



Knowledge reuse through electronic repositories: A study in the context of customer service support

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ARTICLE INFO

Article history:

Received 25 April 2009

Received in revised form 1 April 2010

Accepted 18 January 2011

Available online 15 February 2011

Keywords:

Knowledge reuse

Knowledge repository capability

Extrinsic and intrinsic motivation

Performance benefits

Customer service

ABSTRACT

Organizations are implementing electronic repository systems to facilitate knowledge reuse but with varying degrees of success. There is a lack of understanding of how individual and technical factors interact in determining knowledge reuse and the performance benefits that could be derived from electronic knowledge repositories. We proposed a model to explain the impact of user motivation and the user's perception of the value of the available knowledge repository on knowledge reuse and the individual's performance benefits through using the system. Through a field survey, we found that perceived knowledge repository capability and intrinsic motivation positively affected knowledge reuse, which in turn impacted the benefits derived from using the system. We also found that perceived knowledge repository capability moderated the relationship between extrinsic reward and knowledge reuse.

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1. Introduction

Knowledge has become an important organizational resource [22]. Consequently, organizations are engaging in knowledge management (KM) efforts to manage their knowledge resources effectively in order to enhance their competitiveness [3]. The activities or processes in KM include knowledge creation, capture, distribution, and application or reuse [2].

Knowledge reuse has been considered as a major justification for KM, i.e., offering productivity gains by not having to reinvent solutions [1]. Examples of knowledge reuse include transfer of best practices from one part of an organization to another and the reuse of employee knowledge captured prior to their departure from the firm [20].

It is important to investigate the use of IS to support knowledge reuse, because IT investment is expensive and the effectiveness of IT in facilitating KM remains unclear [11,33]. The class of IS and technologies that are implemented to support KM processes including knowledge reuse are the knowledge management systems (KMS). They can have various forms, such as electronic repositories, yellow pages, and forums to support communities of practice. Of these, repositories are commonly used to share

codifiable knowledge in organizations. Previously created knowledge is entered into the repository so that it can be retrieved and reused without the cost of its reinvention.

While understanding why employees attain differential knowledge reuse and performance benefits through a repository is of practical concern, little research has been performed to address this issue. However, for KMS to yield organizational benefits they need to be successfully used by individual employees [5]. Therefore, the impact of KMS within an organization needs to be investigated at the individual level. However, most of this individual-level research has focused on examining the antecedents of knowledge seeking through repositories (e.g., [6,14]). A few studies have tackled related problems, e.g., Boh [8] studied how help from the provider can facilitate knowledge reuse from a KMS, while Majchrzak et al. [20] investigated how person-to-person knowledge reuse takes place in radical innovation. We intended to extend this work by considering the outcomes of knowledge seeking from KMS. Thus, our study was intended to explain individual-level impact of the use of a KMS (specifically, a knowledge repository) in supporting knowledge reuse and thereby enhancing employees' work.

Prior studies have also explored various kinds of enablers of KM, including user motivation (e.g., [13,31]) and technology capability, but with mixed results. Therefore, based on a socio-technical perspective, we decided to determine how perceived technology capability and users' motivations interact to influence knowledge reuse and work benefits when using a repository. Specifically, we investigated the impact of two types of user motivation, extrinsic

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and intrinsic, on knowledge reuse. This is because these two fundamental types of motivation operate in different ways and are stimulated differentially.

The context of our study is customer service in knowledge intensive industries, specifically the banking industry. The banking sector is knowledge intensive due to the complexity of products and services. Customer support is often more critical there, because customers find it difficult to understand the nature of their services. Quick and responsive customer service may require successful knowledge reuse; the customer service officer needs to understand previously created knowledge and adapt it to meet a specific customer's needs. Furthermore, with improvements in information and communication technologies, expectations from customer support have reached unprecedented levels; customers expect 24-h service and instant solutions to their problems. Therefore, a customer service center was an appropriate setting for our study.

