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PROCESS OF SOCIAL INTEGRATION: THE KEY TO MAKING ENTERPRISE SYSTEMS-ENABLED CHANGE

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Abstract

Most previous enterprise systems (ES) studies focus on the ES implementation issues or critical success factors without taking into consideration that complex relationship of reciprocal causality between technology and human factors would cause the failure of ES to meet organizational expectations or deliverance of values promised. In this study, we try to understand the concept of social integration (SI) through exploring the use of ES in supporting organizational daily operations. In our in-depth case study of Talam, 40 interviews were collected from a company with ten years of experience in the management and application of ES. We have successfully identified six social integration processes and three social integration mechanisms that help to explain the interrelationship of the dynamic nature of social integration.

Keywords: Enterprise systems (ES); Social integration (SI); Social capital (SC)

1. INTRODUCTION

Enterprise systems (ES) have been considered as comprehensive software solutions that help to share information, across integrated organizational processes (Shanks & Seddon, 2000). These systems are designed for today's fast-changing and highly competitive environments, in which organizations need to rise up to the challenge of achieving profitable growth by streamlining work flow to increase productivity, reduce expenses, and improve decision-making quality and resource control (Howcroft, et. al., 2004). To ensure competency and competitiveness, organizations are making significant investments in ES, with the belief that ES can save millions of dollars in organizational expenses. As many information technology (IT) managers view ES as their organizations' most strategic computing platform (Hong & Kim, 2002), many organizations tend to act in haste by adopting ES without proper planning and due consideration (Martin, 1998).

This, together with other reasons, has caused many ES implementations to fail (Martin, 1998; Hong & Kim, 2002). Learning through experiences, practitioners and academics have come to realize that obtaining ES benefits is not as straightforward as they initially believe (Howcroft, et. al., 2004). The technical rigidity of ES software not only limits the flexibility of implementer organizations (Umber, et. al., 2003), it can also jeopardize their core operations (Hong & Kim, 2002), and at worst, force companies to change their business practices, including their strategies and culture (Kawalek & Wood-Harper, 2002; Yakovlev, 2002; Umber, et. al., 2003), to align with the new system (Yakovlev, 2002).

While various studies have looked into ES implementation, few have actually studied the post-ES implementation experience. Such lack of research on post-ES implementation has become a new research concern (Lorenzo, 2001) as little information is available on the use, values and benefits of the ES after implementation (Kawalek & Wood-Harper, 2002). Aiming to address this theoretical gap, this study looks into the use of ES and its aftermath implications from a social capital perspective (Nahapiet & Ghoshal, 1998).

As identified in existing ES literature, social issues (Lorenzo, 2001; Ragowsky & Somer, 2002; Newell, et. al., 2004) are the basic condition for successful ES implementation (Scheer & Habermann, 2000; Sarker & Lee, 2003). Specifically, we posit in our paper that social issues are important and should be considered as a duality. On the one hand, social issues, are influenced by group interests and preferences from various organizational, cultural and social backgrounds, and therefore provide an interesting perspective to understanding the implementation and use of ES (Howcroft, et. al., 2005). On the other hand, it is equally important that studies be conducted to explore and examine how the implementation and use of ES might have long term impact on the social environment of the organization.

In trying to better understand these challenging issues, we make a preliminary attempt to examine the use of ES from a social integration perspective. With this research, we offer an approach which reveals the linkages between the different mechanisms of social integration, and provide the rationale highlighting why attention should be given to social integration in the context of ES usage. We base our study on the case of Talam, a public-listed housing developer organization with ten years of experience in the management and application of ES.

