with using Smart-PLS 3.0 for the empirical test. Gudergan et al., (2008) suggested that the method chosen to estimate the SEM were the Partial Least Squares (PLS) and path analysis.

8. Research Findings

8.1 Characteristics of Respondents

The demographic information of the respondents (n=270) has been reported in the table (1)

Table 1: Demographic Profile of Response

Aspects	Frequency	%	Aspects	Frequency	%
<u>Education</u>			<u>Gender</u>		
Bachelor	80	29.6	Male	190	71.11
Diploma	40	14.81	Female	80	29.63
Master	149	55.19			
PhD	01	.37			
<u>Organization</u>			<u>Age</u>		
RMG	05	1.85	Above 15	10	3.7
Financing	122	45.19	Above 25	156	57.78
Education	20	7.40	Above 35	99	36.67
IT & Telecom	88	32.59	Above 45	5	1.85
Others	35	12.96			

The table 1 shows the demographic respondents, male 71.11% having a high number of responses as compared to females 29.63 % because in Bangladesh male employees are more in number than female employees due to the historical trends and culture. Most of the respondents (55.19) % from total sample, possessed master's degree and the remaining 29.6% possessed bachelor's degree, while 14.81% possessed diploma and 0.37 % Ph.D holders. Within total respondents, 45.19 % of them are from financing organization, IT & Telecom 32.59 %, Education sector 7.40 %, RMG sector 1.85 % and others 35 %. The majority of the employees holding middle age group were ranged from above 25 to above 35 years.

9. Data Analysis of the Measurement Model and Results

To analyse the collected data, the research follows a two-step procedure. First, the research examined the measurement model to measure constructs' reliability and convergent validity. Then, the structural model was examined to examine the direction and strength of the relationships among theoretical constructs.

9.1. Measurement model

To assess the reliability and validity of the scale, the study performed principal components factor analysis and confirmatory factor analysis. Kaiser-Meyer-Olkin (KMO) measure of overall sampling adequacy assesses the degree to which indicators are valid or appropriate for factor analysis. According to Saunders (2011), KMO value might be excellent, great, good, middling and unacceptable (above 0.9, between 0.8 and 0.9, between 0.7 and 0.8, between 0.5 and 0.7, and less than 0.5, respectively). In this study, KMO value is .820, which indicates great sampling adequacy using the principal

components factor analysis. The validation of the measurement model determined by the assessment of convergent and discriminant validity (Hair et al., 2012). Convergent validity of the scales is contingent on the fulfilment of three criteria- (1) all indicator loadings should exceed 0.65 but in experimental research 0.50 is considered acceptable values for indicator loading (2) composite reliabilities should exceed 0.8; but in experimental research, 0.60 to 0.70 is considered acceptable values for the composite reliability (CR) test and (3) the average variance extracted (AVE) for each construct should exceed 0.5.

Table 2: Tested Result of Convergent validity and internal consistency reliability analysis

Construct Item	Items	Outer loading	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted(AVE)
Perceived Usefulness (PU)	PU1	0.817	0.880	0.917	0.734
	PU2	0.878			
	PU3	0.860			
	PU4	0.871			
Perceived User - friendliness (PUF)	PUF1	0.900	0.924	0.946	0.815
	PUF2	0.916			
	PUF3	0.889			
	PUF4	0.905			
Individual Factors (IF)	IF2	0.985	0.807	0.887	0.799
	IF3	0.792			
Management Support (MS)	MS2	0.985	0.879	0.942	0.891
	MS3	0.792			
Organizational factor(OF)	OF1	0.834	0.828	0.885	0.658
	OF2	0.794			
	OF3	0.846			
	OF4	0.768			
Behavioural intention to use the system (BI)	BI1	0.941	0.929	0.955	0.876
	BI2	0.946			
	BI3	0.921			
Perceived Risk (PR)	PR1	0.908	0.886	0.929	0.815
	PR2	0.938			
	PR3	0.860			

