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SEEKING KNOWLEDGE IN ELECTRONIC KNOWLEDGE REPOSITORIES: AN EXPLORATORY STUDY

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Abstract

Knowledge is a critical resource that sustains strategic advantage in highly competitive organizational environments. Many organizations are turning to knowledge management (KM) initiatives and technologies to leverage their knowledge resources. A common form of such technologies is the electronic knowledge repository (EKR). Although EKRs have been in use for some time, there has been little empirical evidence about factors that affect usage of EKRs. This exploratory study formulates and tests a theoretical model that explains seeking behavior in an EKR. The data was collected through a survey of 128 knowledge workers. Results show that technology-related factors and organization-related factors directly impact seeking behavior, while task factors play a moderating role. Implications for research and practice are discussed.

Keywords: Electronic knowledge repositories, knowledge seeking, usage, technology characteristics, organizational characteristics, task characteristics.

INTRODUCTION

The importance of knowledge as an organizational resource is indicated by the increasing body of literature on the subject of knowledge management (KM) and growing organizational spending on KM initiatives. At the same time, more and more organizations have created a new position of chief knowledge officer. A recent study reported that 80% of the largest global organizations now have KM projects in place (Lawton 2001).

KM is defined as the systematic and organizationally specified processes for acquiring, organizing, and communicating both tacit and explicit knowledge of employees so that other employees may make use of the knowledge to be more effective and productive in their work (Alavi and Leidner 1999). KM technologies are a class of information systems that are intended to support and enhance these organizational processes (Alavi and Leidner 2001). These technologies may consist of filtering, indexing, classifying, storage, and retrieval technologies, coupled with communication and collaboration software (e.g., e-mail and groupware). In addition to knowledge directories and knowledge networks, a common application of KM technologies is the electronic knowledge repository (EKR), which collects documents, reports, memos, and other forms of organizational knowledge (Lawton 2001).

Having sophisticated KM technologies does not guarantee success in KM initiatives. A recent study reported that about 60% of KM initiatives fail due to lack of attention to adoption and implementation issues (KPMG 2000). For EKR, which vary from structured databases in the comparatively tacit nature of content, various barriers may arise in actualizing the repositories, executing search, evaluating output quality, and applying or reusing outputs. Since usage is essential to the sharing of knowledge through an EKR, it is critical to understand the factors that may affect usage. People may use EKRs as contributors or seekers of knowledge (or both). Many prior studies have taken a contributor perspective (Constant et al. 1996; Jarvenpaa and Staples 2000; Wasko and Faraj 2000). Research from a seeker perspective (Goodman and Darr 1998) has been limited to a qualitative analysis of the costs and benefits of using KM technologies. The objective of this study is to identify factors that may encourage people to or inhibit people from seeking knowledge in an EKR. Such understanding may lead to organizational interventions or technology design considerations which can promote increased usage of EKRs and thereby enhance job effectiveness (Gray 2000).

LITERATURE AND HYPOTHESES

This study draws from the technology acceptance model (TAM) (Davis 1989) and the decomposed theory of planned behavior (TPB) (Taylor and Todd 1995) because these theories have contributed significantly to our understanding of factors that drive usage of information systems. TAM specifies two beliefs, perceived usefulness and perceived ease of use, as key predictors of technology usage. Additionally, the decomposed TPB suggests various antecedents of perceived behavioral controls and subjective norms that can help to better explain usage. We have conceptualized perceived behavioral controls in terms of technology availability (Taylor and Todd 1995) and organizational controls such as incentives and mandates that are commonly used for encouraging knowledge seeking and reuse. In our current study, we have not investigated subjective norms because empirical evidence about this construct has been mixed, particularly when users (as in our case) have been exposed to the technology (Venkatesh and Morris 2000). Two additional moderating factors are considered in the particular context of knowledge seeking. First, task interdependence may determine the need for seeking knowledge. Second, the degree of knowledge tacitness may be important in the case of an EKR where the nature of content differs from that of structured databases.

Technology Characteristics

TAM associates higher levels of perceived usefulness and perceived ease of use with increased usage behavior (Davis 1989). Perceived usefulness can be conceptualized in terms of the perceived output quality of the EKR. The importance of output quality has been highlighted in the information systems literature (Ives and Olson 1992; Zmud 1979). Seddon (1997) described perceived output quality as an important component of perceived usefulness for technologies that involve production of information. The main dimensions of perceived output quality are relevance, timeliness or currency, and accuracy of information (Seddon 1997; Xie et al. 1998).