2. LITERATURE REVIEW

To compete in today's highly competitive markets, organizations are required not only to rely on useful and suitable technologies, but more importantly they must be able to properly manage ES and its users. Kotlarsky and Oshri (2005) recommended paying more attention to focus and understanding the relationships between social ties, as information systems literature tends to overemphasize the contribution of technical solutions and downplays the role of social aspects. ES is recognized as a system with a combination of social and physical artifacts. Thus, ES users play a vital role in affecting ES implementation (Scheer & Habermann, 2002) and ES use (Kawalek & Wood-Harper, 2002). In this paper, we are particularly interested in understanding the social artifacts embedded in the implementation and use of an ES. These social artifacts, if managed or facilitated properly, will bring value to organizations, as they become strategic capital and a source of competitive advantage. .

Social capital (SC) exists in every organization (Cohen & Prusak, 2001), since the organization is a social community where individuals are hired and gathered to transform their knowledge and expertise into economically useful products and services (Kogut & Zander, 1992). To realize the benefits (assets) created through joint efforts, organizations depend highly on the network of relationships possessed by individuals to create and share knowledge (Nahapiet & Ghoshal, 1998). SC bridges the space between people, and such connections encourage commitment and collaboration by making access to knowledge and talent possible (Cohen & Prusak, 2001). Therefore, the strategic use of social networks and relationships are necessary, especially in a context where business processes have been changed and re-organized due to the centralized and complex nature of an ES and its dynamic use (Soh, et. al., 2000). .

A number of theoretical analyses of social capital (see Baker, 1990; Burt, 1992) have been published in the realms of political science, sociology, and economic developments (Lesser, 2000) and its terminology has been widely used by different researchers (Hirsh & Levin, 1999; Lesser, 2000). Therefore, from our perspective, it is important to note that social capital may not be the only key to organizations' success (Cohen & Prusak, 2001), but it has a significant impact on the creation and sharing

of knowledge (Tsai & Ghoshal, 1998) and intellectual capital (Nahapiet & Ghoshal, 1998). Moreover, SC can also facilitate inter-unit resource exchange (Hansen 1999; Tsai & Ghoshal 1998) through group cohesion (Yang & Tang, 2004), contribute to product innovations (Hansen, 1999; Tsai & Ghoshal, 1998) and enhance cross-functional team effectiveness (Rosenthal, 1996) by good group structure (Yang & Tang, 2004). Furthermore, SC is helpful in identifying and elaborating the significance of knowledge processes as a foundation of organizational advantage (Nahapiet & Ghoshal, 1998). Some previous studies of SC (for example Tsai & Ghoshal, 1998) have demonstrated the interrelationships between the SC factors but very little research have actually focused on SC interrelationships.

In our approach to understanding the social interactions between ES users in using ES, 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 (Bourdieu, 1985; 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 & Ghoshal, 1998, p. 243). We believe that by examining the human networks and interactions involved in ES use, many possible resources (assets) 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 (structural, relational and cognitive). It is this gap that we seek to shed some light into by introducing the concept of social integration - a process (which we have coined) that brings about the integration of the three social capital dimensions. With the help of an in-depth case study, we aim to provide a better understanding and explanation of the social challenges faced by ES users in their daily interaction with an ES.

3. Research Methodology

The scarcity of existing literature on the concept of social integration in the context of ES use has made it more appropriate to adopt qualitative research methods. This is because quantitative research requires the use of standardized measures (Eriksson, et. al., 2000), which are difficult to construct without sufficient prior knowledge and information of the phenomenon that is under investigation. Conversely, qualitative research provides an opportunity to conduct an in-depth exploratory investigation in examining contemporary events with an "insider's view" (Yin, 1994) on the case organization. Therefore, to better understand ES users' thoughts and actions in the organizational social context, an interpretive case study approach is adopted (Walsham, 1995). This enables us to gather more direct, insightful information from informants, from which an in-depth and holistic picture could be made (Yin, 1994) with rich descriptions of the social context of the studied phenomena.