The measurement of the outer-loading is also typically referred to as indicator of reliability. Testing all indicator loadings, this current study exceeds 0.65 except IF1 and MS1. Wong (2013) recommended that outer loading below 0.4 of any empirical study should be eliminated from the construct for further analysis to ensure convergent validity. For that reason, for further analysis, the study has dropped these two items and

ran the model again. And therefore, it gets the results of Table 2 after deleting IF1 and MS1. Table 6 above illustrates that most of the composite reliability values for this study were satisfactory because all values were above the recommended threshold level (0.70). In this study, CR ranges from 0.658 to 0.891. According to the assessment, each constructs' average variance extracted (AVE) in this study is higher than .5 which indicates that this study meets the convergent validity requirement. Therefore, both validity and reliability analyses suggest that these constructs are valid and reliable for further advance (Hair et al., 2012). Discriminant validity was examined by comparing the square root of AVE of each construct and its correlation coefficient with other constructs. As shown in table 3:

Table-3: The Proof of Discriminant Validity

	BI	IF	MS	OF	PR	PU	PUF
BI	0.936						
IF	0.107	0.894					
MS	0.107	0.449	0.944				
OF	0.302	0.099	-0.006	0.811			
PR	0.321	0.048	0.046	0.062	0.903		
PU	0.431	0.022	0.053	0.406	0.121	0.857	
PUF	0.480	0.159	0.199	0.278	0.115	0.293	0.903

The result from Table 7 indicates further strength of discriminant validity present in this study. The square roots of all AVE of latent variables are larger than all corresponding correlation coefficient.

9.2. Structural model resultant test of hypothesis

In Partial Least Squares (PLS) method, structural model and hypothesis were tested by computing path coefficients (β). Because PLS does not require a normally distributed data, it is evaluated with the R-squared calculation for latent dependent variables and the average variance extracted. Path coefficients (β) acceptance range for the empirical is t value larger than the critical t value, the null hypothesis of no effect is rejecting. Typical critical t values are 2.57, 1.96, and 1.65 for a significance level of 1 %, 5%, and 10%, respectively (two-tailed tests).

Table-4: Path coefficients along with their bootstrap 'T' value

No.	Hypothesized Path	Path coefficient	T Statistics	P-VALUE	Support
H ₁	IF -> PU	-0.014	0.202	0.840	Not support
H ₂	OF -> PU	0.350	4.938	0.000***	support
H ₃	MS -> PU	-0.069	0.904	0.367	Not support
H ₄	PU -> BI	0.294	4.823	0.000***	support
H ₅	PUF -> BI	0.366	6.504	0.000***	support
H ₆	PUF -> PU	0.206	3.109	0.002***	support
H ₇	PR -> BI	0.244	3.812	0.000***	support

p < 0.05* (t > 1.645) significant, P < 0.01 ** (t > 1.96) Very significant, P < 0.001 *** (t > 2.57) Extremely significant.

