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Abstract

Among recent enterprise systems (ES) research, not much attention and focus have been given to the use and management of ES. Thus, we will examine the daily operations of ES from the social integration (SI) perspective. The main purpose is to understand the influence of SI mechanisms in ES application. We adopt an interpretive case study approach, using 40 interviews with employees from a company with 10 years of experience in the management and application of ES. Based on our findings, we have identified three social integration mechanisms- relational reformation, structural reformation and cognitive construction that had influenced the transformation of individual knowledge and expertise to achieve efficient and effective use of ES.

Keywords: Enterprise systems (ES), Social Integration (SI), Social Capital (SC)

1. Introduction

In today's fast changing environment, all organizations need to rise above the challenge of achieving a sustained profitable growth. To ensure competency and competitiveness, organizations invested significantly in enterprise systems (ES) in the belief that ES can save millions of dollars in organizational expenses. However, 90% of organizations failed to implement the system (Martin 1998). So, learning from experience, practitioners and academics realize that obtaining ES benefits is not as straightforward as they would like to believe (Howcroft et al. 2004).

Recent ES research has highlighted the need to examine the way ES are shaped by individual and group interests and preferences as well as organizational, cultural and social structures (Howcroft et al. 2004). In this study, we make a preliminary attempt to examine the use of ES through an understanding of the social interactions among ES users. With this research, we hope to offer a glimpse of the three mechanisms of social integration; they are structural, relational reformation and cognitive construction. In so doing, we make clear the rationale behind paying attention to social integration in the context of ES use. We base our study on the case of Talam, a private sector organization with 10 years of experience in ES use.

2. Literature Review

In the existing ES implementation literature, social issues have been identified as one of the main reasons for the failure of ES implementation, and this issue has persisted till today (e.g., Lorenzo 2001; Ragowsky and Somers 2002). Nevertheless, ES have gained recognition as social

and physical artifacts; it is now accepted that social dynamics and the role of users affect ES use besides technology (Howcroft et al. 2004).

To compete in today's highly competitive markets, organizations need to rely on useful and suitable technologies. More importantly, they must be able to manage the social issues related to technology use well. An organization is a social community where individuals are hired and gathered to transform their knowledge and expertise into economically useful products and services (Kogut and Zander 1992). To maximize its advantage of creating and sharing knowledge, an organization depends highly on the network of relationships possessed by its members (Nahapiet and Ghoshal 1998). The strategic use of social networks and relationships by its members in order to make sense of new organizational processes and overcome the challenge posed by complex systems (e.g., tension between intra- and inter-department employees) (Soh et al. 2000) are known to draw upon individuals' collective social capital (SC).

SC has a significant impact on the creation and sharing of knowledge (Tsai and Ghoshal 1998) and intellectual capital (Nahapiet and Ghoshal 1998). It can also facilitate inter-unit resource exchange, contribute to product innovations (Tsai and Ghoshal 1998), and enhance cross-functional team effectiveness (Rosenthal 1996). Thus, deliberate investment in SC can help organizations in two ways: first, to identify and elaborate on the significance of knowledge processes as the foundation of organizational advantage (Nahapiet and Ghoshal 1998), and second, to counter challenges, and even turn them to advantages (Cohen and Prusak 2001).

SC as a concept is widely used by researchers, but among previous studies, there is a lack of consensus on its precise definition (Nahapiet and Ghoshal 1998). To better understand social interactions between ES users, we adopted Nahapiet and Ghoshal's (1998) definition of SC as it accounts for both the network and the resources (assets) that may be mobilized through the network (Burt 1992). We consider SC as "*the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or a social unit*" (Nahapiet and Ghoshal 1998, p. 243). We believe that by examining the human networks and interactions involved in ES use, many possible resources (assets) involved in ES use could be identified. Nahapiet and Ghoshal (1998) understood SC from three dimensions: structural, cognitive and relational. Despite their insights of SC, Nahapiet and Ghoshal (1998) acknowledged that their framework lacks a coherent theory that integrates the interrelationships among the three dimensions. It is this need that we seek to address with the social integration approach in this study. By examining the influence of social integration in ES use, we hope to offer a better understanding of the mechanisms in ES use.