In line with our research interest, we invited Talam Corporation Berhad, a housing developer with ten years of experience in using ES to participate in our study. We conducted four visits through the months of March 2004 to May 2005. On average, each visit lasted two weeks. Together, the visits yielded 40 face-to-face interviews along with eight informal conversations, five on-site observations, and collection of secondary data. Our choice of informants covered the full range of related ES personnel, including both top management and general users of the ES

We adopted hermeneutics analysis, the most commonly used approach for research on information systems phenomena (Alder & Kwon, 2002). This method helps us to make sense of our informants' world, so that we could understand the meanings expressed by them as used in their language (Hirschheim, et. al., 1991). Hermeneutics analysis provides a practical way of understanding textual data, and at the same time allows researchers to discover the core case information that is necessary for comprehending the case study as a whole (Klein & Myers, 1999). For quality and reliability of the

research, we consulted different informants to seek coherence within the prescribed phenomenon, taking care not to ignore relevant individual thoughts. We further interpreted informants' actions and statements to bring out the underlying intention of the informant and triangulate the information with other resources for validation. The other resources we used included our empirical observations and secondary data.

4. CASE STUDY

As one of the biggest and fastest growing public listed housing developers in Malaysia, Talam realized a decade ago the need for an integrated system to streamline its daily operations. After serious considerations, the company decided to seize the first mover advantage in adopting ES in 1995. It saw ES adoption as its new business strategy to better manage and integrate the tedious and complicated documentation processes that its business entailed. The documentations covered sales and purchase contracts, bank loans and government related paperwork. With ES implementation, Talam viewed this system as tools that supported the organization's daily operations and hoped to derive future business value from this integrated system.

To better manage departmental objectives and task allocation, Talam set up an internal audit committee to define lines of responsibilities and delegation of authorities. It then compiled and updated all departmental key processes as the Standing Instructions and Standard Operating Procedures (SOP). Thus, a list of network structures outlining all necessary contacts, procedures and ES obligations for all departments was documented in the Standing Instructions and 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. When things go wrong, I simply refer to the system log and find out the mistakes from remarks such as the persons involved, the time of the incident, and the messages keyed in. With this system, no one can hide his/her mistakes.”

The documented Standard Instructions and SOP were written based on the nature of the ES and Talam's rearranged organizational structure and network ties. The use of ES began from ES sales and payment, credit control, finance, to customer service action modules. To ensure proper functioning of the enterprise system, the IT department was tasked with providing consistent technical support and creating a new space in the system database to upload the new housing project/s. Aside from the IT department's technical support, the interactions and cooperation between actors from different departments played a vital role in ES implementation and use. The following sections describe the business flow in the purchasing of property with the use of ES in Talam.

4.1 Pre-sales and sales-related processes

Before sales activity takes place, there is a need to upload and update the housing price and sales relevant information into the sales and marketing module. In the process of doing so, it has upgraded the work performance of that specific department along with the forging of good inter-departmental cooperation in the preparation of the ES use. The formation of good intra-departmental working relationship is crucial to an organizational success. The senior marketing executive explained: *“Tedious tasks such as loading the sales chart would require more than a hard day's work for one person. Therefore, staff would normally volunteer to help their colleagues so that information could be uploaded into the system on time. Without cooperation, ES will not be ready to carry out its task.”*

Once the system is ready to perform, it requires users with relevant knowledge and skills to operate the system, so that accurate information and appropriate assistance can be given to customers. To ensure adequate support is provided to staff, a briefing session will be conducted every Thursday by the marketing manager to update staff with the latest information and changes. After each briefing, a sharing

session will be held. According to the sales manager: *“It is very important for us to understand the difficulties and challenges faced by our subordinates so that we could appropriately guide, share our knowledge and experiences with them.”*

Besides, the procedures for purchasing a property unit are tedious and complicated. Therefore, even with the ES in place, users must familiarize themselves with the system’s functions. The marketing manager claimed: *“Besides encouraging them to seek help whenever they need, I’m also delighted to see them tapping on each other shoulder whenever they require help. To encourage this practice, I always make myself easily accessible to them.”*