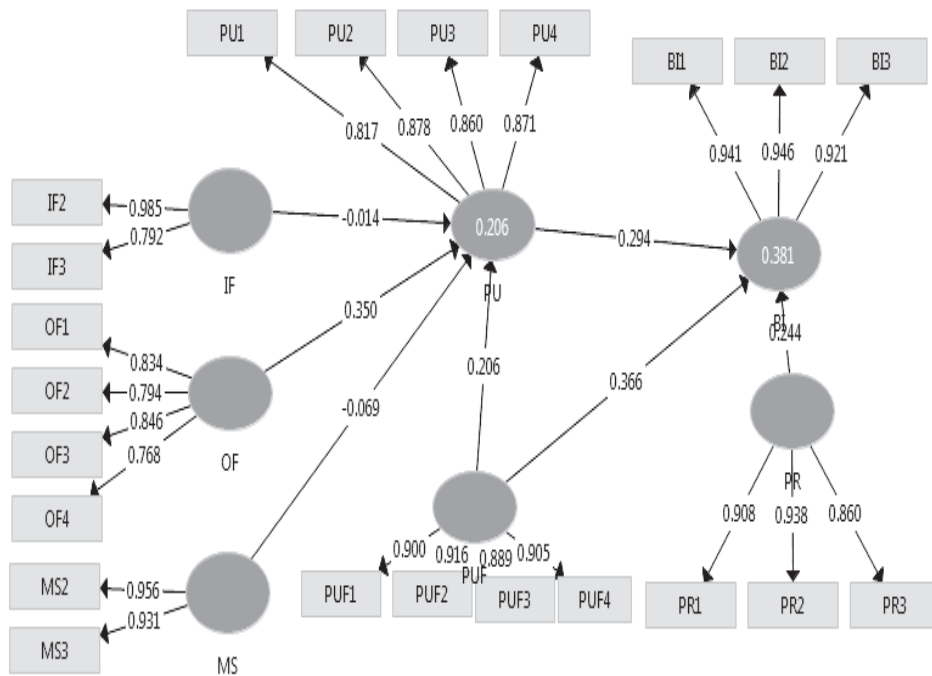


Fig. 2 Tested Research model of PLS Algorithm

Table-5: Tested R² and R adjusted

Dependent variable	R square	R adjusted
BI	0.381	0.374
PU	0.206	0.194

9.3. Determining the predictive relevance of the model

To test the predictive relevance power of the model using the blind folding procedure, Q² denotes predictive relevance. According to Hair et al., (2016) Q value is obtained by using the blind folding to assess the parameter estimates and also assess how values are built around the model. The results were retrieved from the blind folding output of PLS through the variable score out of which cross-validated redundancy was extracted. This cross-validated redundancy analyses the capacity of the model to predict the endogenous variables and also to explain the quality of the model. Table 6 shows the construct cross-validated redundancy. A q² value larger than zero for a particular endogenous latent variable indicates the PLS path model has predictive relevance for this construct. The tested result of this current study showed that Q² value of two endogenous constructs are larger than zero (Hair et al., 2016).

Table-6: Construct Cross -validated Redundancy

Total	SSO	SSE	1-SSE/SSO
BI	810	561.242	0.307
PU	1080	935.271	0.134

9.4. Goodness-of-fit index (GoF)

PLS lacks in optimizing global scalar function. To overcome this problem, F. Hair Jr, Sarstedt, Hopkins, and G. Kuppelwieser (2014) proposed a global criterion of goodness-of-fit (GoF) index, which is the geometric mean of the average commonality. He suggested using 0.50 as the cut-off value for commonality and different effect sizes of R2 (small: 0.02; medium: 0.13; large: 0.26).

$$\begin{aligned} \text{Goodness of Fit} &= \sqrt{[(\text{average commonality}) \times (\text{average R}^2)]} \\ &= \sqrt{.798 \times .294} \\ &= .4844 \end{aligned}$$

Global goodness-of-fit (GoF) is an index used to judge the large fit of the PLS model. Therefore, for this study, the model is a fit one.

10. Discussion

This section has discussed the results of the proposed research model presented in Fig. 2 by extending TAM and KMS diffusion model. The coefficient of determination, R2, is 38.1 % for the BI endogenous latent variable. The four other latent variables (PUF, IF, MS and OF) altogether explain 20.6 % of the variance in PU. Hair et al. (2016) recommended that R2 values of 0.75, 0.50, and 0.20 for endogenous latent variables can, as a hard rule of thumb, be respectively described as substantial, moderate, or vulnerable levels of predictive accuracy. Findings of the study have shown that R2 is weak level of predictive accuracy.

10.1.1. Hypotheses H₁, H₂ and H₃

The outcomes of analysis also suggest that individual factors have no significant influence on perceived usefulness. The path coefficients (β) value is -0.014, t value is 0.202 and p value is .840, whereas at 10 % significance level the $p < 0.05$ and $t > 1.65$, which is significant. This result is supported by the previous study (Ramazani et al., 2012) though another study has revealed that individual factors of users is a significant factor (t-value 1.772) in influencing the perceived usefulness of KMS (Xu and Quaddus, 2005). Next, in case of organization factors, the path coefficients (β) value is .350, t value is 4.938 and p value is .000, whereas at 1 % significance level the $p < 0.001$ and $t > 2.57$ is significant. This denotes that it has significant influence on perceived usefulness which is supported by the past study where the t value is 2.658 (Xu and Quaddus, 2005c). In case of management support, the author has discovered that no significant influence can be found on perceived usefulness which is also supported by past study (Ramazani et al., 2012; Xu and Quaddus, 2005a). Here the path coefficients

(β) value is -0.069, t value is 0.904 and p value is .367, whereas at 10 % significance level the $p < 0.05$ and $t > 1.65$ is significant. According to Xu & Quaddus (2005c) it is also surprising to find that management support does not influence the perceived usefulness of KMS. Xu and Quaddus (2005b) revealed that no statistical significance relevance management support were found with perceived usefulness of KMS.