Perceived output quality is a very important criterion for successful implementation of KM technologies (Alavi and Leidner 1999; Jennex et al. 1998). Output retrieved from an EKR has to be of high quality before people can be enticed to use the EKR. Otherwise, people may view the use of the EKR as a waste of time and effort, and instead rely on alternatives like personal networks to seek knowledge. Therefore, we hypothesize,

H1: Perceived output quality of an EKR is positively related to usage of the EKR by knowledge seekers.

Perceived ease of use has been an important construct in the technology acceptance literature. It is the degree to which a person believes that using a particular technology would be free of effort (Davis 1989). KM studies have also reported difficulty in using the technologies as a usage barrier (Goodman and Darr 1998). If people think that they can efficiently accomplish their task by using an EKR, they would be more inclined to use the EKR. Hence, we hypothesize,

H2: Perceived ease of use of an EKR is positively related to usage of the EKR by knowledge seekers.

Organizational Characteristics

The decomposed TPB defines behavioral controls as consisting of both internal notions of self-efficacy as well as external resource constraints or facilitating conditions (Taylor and Todd 1995). External resource constraints encompass availability of time and access to technologies while facilitating conditions include organizational mandates and incentives tied to usage of

technologies. In the information retrieval literature, technology accessibility has been found to be positively related to usage (Culnan 1984).

Several studies have reported that lack of slack time inhibits usage of technologies (Goodman and Darr 1998; Orlikowski 1993). However, these studies have not tested the relationship between availability of slack time and usage of technologies. With slack time, accessibility to an EKR should become a key factor for usage. Hence we hypothesize,

H3: Availability of resources (slack time and access) for using an EKR is positively related to usage of the EKR by knowledge seekers.

Orlikowski reports that the lack of explicit policies and procedures accentuated the difficulty of implementing Lotus Notes in a large services firm. Davenport and Prusak (1998) suggest that mandates might be an effective organizational policy mechanism to promote successful implementation of KM initiatives. This is especially true if people are influenced by the mandates. Therefore, we hypothesize,

H4: Degree of influence by mandates is positively related to usage of EKRs by knowledge seekers.

Orlikowski observes that structural elements such as reward systems were required to encourage knowledge sharing behavior in organizations. Without the proper incentives, people may not be willing to contribute their valuable knowledge. Having incentives to encourage people to use knowledge from an EKR (instead of reinventing the wheel) is also important because the process of matching and applying solutions to problems on hand can be costly (Goodman and Darr 1998). Therefore, if users are motivated by incentives, they may be more willing to rely on EKRs. We hypothesize,

H5: Degree of influence by incentives is positively related to usage of EKRs by knowledge seekers.

Task Characteristics

This study explores two task characteristics (task interdependence and knowledge tacitness) as moderators for hypotheses 1 through 5. Specifically, task characteristics may create a context that amplifies or dampens the impact of factors driving the usage of EKRs.

The task-technology fit model (Goodhue and Thompson 1995) suggests that people have a greater tendency to use technologies to work together if their tasks are interdependent. If the work requires people to collaborate, they should be more motivated to rely on technologies to exchange ideas, particularly if face-to-face interaction is difficult or time consuming. Recent empirical studies have reported that greater task interdependence encourages people to use electronic media for information sharing (Jarvenpaa and Staples 2000). In view of such empirical evidence, this study explores whether task interdependence amplifies or dampens the impact of perceived output quality, perceived ease of use, availability of resources, mandates, and incentives on EKR usage.

KM scholars have made a distinction between explicit and tacit knowledge. Explicit knowledge is easy to codify and communicate (Nonaka 1994). Tacit knowledge resides in the minds of people (Davenport and Prusak 1998) and is difficult to communicate in a formal, systematic, or codified form (Nonaka 1994). Alavi and Leidner (1999) argue that the rate of knowledge transfer would depend on knowledge tacitness. The cost of communicating queries and finding relevant solutions should be higher if this involves tacit knowledge. Given such observations, this study explores whether knowledge tacitness amplifies or dampens the impact of perceived output quality, perceived ease of use, availability of resources, mandates, and incentives on EKR usage. The proposed model is shown in Figure 1.