Once a potential buyer has agreed to purchase a property unit, both the sales and credit control personnel would have to ensure that the particular buyer would pay the 10% down payment in time for the booking to be valid. To ensure both departments are provided with up-to-date information, ES is being used as the main communication channel. A finance department staff described: *“Employees in different departments are able to access the same customer’s profile. It is our common practice when we make a call to a particular customer to leave messages in the MEMO function about the purchaser’s response, the calling time, and the date. This is our style to eliminate confusion and communication breakdown between two departments. Such communication style has not only enabled us to complete our task smoothly but also brought us closer to each other unlike before.”*

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 instalment payments from either the main office or any other sales outlets.

Aside for providing convenience to customers, Talam management paves the way for better working relationships between departments such as assigning a duty roster for credit control staff to do sales every weekend. The credit control manager explained: *“Getting the sales and credit control staff to work together, provides them the opportunity to understand the challenging tasks in other departments. Such arrangement is the best way to resolve conflicts between departments. This is because through working together and frequent communication, issues of misunderstanding and communication breakdown could be resolved.”* Such an arrangement provides users with a broader understanding of the ES integrated function across departments.

To foster good internal collective bonding, managers would also arrange birthday-lunch outings for all their subordinates. The management apparently understood that work satisfaction would encourage and motivate users to cooperate and use the enterprise system to upgrade job quality, efficiency and effectiveness.

4.2 Payment status and collection-related processes

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, 30 credit controllers were empowered to keep track of more than 10,000 housing sales per year on top of previous years’ housing sales and purchase contracts. In addition, with this system credit controllers could also keep track of purchasers’ payment status and handling of payment collection at the same time. The senior credit control manager said: *“The system may be very powerful and operative so long as the users are familiar with it. We understand that due to the complexity of the job, coding system is the only solution to simplify our tasks.”*

The IT Head of Department claimed: *“Whenever we initiate a new system-mediated code, we will explain to our users how it can help them. If they do not understand the actual benefits of the system, users will not use it. For effective implementation, I will station a few IT support staff in the department to assist the new users.”*

Responding to the IT Head of Department's comment, the assistant credit control manager in Talam proudly shares her more than ten-year experience: *"For example, with the quotation of E002 code, it tells me that it is time to request a particular purchaser for the next payment. By using the coding system, not only has it speeded up our working time, more importantly now an employee is able to handle about 1000 purchasers' accounts without any problems, unlike before where we needed so much more manpower and yet errors were still relatively high."*

The next step is payment. Each payment received is recorded and updated by the credit control department into its ES module. Simultaneously, this recorded information would be accessed by the finance department from the system so that daily account consolidation could be done effectively. When required, this accurate and proper information could be used for the company's business planning and investment purposes.

For seamless business integration, the financial department personnel would closely monitor the daily monetary inflow and outflow with the cooperation of the credit control department. One informant commented: *"I must keep close contact with credit controllers in dealing with matters such as finding misplaced cheques and contradicting cheque numbers so that I could get immediate assistance in time of need."*

Talam was mindful that healthy organizational practices and norms could affect organizational performances as well as ES users' attitude. Therefore, Talam clearly explains its norms and management expectations to new recruits and existing employees. *"It is an organizational practice for the management to encourage employees to speak the truth and express constructive opinions and ideas,"* claimed the finance DVP.

With such examples as lessons, two-way communication was strongly practiced by staff. Naturally, 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.

In cases of outstanding payment, a weekly report would be generated by the enterprise system. This arrangement allows credit controllers to send reminders and make calls to the relevant banks, lawyers and purchasers to request payments. The status of all outstanding requests would be updated in the MEMO function with the use of common language. Thus, the usage and sharing of the common language has facilitated users to gain access and information needed with minimum confusion.

4.3 Handover of the property and after sales service-related processes

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. By the time of key collection, purchasers would have made the final payment of their houses at any of the Talam's sales outlets. With the proof of the receipt issued by the system, purchasers may then proceed to collect their house keys at the specific site office for house inspection.

