

# Exploring the Roles of Social Exchanges in Using Information Systems

Kee-Young Kwahk

**Abstract**—Previous studies have indicated that one of the most critical failure reasons of enterprise systems is the lack of knowledge sharing and utilization across organizations. As a consequence, many information systems researchers have paid attention to examining the effect of absorptive capacity closely associated with knowledge sharing and transferring on IS usage performance. A lack of communications and interactions due to a lack of organizational citizenship behavior might lead to weak absorptive capacity and thus negatively influence knowledge sharing across organizations. In this study, a theoretical model which delves into the relationship between usage performance of enterprise systems and its determinants was established.

**Keywords**—Usage performance of information systems, Social exchanges, Enterprise systems.

## I. INTRODUCTION

THE development of information systems and information & communications technology has rapidly altered the corporate management environment. Corporations have sought to cope with these rapid changes and intensifying competition by introducing and using various enterprise systems such as ERP (enterprise resource planning) systems as a strategic tool. However, the introduction of ERP systems is more than the process of securing an integrated information system; more to the point, the ERP package also includes business processes embedded within it that inevitably entail organizational change. As a result, the introduction of ERP systems inescapably contains many potential risks.

Many studies have attempted to analyze the factors leading to the successful or failed implementation of an ERP system. To this end, researchers have paid particular attention to the sharing and use of knowledge and the absorptive capacity of the members of an organization [13], [14]. Davenport [5] identified enterprises' inability to facilitate their members' sharing and usage of knowledge as the key factor in explicating such failure. Meanwhile, Soh et al. [14] concluded that the knowledge gap between the end users, the information system staffs, and the ERP vendors, constituted the main factor leading to failure, and stressed the importance of successfully integrating their respective knowledge.

The sharing of knowledge within an organization, from an organizational standpoint, can be regarded as social exchange relationships. Much as is the case with economic exchanges, the exchange behavior associated with social exchange relationships is one that is based on expectations of future

compensation. However, contrary to economic exchanges, social exchange relationships do not involve precise details of future responsibilities or compensation. Organizational citizenship behavior involves voluntary and active communication and interaction between individual members of the organization. These communications and interactions lie at the root of these social exchange relationships. The failure to bring about the desired organizational change sought through the introduction of ERP systems is rooted in employee's resistance to change, resistance which in many cases is caused by a lack of communication and interaction in conjunction with these changes. The lack of such communication and interaction lowers individual absorptive capacity, and negatively influences knowledge sharing between the members of the organization.

## II. THEORETICAL BACKGROUND

### A. Organizational Citizenship Behavior

People engage in various social interactions during their lives. In this regard, sociologists have emphasized the important role played by exchanges in these social interactions [1]. According to the social exchange theory, individual interactions lead to the exchange of not only material items such as goods and money, but also non-material ones such as respect, honor, and closeness. As such, relationships are established and maintained between the actors in such social exchanges based on expected rewards [1]. However, the possibility of voluntary exchanges can be decreased when those engaging in social exchanges lack the faith needed to believe that things will be fairly carried out. Therefore, the establishment of social exchanges is depended on the expectation that one's counterpart will behave in a cooperative manner [1]. More specifically, when one provides a certain benefit to a counterpart, he/she should have faith that the counterpart will someday return the favor, and believe that the counterpart feels the same way [1].

The social exchange theory has been widely used as a background theory with which to conceptualize organizational citizenship behavior [19]. Organizational citizenship behavior can be defined as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promote the effective functioning of the organization" [11]. This does not mean that those who engage in non-compensated behaviors do not seek some type of reward. Rather, it means that non-compensated behaviors do not receive immediate rewards as defined under the official reward system. In other words, engaging in behavior designed

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to help others is not aimed at receiving any formal reward as part of a temporary relationship, but rather, in accordance with faith that the relationship in question will be a continuous one, is based on the mutual reciprocal belief that if one helps the other the other will someday help him. In addition, the term 'discretionary' means that individual executions of roles are determined by the free will of individual members of the organization and not by their job descriptions.

Many researchers have perceived limitations in terms of explaining organizational performance based solely on the official job behaviors of the organization's members. To this end, they have conducted studies in which they have attempted to connect organizational citizenship behavior, which has been regarded as one of the unofficial behaviors of organization members, to organizational performance. Morrison [10] introduced an organizational citizenship behavior model for the service industry that was based on the assumption that organizational citizenship behavior influences the level of services provided to clients. Meanwhile, Yoon [17] suggested that job satisfaction and trust were in fact antecedent variables of organizational citizenship behavior, and carried out an empirical analysis in which he showed that organizational citizenship behavior influenced the quality of services. For their part, based on the studies of organizational citizenship behavior carried out in the field of information systems, Lee and Lee [9] conducted an empirical analysis of the influence of organizational citizenship behavior on change management, an important factor in terms of the management of the ERP system. Yoon [18] analyzed the influence of organizational citizenship behavior on ERP system performance.

#### *B. Absorptive Capacity*

Absorptive capacity can be defined as "the ability of a recipient to recognize the importance and value of externally sourced knowledge, assimilate it and apply it" [4]. Zahra and George [20] summarized the literature regarding absorptive capacity, and concluded that absorptive capacity revolved around the ability to acquire, assimilate, transform, and exploit knowledge as part of the everyday and strategic process of creating values. In other words, the absorptive capacity of an organization can be perceived as the result of the organization's internal transfer of knowledge to accumulate and share individual learning activities [4]. Learning activities result in the creation of knowledge through the process of cognition, acquisition, information assimilation, and the exploitation of knowledge. In addition, the active conduct of learning strengthens previously possessed knowledge, increases the capacity to use new knowledge, and fosters the use of knowledge activities through which new plans can be actualized.