RESEARCH METHODOLOGY

The survey research method was used to collect data for testing our theoretical model. The respondents were given the description of an EKR in terms of the generic features it possesses (storage, indexing and retrieval, and communication) and the type of applications for which it is used. Examples of EKR (Xerox's Eureka system and Accenture's Lotus Notes based Knowledge Xchange system) were provided.

Operationalization of Constructs

Where available, constructs have been measured using tested questions from prior studies to enhance validity. Where this was not possible, new questions have been developed based on a review of the knowledge management (or information systems) literature. Given that this study was exploratory and many questions were self-developed, we have conducted a thorough conceptual validation exercise for the instrument based on procedures prescribed by Moore and Benbasat (1991). Table 1 summarizes the questions measuring each construct in this study. Except for questions pertaining to usage of an EKR, which have been measured on seven-point ordinal scales, questions pertaining to all other constructs have been measured on seven-point interval scales.

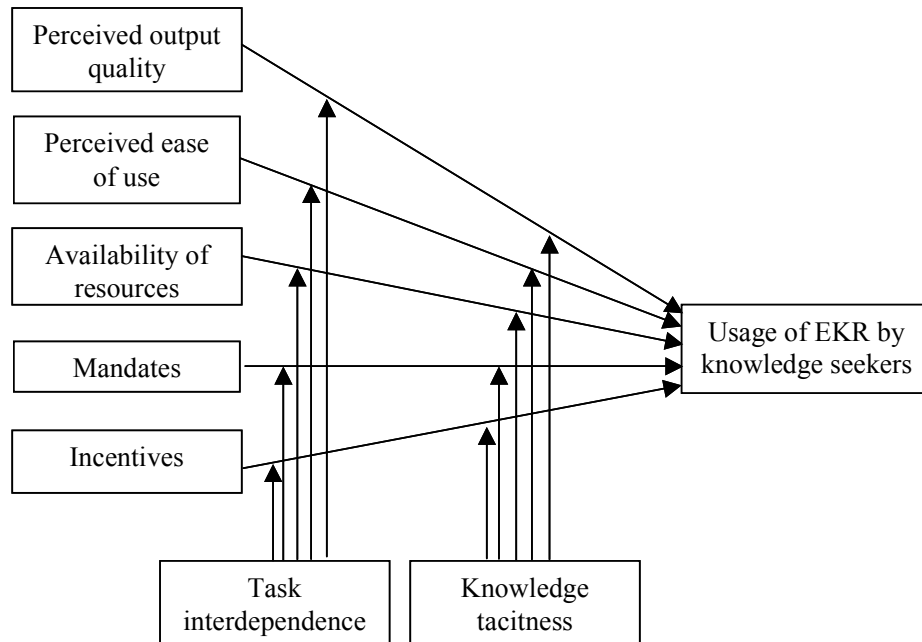


Figure 1. Proposed Model

Survey Administration

The survey was administered to 128 working professionals pursuing a part-time graduate degree at a large university. A cover letter explaining the significance of the study and assuring the confidentiality of responses was included with the survey instrument. The respondents had been chosen from the total program population because they were employed in knowledge-intensive industries, were familiar with KM technologies, and had at least two years of work experience. All of the respondents were volunteers. Nevertheless, they were given a token payment for their participation. Of the respondents, 73% were males and 27% were females. Their average work experience was about five years. Examples of their job designations were project manager, software engineer, technology executive, business analyst, trainer, and market research consultant. Almost half the respondents (46%) were employed in the information technology industry. More than half the respondents (53%) served in an information technology related department.

DATA ANALYSIS AND RESULTS

Partial least squares (PLS), a structural equation modeling technique, was used for data analysis. PLS assesses the measurement model (relationships between questions and constructs) within the context of the structural model (relationships among constructs) (Fornell 1982). This technique does not require multivariate normal distribution or large sample sizes for its data (Fornell and Bookstein 1982). Also, it is primarily intended for causal-predictive analysis in situations of low theoretical information and is