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). All information recorded into this ES module could be accessed by the project department. Since both departments are working on the same goal, i.e., delivering the customer a satisfactory house, they share many common system mediated codes. Thus, miscommunication is not a problem for the staff of these two departments. In addition, in order to provide a better service to customers, a special customized feature is incorporated into the CSAC system to make sure remedial actions would be carried out within 14 days of the complaint, failing which, the system would automatically notify a third-party contractor to rectify the defects. Once the repairs are completed, the buyer would be notified through

computer-generated letters. A business process and service would be considered complete when the buyer's complaints have been appropriately settled.

In summary, the case of Talam has demonstrated the effort of management and ES users invested in managing and using ES to achieve the organizational goals.

5. FINDINGS AND ANALYSIS

Recent ES related research has turned its attention to exploring the development and use of ES from the perspective of human factors (Howcroft, et. al., 2004). One such study argued that ES benefits are dependent on people and culture-related problems instead of technology-related problems (Ragowsky & Somers, 2002). Our case analysis reinforces the point by focusing on how social interactions influence ES use at the case organization. Specifically, we identified a social process called social integration – the interrelationships among the three mechanisms of social capital in ES use - including six processes connecting the three SI mechanisms that are referred by Nahapiet and Ghoshal (1998). (Refers to Table 1)

Social Integration Mechanisms		Social Integration Processes
(1) Structural Reformation	By tapping onto the management's prearranged networks, it enables actors to explore and expand their networks. Consequently working relationships between actors are established through which speedy, quality information and knowledge are also attainable.	(P1). <i>Coordinating employees with a set of clear and consistent tasks</i> (P2). <i>Cultivating consistent organizational practices</i>
(2) Relational Reformation	Consistent communication within the network provides the opportunity for actors to know each other better. Thus the bonding of trust, norms, obligations and expectations towards each other is established. Such an approach further motivates actors to have the passion and dedication in exchanging and sharing information and knowledge more effectively and efficiently.	(P3). <i>Using system mediated terms</i> (P4). <i>Achieving interactive interpretation</i>
(3) Cognitive Construction	The establishment of shared beliefs and values between employees is empowered by sharing the common languages, codes, values and practices that reflect the emotional buy-in between actors that share the common organizational value. Thus, seamless SI is made possible as networks are synchronized with company's goals.	(P5). <i>Fostering internal collective bonding</i> (P6). <i>Establishing external bridging</i>

Table 1: *Social integration mechanisms and processes*

To manage the enterprise system, Talam's management initiates the **Structural reformation (1)** through which the management set up the Standing Instructions and SOP as clear guidelines for ES users to understand their network ties and further extend ES obligations. By doing so, *employees, through coordination, are equipped with a set of clearly assigned tasks (Process 1 (P1))* which were proven to be the solution to resolving ES job confusion among users, and showed a significant influence on the organization's ES use (Doherty and King, 2005). In other words, issues related to "passing the buck" in the case were overcome due to the *set of clearly assigned tasks*. To ensure staff worked within their job descriptions, passwords were provided so that they could only access and operate the ES within their boundary. With the given password, it enabled management to keep an eye on ES users and when a mistake occurred, management could easily detect the responsible user through reviewing the staff log-in name and time. Over time, by *coordinating* ES users to work on a *set of clear and consistent tasks*, SI is achieved as it provides actors opportunity to further enhance and reform their networks. For example,

through the *clearly and consistently assigned task*, it provides opportunities for marketing executives to consistently interact between themselves, and eventually, trust is developed. Without trust the sales and marketing staff would not tap on each other's shoulder to seek assistance and guidance when necessary. This finding corresponds with Lesser's (2000) finding, whereby trust is built through *a set of clear and consistent assigned tasks* that provides a ground for consistent interactions between actors.