10.1.2. Hypotheses H₄, H_{5a} and H_{5b}

The results show that perceived user-friendliness (β value is 0.366, t value is 6.504 and p value is .000, which has significant influence on intention to use KM systems and this result is also supported by research that was conducted by different authors such as Hossain et al. (2013). It has the same findings for perceived user friendliness towards perceived usefulness where (β value is 0.206, t value is 3.109 and p value is .002 at 5 % significance level where the $p < 0.01$ and $t > 1.96$). But another study has revealed that perceived user friendliness has no influence (t value is -0.143) on perceived usefulness at 10 % significance level where the $p < 0.05$ and $t > 1.65$ (Xu and Quaddus, 2005).

10.1.3. Hypothesis H₆

Furthermore, the findings of this current study have found that perceived risk has a negative influence on the intention to use KM system supported by Featherman and Wells (2004) as well as Alalwan et al (2015). In this study, the β value is 0.244, t value is 3.812 and p value is .000 at 1% significance level where the $p < 0.001$ and $t > 2.57$). Another study has revealed that perceived risk has weak effect on behaviour intention where β value is -0.257 at 5 % significance level.

11. Theoretical, Practical and Managerial Implications

11.1. Theoretical implementations

The findings of this study provide a substantial theoretical contribution to the literature of KMS adoption by an employee in developing countries. Most of the KMS adoption factors have been empirically tested in developed countries (Xu and Quaddus, 2013). For that reason, the current study provides guideline to researchers of developing countries to test employee KMS adoption issue. Tested result indicates that individual factor and management support have no influential factor on perceived usefulness for using KMS in Bangladesh perspective. In addition, the study finds a lack of research in the KMS adoption literature that simultaneously investigate perceived risk factor influence on employee behavioural intention to adopt KMS in developing countries like Bangladesh. The present research findings indicate that perceived risk factor negatively influences behaviour intention of using KMS in Bangladesh. The study divides the perceived risk factor for Bangladesh perspective into three facets: employees feel secure conducting their task using the KMS, there is little danger that anything will go wrong when employees are using the KMS and employees know that the KMS will handle organizational work correctly.

11.2. Practical implementations

Furthermore, the empirical results can be used by the owner in an organization for further policy making in Bangladesh. Practical implications of the experiential findings of this study serve as a practical guideline to the successful adoption of KMS in intensifying the development of technology in Bangladesh, if they can minimize risk perception of the employees.

11.3. Managerial implementations

The outcome of this study has significant implications for managerial practices in Bangladesh. The present study has identified the need for a KMS acceptance to the employees to survive competition in a knowledge economy. The result indicates that perceived usefulness and perceived user friendliness are the most important variables for behavioural intention of using KMS by the employee. For that reason, managers in Bangladesh must pay attention to maintain those variables to support the effective implementation of a KMS in their organization.

12. Conclusion

The present study was designed to determine the effects of external variables on employee behaviour intention for KMS acceptance. The study results support the research model and the hypotheses testing also show that the indicators have direct linkage among the model's variables. One of the significant findings that has emerged from this study is how to perceive risk influence on employee behavioural intention. The employees will not use knowledge management system if they have an estimate of the high relative possibility of it being risky. On the other hand, individual factors and management support have no significant influence on perceived usefulness. Also, In Bangladeshi organizations, employees feel perceived usefulness helps them gain knowledge by using KMS. Specialized instruction, training and education concerning KMS should be available for him/her in their organization, employee perception management should be aware of the benefits that can be achieved with the use of KMS.

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