2. Conceptual background

Common theoretical bases of prior studies on knowledge repositories are technology acceptance models, social exchange theory, and knowledge transfer models. A few studies have also investigated person-to-person knowledge reuse using these perspectives (e.g., [27]). While technology acceptance models [30] focus on IT beliefs that determine people's use of a technology, our objective was to go beyond technology usage and study how outcomes such work benefits could be obtained through the use of a repository. Further, social exchange theory, as applied to KM research, highlights the costs and benefits behind knowledge contribution or seeking. We hoped to understand other outcomes such as knowledge reuse through repositories and resultant work performance benefits. A study by Boh applied the knowledge transfer view to investigate the problem. However, the focus of that study was on the effect of help from the provider in facilitating knowledge reuse.

Our objective was to understand how motivation and technical (repository capability) factors interact in influencing knowledge reuse and performance benefits through a repository. For this purpose, a socio-technical perspective was employed because it emphasizes the interdependencies of technical and human factors in determining the outputs of a work system. The outputs of the work system are thought to be the result of interactions between these two systems. Thus, this perspective has been used as a lens to investigate how IS characteristics together with human motivations determine system use (e.g., [12,15]). In KM too, the socio-technical perspective has gained popularity (e.g., [7,17]) because KM entails the intertwining of human practices and technology. In accordance with the socio-technical perspective of KM, our model therefore depended primarily on two streams of KM literature, i.e., KMS capability for knowledge reuse and KMS user motivation.

2.1. KMS capability for knowledge reuse

The processes leading to knowledge reuse consist of capturing knowledge, packaging knowledge for reuse, and distributing knowledge [21]. Capturing knowledge in a repository involves coding employees' knowledge, which can be done as a part of the work process. Knowledge about a company's products, services, etc. is now commonly captured online. Packaging knowledge is the process of culling, cleaning and polishing, structuring, formatting, or indexing documents against a classification scheme. Knowledge packaging in a repository includes filtering or pruning as well as organizing the contents. Distribution can be passive, where users search for relevant knowledge, or active due to receiving assumed relevant knowledge from the KMS. Reusing knowledge thus involves users evaluating search results or updates sent to them to see if they meet their needs as well as actually applying the knowledge.

Knowledge in a repository is subjected to the three processes: capturing, packaging, and distributing. Thus, perceived knowledge repository capability is composed of the perception, of knowledge reusers, about these three processes of the repository.

Researchers (e.g., [32]) have highlighted the perceived capabilities of specific IT as the source of individual and organizational impacts. However, technology capabilities (e.g., perceived knowledge repository capability) need to be complemented by human factors (e.g., user motivations) for KM success. While prior studies have examined the effects of KMS perception and motivational factors separately, the interaction of these factors is not well understood.

2.2. KMS user motivation

Reusers are driven by either extrinsic or intrinsic motivations [14,19]. Extrinsic motivation involves performing a behavior because it may lead to separable outcomes (e.g., earning money). Intrinsic motivations involve performing the behavior for its own purpose (e.g., enjoying helping others).

Motivations have been studied to determine their contribution to knowledge sharing [19]. For example, extrinsic motivation in the form of economic rewards has been studied [4] and found to play a facilitating role [13,29]. Further, intrinsic motivation in the form of knowledge growth was found to affect knowledge seeking positively. Thus, we expected extrinsic and intrinsic motivation to impact knowledge reuse.

3. Research model and hypotheses

Our research model is shown as Fig. 1. Performance benefits, the dependent variable, refers to the increase in an individual's work performance (which, in our study, was *customer service*) due to use

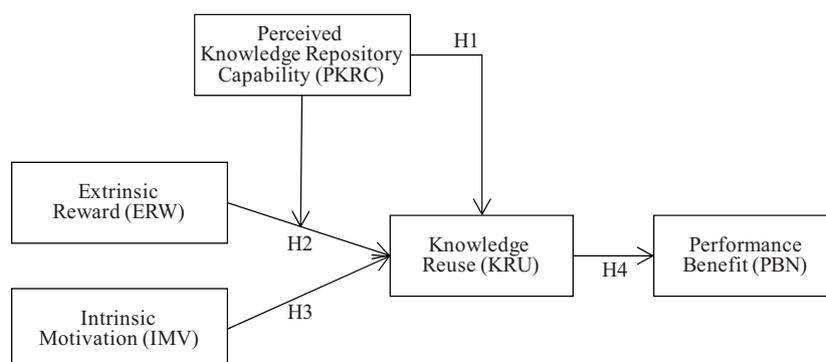


Fig. 1. Research model.

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