Besides, Talam management also plays an important role to *cultivate consistent organizational practices (P2)*. For example, the encouragement from the marketing manager to his subordinates to seek help and also make himself easily accessible to them reveals a course of action to cultivate organizational norms. In addition, the management clearly illustrates its expectations during the recruitment of employees, showing the consistency of management in cultivating its organizational practices and norms. This is because the company prefers to maintain its preferred norms and culture in recruiting employees with the right attitude, who could foster and even upgrade the existing cooperation among them, rather than recruiting those who might not fit into the whole system causing internal conflicts, arising from incompatible attitude between staff, which would hamper the organization's daily performance in the competitive marketplace. For example, the Finance DVP would always encourage employees to speak their mind and express constructive opinions and ideas so as to reduce any possible harmful politics and issues in the organization. This example shows Talam's effort in bringing about a structural reformation as part of ES use. After reviewing the above examples from our data, we assert that coordinating employees with a set of clear and consistent tasks (*P1*) and cultivating consistent organizational practices (*P2*) are known as the social integration processes that link **Structural reformation (1) and Relational reformation (2)**.

Relational reformation (2) is achieved through actors' consistent communication within the network as it provides an opportunity for ES users to establish shared beliefs and values of the task at hand and be familiar with the terminology and assumptions of others (Lesser, 2000). This **Relational reformation (2)** SI mechanism plays an important influencing role in fostering social integration. At Talam, although the enterprise system was meant to integrate inter-departmental information and provide seamless communication, the enterprise system had yet to achieve its optimum efficiency. In most of the cases, such issues were initially due to users' resistance and confusion towards the new system. In order to circumvent the potential issues, *system mediated terms (P3)* were suggested by the IT department as an option to reduce misunderstanding between departments, users' resistance and confusion. To nurture users' appreciation of the *use of system mediated terms*, consistent training, guidance and explanation about the benefits and advantages of *using the system mediated terms* are provided by the IT support staff. An example of system mediated terms- *E002* refers to the credit controller as to when to request payment from particular buyer. After the launch of *system mediated terms*, eventually ES users began to appreciate the benefits that this process brings. According to the assistant credit control manager, the *use of system mediated terms* has empowered each staff to handle about 1000 purchasers' account with ease, unlike before. Through this way, the *use of system mediated terms* has clearly facilitated knowledge flows across the system and at the same time functioned as the social network for knowledge exchange (Brown & Duguid, 2000). In view of the above finding, we assert that the use of *system mediated terms* is the antidote for communication breakdown between actors. Our finding also justifies that once ES users believed in and benefited from the *use of system mediated terms*, the users' acceptance rate would eventually increase (Amoako-Gyampah & Salam, 2004) and perhaps this explains the reason for Talam's high user acceptance rate as well as its success in delivering ES business value at lower manpower costs (e.g. one credit controller is able to handle more than 1000 purchasers files).

Over time, as users get used to the system through frequent contact and *the use of system mediated terms* in achieving their assigned tasks, we find that *interactive interpretation (P4)* is developed along with them. Interactive interpretation is derived from actors' frequent communication which enables them to share and create common languages and codes among themselves (Miranda & Saunders, 2003). For

example, assigning weekend routine duty roster for credit controllers to assist the sales staff has provided an opportunity for the two departments to interact and foster better understanding of each other's responsibility. In the long run, by working together, *interactive interpretation* is established among sales staff and credit controllers. So, through the interactive interpretation SI process, shared language and experiences are developed. This finding has unveiled another underlying explanation of Talam's success in reducing the issue of misunderstanding and miscommunication.