3. Research Methodology

We focus on how social interactions among ES users affect an organization's ES operation. In order to better understand ES users' thoughts and actions in the organizational social context, we adopt the interpretive case study approach as it allows us to gain the "insider view" to the case organization, enabling us to gather more insightful accounts directly from informants within the organization as well as an in-depth and holistic picture of the studied phenomenon (Yin 1994).

In line with our research interest, we invited Talam Corporation Berhad, one of the biggest public-listed housing developers in Malaysia with 10 years of experience in using ES, to participate in our study. We conducted four periodical visits through the months of March 2004 to May 2005 to the case organization. Together, the visits yielded 40 face-to-face interviews and

observations (e.g. watching employees leaving for lunch, tea breaks, and during their office operating hours), and secondary data. Informants were selected and scrutinized carefully to ensure the quality of the collected data. Such list includes the top management, middle management, different user departments, IT department, as well as IT vendor. Interviews were conducted based on the standard set of questions that was designed to initiate and guide the interview process.

4. Case Study

As one of the biggest and fastest growing public-listed housing developers in Malaysia, Talam realized the need for an integrated system to streamline its daily operations. It saw ES adoption as its new business strategy to better manage and integrate the tedious and complicated documentations that its business entailed.

The company acknowledged the fact that to reap the benefits of ES adoption, appropriate use and management of the system were critical. To better manage departmental objectives and tasks allocation, Talam defined lines of responsibilities and delegation of authorities a list of network structures outlining all necessary contacts, procedures and ES obligations for all departments are documented in the Standing Instructions and Standard Operating Procedures (SOP). The finance DVP commented:

"Everyone knows each other's obligations and responsibilities clearly. Therefore, the possibility of 'passing the buck' does not arise in this department."

Talam's ES workflow begins from the sale of a unit of property till the end of after-sale services. Before launching a new housing project to the public, good interdepartmental cooperation would be required for the necessary information to be uploaded into the system. Similarly, good intra-departmental working relationships would also be needed to optimize the use of the information loaded. A senior marketing executive explained:

"Tedious tasks such as loading the sales chart would require more than a hard day's work for one person. Even with voluntary help from colleagues, we might still need to stay back after office hours. Therefore, cooperation among staff would be necessary."

Several workflow steps followed the preliminary work of loading information into the system:

Step 1: The uploaded information would be ready to serve its purposes. Basic knowledge and skills would be required in using the enterprise system to access relevant information and provide appropriate assistance to customers. To provide adequate support for the staff, a briefing session is conducted every Thursday by the marketing manager so as to update staff with the latest information and changes.

It is certainly not easy to convince or persuade a customer into buying a house unless there is a need to satisfy some basic needs such as for occupancy or investment. Moreover the procedures for purchasing a house may be tedious and time-consuming. Thus, it is critical for the managers to train and ensure their subordinates familiarize themselves with the system.

Step 2: Once a potential buyer has agreed to purchase a unit of property, both the sales and credit control personnel would have to ensure that the particular buyer pays the 10% down payment in time for the booking to be valid. For more flexibility and convenience, a customer-friendly payment system like the integrated and centralized enterprise system is set up to allow purchasers to make installment payments from either the main office or any other sales outlets.

The enterprise system would then provide users with up-to-date information when accessed. Employees in different departments are able to access the same customer's profile. A finance department staff described:

"To eliminate confusion between departments, it is our common practice to leave messages in the MEMO function. To eliminate confusion and communication breakdown, certain words are used along with some standardized system jargons."

To foster internal collective bonding, managers arrange birthday-lunch outings for all their subordinates. That is because the management understands that work satisfaction would encourage and motivate users to cooperate and use the system.