Table 1. Operationalization of Constructs

Construct	Questions	Question Source
Perceived output quality (QUA)	<ul style="list-style-type: none"> EKR output is trustworthy (QUA1) EKR output is precise (QUA2) EKR output is reliable (QUA3) EKR output is relevant (QUA4) EKR output is up-to-date (QUA5) EKR output is current (QUA6) 	<ul style="list-style-type: none"> Doll and Torkzadeh 1988 Goodhue and Thompson 1995 Self-developed
Perceived ease of use (EAS)	<ul style="list-style-type: none"> EKR has well-defined categories (EAS1) EKR has well-organized contents (EAS2) EKR has ability to narrow search (EAS3) EKR has quick search response (EAS4) EKR has friendly user-interface (EAS5) 	<ul style="list-style-type: none"> Xie et al. 1998 Self-developed
Availability of resources (RES)	<ul style="list-style-type: none"> Have access to EKR (RES1) Have opportunities to use EKR (RES2) Have time to use EKR (RES3) 	<ul style="list-style-type: none"> Self-developed
Mandates (MAN)	<ul style="list-style-type: none"> Mandates are important 	<ul style="list-style-type: none"> Self-developed
Incentives (INC)	<ul style="list-style-type: none"> Salary incentive is important (INC1) Promotion incentive is important (INC2) 	<ul style="list-style-type: none"> Self-developed
Task interdependence (INT)	<ul style="list-style-type: none"> Task dependency within department Task dependency among departments Task dependency on external entities 	<ul style="list-style-type: none"> Jarvenpaa and Staples 2000 Self-developed
Knowledge tacitness (TAC)	<ul style="list-style-type: none"> Knowledge used is codifiable (TAC1) Knowledge used is complex (TAC2) Knowledge used is observable (TAC3) 	<ul style="list-style-type: none"> Subramaniam and Venkatraman 2001
Usage of EKR (USE)	<ul style="list-style-type: none"> Current usage of EKR (USE1) Dependency on EKR (USE2) Reliance on EKR (USE3) 	<ul style="list-style-type: none"> Davis 1989 Self-developed

appropriate for early stages of theory development (Howell and Higgins 1990). Given that this study was an early attempt to develop a theoretical model that predicted usage of EKR by knowledge seekers and that the sample size available was not large, PLS was appropriate for this study. PLS-Graph Version 2.91 was used.

PLS Measurement Model

The PLS measurement model linked each construct in the structural model to questions that measured the construct. The strength of the measurement model could be established through convergent and discriminant validity (Hair et al. 1998). All constructs measured using multiple reflective questions had to be assessed for convergent and discriminant validity. (The mandates construct was omitted because it was measured using a single question. The task interdependence construct was omitted because it was measured using multiple formative questions.)

Three tests were used to assess convergent validity: reliability of questions, composite reliability of constructs, and average variance extracted by constructs (Fornell and Larcker 1981). Reliability of questions was determined by examining the loadings of questions on their intended construct in the PLS output. Hair et al. recommended 0.5 as an indication of adequate reliability. When computing composite reliability of constructs (Chin 1998), relationships among constructs were taken into account. Additional evidence of composite reliability was obtained based on Cronbach's alpha (Cronbach 1951). Nunnally (1978) proposed 0.8 as an indication of adequate composite reliability. Average variance extracted by constructs was computed (Fornell and Larcker 1981) based on the extent to which all questions measuring a construct actually tapped into the same underlying construct. Fornell and Larcker suggested 0.5 as an indication of adequate variance extracted. All constructs in this study appeared to have adequate convergent validity (see Table 2).

Table 2. Results of Convergent Validity Tests

Construct	Questions	Reliability of Question	Composite Reliability	Cronbach's Alpha	Variance Extracted
QUA	QUA1	0.67	0.88	0.83	0.54
	QUA2	0.74			
	QUA3	0.85			
	QUA4	0.69			
	QUA5	0.75			
	QUA6	0.69			
EAS	EAS1	0.79	0.87	0.80	0.53
	EAS2	0.85			
	EAS3	0.79			
	EAS4	0.63			
	EAS5	0.70			
RES	RES1	0.88	0.90	0.83	0.75
	RES2	0.84			
	RES3	0.88			
INC	INC1	0.96	0.98	0.95	0.95
	INC2	0.99			
TAC	TAC1	0.84	0.86	0.69	0.63
	TAC2	0.94			
	TAC3	0.53			
USE	USE1	0.85	0.94	0.90	0.85
	USE2	0.96			
	USE3	0.95			

Two tests were used to assess discriminant validity. First, all questions were subjected to a factor analysis to ensure that questions measuring each construct loaded more highly on their intended construct than other constructs (Thompson et al. 1991). Second, each question should correlate more highly with other questions measuring the same construct than with other questions measuring other constructs. This could be determined by seeing whether the variance extracted by each construct exceeded the shared variance between that construct and other constructs (Igbaria et al. 1994). Tables 3 and 4 reveal that all of the constructs in this study appear to have discriminant validity.