The notion of absorptive capacity has been highlighted across a wide array of fields ranging from management strategy, technology management, international management, organizational management, and information systems. In terms of previous studies on absorptive capacity, Cohen and Levinthal [4] suggested that R&D fosters the ability to assimilate or use new knowledge; meanwhile, in his study

about best practice transfers, Szulanski [16] argued that a lack of absorptive capacity strengthened the tendency to stick to the knowledge one already possesses, and that this tendency negatively influenced the transfer of knowledge. For their part, Griffith et al. [6] conducted a study on the influence of the combination of IT and actual job tasks on the transformation of team knowledge. They suggested that individual absorptive capacity, in its function as a moderating variable, positively influenced the process of transforming potential team knowledge into the exploitable knowledge. In addition, Zahra and George [20] suggested that as the introduction of a new IT technology to a corporation required absorptive capacity, enterprises should focus on increasing the latter. Based on the previous studies, the present study employs the following factors commonly adopted as the sub-dimensions of absorptive capacity: acquisition, assimilation, transformation, and exploitation.

### III. PROPOSITIONS

The propositions are introduced in order to understand the influence of organizational citizenship behavior on usage performance of ERP systems via the mediation of the absorptive capacity of system users.

Absorptive capacity is a notion which encompasses learning ability, or the ability to digest existing knowledge, and the problem-solving ability needed to create new knowledge[7]. Cooperation can be perceived as the key to an organization's forging of absorptive capacity. This is because the absorptive capacity of an organization is based on individual learning that is focused on the goals and objectives associated with the development of the organization, which in turn can be strengthened through the sharing of knowledge, exchange of thoughts, and the accumulation of knowledge.

In addition, knowledge creation is brought about through the dynamic interactions between the knowledge base possessed by individuals and groups and other knowledge, which are then combined and transformed [8]. Interaction capacity refers to the ability of organization members to share, exploit, and develop the knowledge possessed by the company, and can be divided into capacity for external interactions and capacity for internal interactions depending on the sources of the knowledge. The factors which influence capacity for external interactions include contacts with clients, cooperation with suppliers, and communications with external specialists. Meanwhile, factors which influence capacity for internal interaction include internal communications, sharing of experiences, and leader's involvement. The factors associated with capacity for internal interactions are part of the procedural learning activities carried out in order to integrate and recreate the various kinds of knowledge, and influence the transformation of knowledge. Frequent interactions within the organization increase the quantity of knowledge possessed. The ability to engage in abundant interactions revolves around direct and frequent communications amongst the members of the organization. In this regard, unofficial individual interactions are deemed to be more important than official interactions within the organization when it comes to the absorbing and creation of

knowledge. In addition, the self-efficacy created by knowledge and intrinsic benefits such as the pleasure obtained from helping behavior are regarded in the field of knowledge management as important motivational factors with regards to the provision of knowledge and constitute important factors in the exchange and sharing of knowledge [2]. Based on these assertions, the following hypothesis is introduced:

*P1: Organizational citizenship behavior positively influences absorptive capacity.*

The gap between enterprises' levels of performance can be explicated by the difference in enterprises' capacity to use the organizational resources and competencies at their disposal [15]. Furthermore, enterprises' ability to effectively create, manage, and exploit knowledge can be regarded as another important factor. As the introduction of an ERP system is essentially the process of transferring the logic and knowledge of advanced processes found within the ERP package, the successful transfer of the relevant knowledge becomes critical, and thus absorptive capacity becomes a very important variable in terms of the introduction of external knowledge and knowledge transfers. In addition, the effective exploitation of the knowledge transferred from the ERP system requires a high degree of absorptive capacity [20]. While Boynton et al. [3] asserted that absorptive capacity positively influences IT use, Park et al. [12] attempted to empirically prove that absorptive capacity positively influences usage performance of ERP systems from the standpoint of knowledge transfers.

ERP systems as a strategic tool are introduced and operated by companies in order to give them a competitive advantage. The effective use of ERP systems however requires that the members of the organization conduct individual learning activities such as taking part in training activities, participating in seminars, and referring to the relevant manuals. At this juncture, the conclusion can be reached that users with a higher degree of absorptive capacity will accept and understand the information pertaining to the usage of the ERP system better than those with a lower degree of absorptive capacity. Furthermore, as the former type of user shares his experiences with others, he will come to gradually develop and incorporate his own know-how. Therefore, we can expect that users with high absorptive capacity will be better suited to exploit the ERP system. Based on these discussions, the following hypothesis is put forward:

*P2: Absorptive capacity positively influences usage performance of ERP systems.*

#### IV. CONCLUSION

This study shows the propositions that absorptive capacity constitutes an important factor that influences the usage performance of ERP systems and introduces the social exchange theory-related notion of organizational citizenship behavior as an antecedent factor of absorptive capacity. Faced with a business environment characterized by unlimited

competition, many enterprises have implemented and deployed ERP systems as a strategic vehicle. However, there have been very few cases in which such ERP systems have been successfully introduced. Failure to implement such systems, which result in huge investment loss coupled with low job task efficiency, can fatally damage a business. To this end, this study introduces the relationship between absorptive capacity and organizational citizenship behavior as a factor that influences the successful management of ERP systems and suggests a chance to empirically test the proposed research model.

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