Step 3: By accessing the system, the credit control department would be provided with up-to-date information that had been keyed into the system by duty staff. Through the system, credit controllers would then keep track of purchasers' sales and purchase contracts and loan documentations as well as to monitor and vet the documentation so that Talam gets the right signatures from purchasers, bankers, and lawyers. In addition, credit controllers could keep track of purchasers' payment status, handle payment and collection at the same time. Such smooth business process is supported by the use of standardize coding systems which eventually has minimized conflicts and misunderstanding between departments and improve the efficiency of business process.

Responding to the IT Head of Department's comment, the assistant credit control manager in Talam proudly shares her more than 10-year experience:

"For example, by reading the E002 code, it tells me that it is time to request a particular purchaser for the next payment. By using the coding system, it has speeded up our working time."

Step 4: Each payment received would be recorded and updated by the credit control department while making it possible for the finance department to access daily account consolidation. This consolidated information could be used for the company's business planning and investment purposes.

For seamless business integration, the financial department personnel would closely monitor daily monetary inflow and outflow with the cooperation of the credit control department so that matters such as finding misplaced cheques and contradicting cheque numbers could be settled immediately.

Talam is mindful that healthy organizational practices and norms affect~~ed~~ organizational performance. The company makes it a point to explain its norms and management expectations to new recruits and existing employees clearly. It is organizational practice for the management to encourage employees to speak the truth and express constructive opinions and ideas. The finance DVP gave this example:

"A new manager did not agree with the format of a standard report given by his superior; therefore, he bypassed his immediate superior and engaged the higher authorities in dealing with trivial problems…since that incident the new manager was never promoted by the boss who he acted against within this company."

With such examples as lessons, face-to-face meetings were the most preferred choice as employees found that the meetings could eliminate misunderstanding and unnecessary office politics that might affect the organization's morale and operations.

Step 5: Once a housing project is ready for handover to buyers, the system would automatically notify credit control staff so that letters of notification could be sent to individual

buyers regarding the handover of the property. With the proof of the receipt issued, purchasers will then proceed to collect their house keys at the specific site office for house inspection.

Step 6: After the handover of a house, a buyer would be provided with a year's defects warranty. The buyer could then file complaints about defects of his or her property to the Customer Service Action Center (CSAC). The greatest challenge for CSAC staff is to properly handle any possible emotionally unstable purchasers and at the same time accurately key-in the description of their complaints into the system. The senior executive claimed:
"We know that customers are always right, with this right frame of mind we are able to handle any complaints peacefully. In times of difficulties we are able to work together closely to solve the problem. I truly enjoy this type of strong bond between us."

Since this is an integrated system, information that is recorded by CSAC is accessible by the project department. As both departments share the common system mediated codes, problems such as miscommunication seldom occur. A business process and service would be considered complete when the buyer's complaints have been appropriately settled.

5. Analysis

Drawing on an in-dept case study of the ES use at Talam, we have seen the social integration which has played a significant role influencing the use of ES. We argue that the three dimensions of SC by Nahapiet and Ghoshal (1998)-structural, relational and cognitive- are intertwined with each other. Therefore we proposed the idea of social integration- a process (which we have coined) that brings about the integration of the three social capital dimensions.

5.1 Structural Reformation Mechanism

This structural reformation mechanism was initiated by Talam's management to reorganize ES nature tasks in two written documents- standard instructions and SOP as *network structures and ties* guide for ES users to understand their extended ES *obligations* and the new pattern of connections between actors. Because of this, issues such as "*passing the buck*" were overcome in Talam as *obligations* were clearly stated. Such positive outcome may be used as a guideline for ES practitioners to deal with the ES conflicts and tensions that may arise among departments (Soh et al. 2000). In addition, to understand the *obligations* of the sales and marketing staff, members of the same department offer assistance to their colleagues in uploading information into the system. Such an action has demonstrated a good example of working relationship and the achievement of collective goals among staff. Such behavior could be claimed as the power of cohesiveness (Alder and Kwon 2002) that might possibly change the quality of working relationship (McAllister 1995) and subsequently influence the efficiency and effectiveness of the ES use.