PLS Structural Model

Given an adequate measurement model, the hypotheses could be tested by examining the structural model. The explanatory power of the structural model was assessed based on the amount of variance in the endogenous construct (usage of EKR) for which the model could account. Our structural model could explain 30.2% of the variance for usage of EKR. This greatly exceeded 10%, which was suggested by Falk and Miller (1992) as an indication of substantive explanatory power.

After computing parameter estimates for all paths in the structural model, PLS employed a jack-knife resampling technique (Hair et al. 1998) to compute T-values for all paths (see Table 5). Given that each hypothesis corresponded to a path in the structural model, support for each hypothesis could be determined based on the sign (positive or negative) and statistical significance for its corresponding path. Perceived output quality (H1), availability of resources (H3), and incentives (H5) were significant predictors of usage of EKR but perceived ease of use (H2) and mandates (H4) were not.

Table 3. Results of Factor Analysis

Question	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
QUA1	0.53	0.13	0.09	0.17	-0.06	-0.12
QUA2	0.77	0.09	-0.02	0.05	-0.09	-0.09
QUA3	0.79	0.05	0.19	-0.02	0.03	0.00
QUA4	0.74	0.07	0.04	0.01	0.03	-0.03
QUA5	0.74	0.20	0.09	0.07	0.06	0.04
QUA6	0.74	0.06	0.03	0.02	0.12	-0.03
EAS1	-0.03	0.87	0.06	-0.03	0.09	-0.03
EAS2	0.12	0.85	0.13	0.01	0.17	0.01
EAS3	0.14	0.79	0.10	-0.08	-0.04	0.01
EAS4	0.30	0.52	-0.15	0.23	-0.29	-0.06
EAS5	0.28	0.64	-0.07	0.11	0.01	0.08
RES1	0.12	0.10	0.28	0.80	0.07	0.05
RES2	0.11	-0.02	0.15	0.85	-0.13	0.04
RES3	0.01	-0.01	0.30	0.81	0.08	-0.04
INC1	0.05	0.06	-0.05	0.03	0.96	-0.03
INC2	0.05	0.06	-0.09	-0.10	0.95	0.04
TAC1	-0.07	-0.03	0.03	-0.05	-0.03	0.91
TAC2	-0.08	-0.09	-0.16	-0.10	-0.07	0.87
TAC3	-0.04	0.14	-0.16	0.13	0.11	0.51
USE1	0.15	0.15	0.79	0.24	0.03	-0.08
USE2	0.10	-0.08	0.90	0.26	-0.10	-0.16
USE3	0.14	0.02	0.87	0.26	-0.07	-0.11
Eigenvalue	3.44	2.91	2.55	2.33	2.04	1.95
Variance extracted	15.63%	13.23%	11.57%	10.60%	9.26%	8.87%
Cumulative variance	15.63%	28.86%	40.43%	51.03%	60.29%	69.16%

Table 4. Shared Variance (Variance Extracted) Among Constructs

Construct	QUA	EAS	RES	INC	TAC	USE
QUA	(0.54)					
EAS	0.12	(0.53)				
RES	0.04	0.01	(0.75)			
INC	0.01	0.01	0.01	(0.95)		
TAC	0.02	0.01	0.01	0.01	(0.63)	
USE	0.07	0.02	0.25	0.01	0.07	(0.85)

Table 5. Results of Hypotheses Tests

Hypothesis	Coefficient	T-value	P-value	Outcome
H1: QUA to USE	0.16	2.02	0.05	Supported
H2: EAS to USE	0.03	0.29	n.s.	Not supported
H3: RES to USE	0.44	5.81	0.01	Supported
H4: MAN to USE	0.11	1.11	n.s.	Not supported
H5: INC to USE	0.16	1.67	0.05	Supported

To explore the moderating impact of task characteristics (task interdependence and knowledge tacitness), the dataset was split into two data subsets along the median score of each task characteristic. For instance, when splitting along task interdependence, one data subset would comprise respondents who reported high on task interdependence while the other data subset would comprise respondents who reported low on task interdependence. PLS analysis was then conducted for each data subset and the results pertaining to significant predictors of usage of EKR (i.e., perceived output quality, availability of resources, and incentives) were compared. A moderating impact due to a task characteristic was present if one data subset yielded a different p-value than the other data subset.