This structure is reformed by the management's reorganized networks in accordance with the ES nature to enable actors to explore and expand their networks. With the guide of the structure, actors are being connected; thereby, providing opportunities to build good working relationship (relational reformation) which in turn provides speedy, quality information and knowledge access and exchange. Thus, it is important for management to initiate network relationships by coordinating different departmental employees and then allowing them to further develop and expand their networks and relationships freely.

5.2 Relational Reformation Mechanisms

The relational reformation refers to staffs' perspectives on the three identified interrelated and connected factors which are: *trust, norms, obligations & expectations*. Such mechanism has connected the structural reformation and cognitive construction through frequent communication. For example, with the explicit *expectations* from the management, ES users were informed of their *obligations* to learn and adapt to the coding system. As evident in the case, eventually the use of coding system became the *norm* of ES users. More importantly, actors came to understand and appreciate the system which resulted in smoother business processes. For example, those who are accustomed to the coding were able to perform tasks efficiently and minimize misunderstandings in and between departments.

Aside from using coding systems, we find that key influences in creating and maintaining social capital is to promote cross departments' communication with multiple communication channels support. As shown in the case, face-to-face is one of the key channels for issue settlement because it enables actors to solve issues immediately. We learn that, the choice of communication channels has impacted the development of relationship reformation between ES users. More importantly it seems to function as the motivating factor for efficient and effective ES operation in the data.

5.3 Cognitive Reconstruction Mechanism

Based on our analysis, cognitive reconstruction encompasses ES users' *shared beliefs*, emotional and intellectual buy-in which is embedded in the organization's social fabric. For example, the *shared beliefs* claimed the CSAC staff: *"We all know that customers are always right, so we have to serve them"* has shown the strong bond among CSAC staff, in particular when they work as a cohesive team to handle emotional purchasers.

In addition, fostering network expansion (structural reformation) has contributed to collaboration (relational reformation) among ES actors across departments. For example, the Talam managers organized birthday –lunch outings for all their subordinates as they realize that once collective cohesiveness is achieved, it would facilitate and influence the actions of individuals within the *structure* (Coleman 1990) to continue learning, exploring, sharing and assisting each other in ES use. This could be a good exemplar for practitioners to enhance and expand good intra-departmental networks.

Based on the data, seamless information and knowledge integration is still highly dependent on employees' cooperation across departments irrespective of whether the system is integrated. An example from our data is the handling of missing cheques or contradicting cheque numbers. Employees with good cross departmental skills (Alder and Kwon 2000) would have embedded the social fabric across departments so that they can perform better in sourcing for information through personal networks. Based on this, we assert that social integration helps explain the differential success of individuals and ES firms.

In addition, *story sharing*, such as the incident about the new manager going behind his immediate supervisor's back with a complaint, has left a powerful impact in the Talam's user community (Nahapiet and Ghoshal 1998), thus, imprinting an unforgettable

incident in the minds of Talam employees. Such an incident teaches one to be aware and respectful of the organization *norms.* It is important for one to be prudent when dealing with social and cultural issues in order to attain seamless social integration.

6. Conclusion

We have used the collected data from the case study at Talam to elucidate ES users' social interactions from a social integration perspective. With the collected data, we have developed new definitions for the three identified SI mechanisms. It is important to pay attention to the development of SI as it permits managers to guide and carefully shape this social and culture factors in terms of the behavior and attitudes of ES users in accordance with ES nature.

We recommend ES practitioners to focus on three main managerial areas: (1) cultivate a suitable management style to manage and connect ES users according to the ES structure and nature, (2) provide flexibility in using multiple communication channels to convey messages, information and knowledge, and (3) allow ES users to expand and formulate their networks with least interference especially from the management. In conclusion, managers should be conscious that SI could influence organizational performance.

This research could be further extended to explore possible SI processes which could systematically bridge the three SI mechanisms. In addition, it is also worth exploring the enablers and inhibitors of social integration so as to provide more comprehensive SI findings in ES use.

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