PLS structural models for high and low task interdependence data subsets could explain 40.1% and 27.2% of the variance for usage of EKR respectively. Comparison of p-values indicated that the relationship between incentives and usage of EKR was moderated by task interdependence (see Table 6). PLS structural models for high and low knowledge tacitness data subsets could explain 35.8% and 32.3% of the variance for usage of EKR respectively. Comparison of p-values indicated that the relationship between incentives and usage of EKR was also moderated by knowledge tacitness (see Table 7).

Table 6. Results on Moderating Impact of Task Interdependence

Supported hypothesis	Coefficient		P-value		Moderating impact
	High INT	Low INT	High INT	Low INT	
QUA to USE	0.17	-0.06	n.s.	n.s.	No
RES to USE	0.46	0.51	0.01	0.01	No
INC to USE	0.24	0.10	0.05	n.s.	Yes

Table 7. Results on Moderating Impact of Knowledge Tacitness

Supported hypothesis	Coefficient		P-value		Moderating impact
	High TAC	Low TAC	High TAC	Low TAC	
QUA to USE	0.24	0.22	0.05	0.05	No
RES to USE	0.53	0.33	0.01	0.01	No
INC to USE	0.01	0.35	n.s.	0.01	Yes

DISCUSSION AND IMPLICATIONS

In this study, a theoretical model linking potential causal factors to usage of EKR by knowledge seekers has been formulated and empirically tested. The results reveal that perceived output quality, availability of resources, and incentives significantly affected usage of EKR. Moreover, the relationship between incentives and usage of an EKR appears to be moderated by task interdependence and knowledge tacitness (see Figure 2).

Perceived Output Quality

There is a significant positive relationship between perceived output quality and EKR usage by knowledge seekers. In other words, if users feel that the output from the EKR is of good quality (i.e., current, relevant, and accurate), they are more willing to seek knowledge from EKR. This finding has implications both for the review and filtering processes that determine what knowledge goes into an EKR, as well as for the indexing and retrieval technologies that allow people to seek knowledge from the EKR. Reviewing and filtering processes can be fully automatic (e.g., agent filtering), semi-automatic, or done entirely by human experts (Ackerman 1998). The costs of the reviewing and filtering processes versus the quality of knowledge gathered is an important tradeoff when organizations choose between automatic and human forms of knowledge capture (O'Leary 2001). At one extreme, some organizations collect every bit of information about a topic and then let the indexing and retrieval technologies sort out what is relevant. At the other extreme, other organizations exercise strict quality control through human experts. While filtering out low quality knowledge, they take on the risk of losing some potentially useful knowledge. When confronted with

such a tradeoff, organizations need to be cognizant of the fact that the costs of quality assurance may yield benefits in the form of greater usage of EKR by knowledge seekers (and perhaps better individual productivity as a result of the greater usage). Where quantity (rather than quality) of knowledge is the emphasis during knowledge collection, good indexing and retrieval technologies may be employed to provide knowledge seekers with some information about the quality of knowledge retrieved. An example of such technologies is Invention Machine's semantic processing engine, which has been used by companies like Intel to find knowledge that helps them develop new products (Lawton 2001).

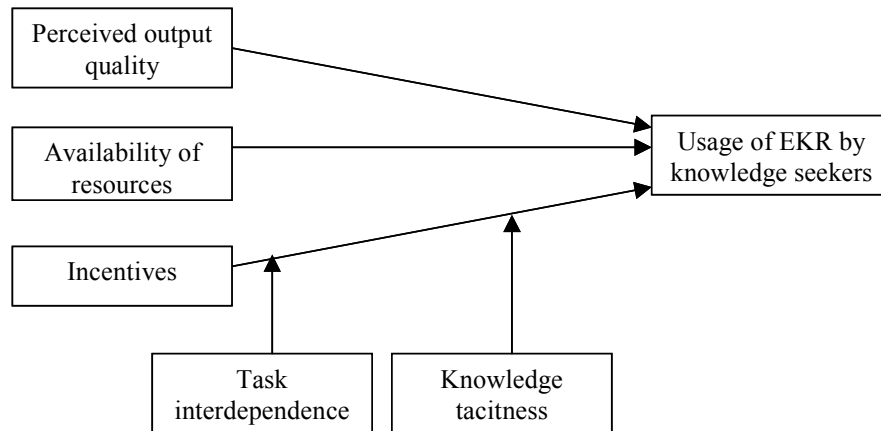


Figure 2. Graphical Summary of Results

Availability of Resources

Availability of resources has a significant positive relationship with usage of EKR by knowledge seekers. Therefore, to facilitate usage of EKR, organizations need to ensure that EKR are accessible by users from a variety of technology platforms (e.g., servers, personal computers, and laptops) with appropriate levels of authorization. For example, Buckman Laboratories has placed much of their knowledge about customers, products, and technologies into EKR that constitute key components of their KM applications. Any associate in Buckman Laboratories can use their Tech Forum to globally locate, capture, distribute, share, and integrate the knowledge of other associates so as to more effectively carry out their work (Zack 1999). Many customers of Buckman Laboratories believe that Tech Forum has contributed much to the sales revenue of Buckman Laboratories (Zack 1999). When providing access to an EKR, security issues must be addressed. For example, Tacit Knowledge's Knowledge Mail creates profiles of experts in different areas based on e-mails and saved documents. This system deals with security issues by encrypting and storing profiles so that only authorized users are able to decrypt the knowledge (Lawton 2001).

Having sufficient slack time may also encourage people to seek knowledge from an EKR. Alternatively, usage of an EKR may be integrated with regular work practices of employees so that the time for employees to use an EKR can be built into regular work schedules. For example, a formal practice of allowing employees to search for existing expertise before embarking on a new project has proven to be useful for large consultancy organizations like Accenture (formerly Andersen Consulting) (Zack 1999).

Incentives

There is a positive significant relationship between incentives and usage of EKR by knowledge seekers. This suggests that organizations may use tangible incentives to encourage their employees to seek knowledge from EKR. Although a few organizations, like IBM Global Services, have introduced schemes to identify and reward specific instances of knowledge contribution and re-use through EKR, such practices are not prevalent (Berry 2000). Incentives may help to overcome barriers to knowledge re-use such as defensive behavior and thereby allow people to leverage organizational knowledge.

This study also demonstrates that the impact of incentives may be moderated by task interdependence and knowledge tacitness. In other words, incentives seem to be effective for encouraging usage of EKR only under conditions of high task interdependence or low knowledge tacitness. These results suggest that people working under such conditions may be the initial targets for incentive schemes, so that a critical mass of people seeking knowledge from EKR can be quickly built up. This critical mass of EKR users can then be publicized as role models to encourage others to do likewise.

Rival Hypotheses

The hypotheses regarding perceived ease of use and mandates were not supported. The ease of use construct may not be influential for our sample, which consisted mainly of respondents who are considerably familiar with information technology. For them, ease of use may not be such an important issue when compared to less computer literate users in previous studies (Taylor and Todd 1995). Previous literature (Rawstorne et al. 2000) suggests that mandates may not achieve the intended effects if they are not properly implemented. Even if employees are inclined to comply with mandates, the desired behavior may not be achieved if other facilitating conditions are absent or benefits are not realized.

CONCLUSION

The data for this study were collected based on one sample of organizations, so attempts to generalize the results to other contexts must be done cautiously. Specifically, the sample size was not large, so the moderating impact of task characteristics needs to be verified with larger samples. Nevertheless, key conclusions have emerged from this study. First, ensuring quality of contents is key to facilitating usage of EKR by knowledge seekers. Second, availability of resources (slack time and access) encourages usage of EKR by knowledge seekers. Third, when people work under conditions of task interdependence or knowledge tacitness, having appropriate incentives may also encourage usage of EKR by knowledge seekers. Future studies can extend the results of this study by improving measures, investigating other factors (e.g., subjective norms and self-efficacy) that may contribute to usage of EKR, and testing different organizational settings. Another extension would be to examine usage of EKR by knowledge contributors (to see whether the factors driving usage of EKR by knowledge seekers and contributors are similar).

Organizations of the future are likely to expend significant amounts of resources on KM initiatives and technologies in order to cope with business pressures from an increasingly competitive environment. Having such KM initiatives and technologies in place is a necessary but not a sufficient condition for organizations to leverage their knowledge resources. The sufficient condition may only be fulfilled when organizations also put in place proper (e.g., technological or organizational) mechanisms under appropriate (e.g., task) circumstances to facilitate usage of organizational knowledge resources. Only then can the promise of KM become a reality.

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