Based on the above discussion, we find that it is important to promote good communication through addressing the appropriate communication technologies (Lesser, 2000). From the case, it is important to allow the ES users to choose their preferred communication channels as such flexibility provided to the ES users is seen as a sense of respect to them. Therefore, the provided flexibility and respect has further motivated ES users' willingness to exchange knowledge (Wasko & Faraj, 2005). In this case, ES communication channel is the most frequently used communication channel by ES users. Although the electronic communication medium may be weak in facilitating human interactions (Miranda & Saunders, 2003), it turned out to be effective in this case. We suggest that could be highly dependent on the comfort and suitability that ES users felt before exchanging and sharing specific issues (Miranda & Saunders, 2003). In summary, we claim that both SI processes: using system mediated terms and achieving interactive interpretation have successfully connected **Relational reformation (2)** and **Cognitive construction (3)** **SI mechanisms** due to the management's effort in explaining the benefit of ES and the flexibility provided to ES users in choosing their preferred communication channels.

Cognitive construction (3) is achieved, when ES users are able to appreciate the organization's values and purposes. In other words, what matters most is that networks are synchronized with the company's goal (Krackhardt & Hanson, 1993) as that would allow ES users to share their vision with others to attain **Structural reformation (1)** within the organization. Based on our findings, we identify two SI processes: *fostering internal collective bonding (P5)*, and *establishing external bridging (P6)* in the **Cognitive construction (3)**.

To further ensure the shared organizational values and purposes among ES users, Talam managers try to *foster internal collective bonding (P5)* among users from the same department. In this case, with the management initiative, birthday lunch outings are organized for all credit controllers to further create opportunities for users to better know each other outside daily routine tasks. This is because Talam management is aware that once collective cohesiveness is achieved, it would facilitate the actions of individuals within the group to continue learning, exploring, sharing and assisting each other (Coleman, 1990) in ES use. This could be a good example for practitioners to cultivate good internal collective bonding among actors, which eventually provides the opportunity for the internal staff to reform structural networks internally for speedy and higher quality information exchange and sharing.

On the other hand, we find that *establishing external bridging (P6)* is another important SI process that has taken root in ES use. However, this process is found to be initiated by individuals rather than management. In this case, management has provided the standing instructions and SOP to request cross-departmental cooperation. However, this effort was still insufficient. For example, the financial employee finds that it is important to establish external bridging relationship with the credit controller because she is able to get immediate assistance in time of need to solve the problem of missing cheques or contradictory cheque numbers. So, we acknowledge that employees with good *external bridging* skills can perform better (Alder & Kwon, 2002) as they are able to source for information or resolve issues through their social networks at any point of time. Therefore, organizations with seamless social integration might be one possible reason to explain the differential success between the ES use.

Data above also reveals that these two SI processes (*P5 and P6*) have further increased social integration as they have shown strong emotional bonding between actors from inter- and intra-departments. Consequently, these two SI processes could link the **cognitive construction (3)** and **structural reformation (1)** together. Consequently, strong bonds would further ensure achievement of

seamless social integration in the organization since ES users appreciate the organization's values and purposes.

In summary, we argue that ES alone will not be able to increase organizational competitiveness. It is the practice of social integration – the process that brings about the integration of three social capital dimensions (structural, relational and cognitive) – which influences the ES use and helps to develop organizational competitiveness through actors' joint efforts in sharing, managing and facilitating valuable inter-unit information and resources.

6. CONCLUSION

We used the data collected from the case study at Talam to illuminate the concept of social integration among ES users. In the process, we have uncovered six social integration processes that are connected with the three social integration mechanisms identified by Nahapiet and Ghoshal (1998). From the theoretical point of view, we have made two useful contributions. Firstly, we offer an approach to see the linkages between different mechanisms of social integration by providing the rationale to show the important roles of social integration in the context of ES usage. Secondly, we found from the case study that through the long term ES usage, the social environment and characteristics of an organization would be reformed and constructed in accordance to the nature of ES.

From a managerial contribution point of view, we provide three important lessons learned based on the case study: (1) apply a suitable management style to better manage and connect ES users according to the ES structure, (2) provide flexibility in using multiple communication channels to convey messages, information and knowledge among ES users, and (3) allow ES users to expand and formulate their networks without much interference. In summary, managers should be conscious of the importance of social integration and how it can be leveraged to improve ES users' and organizational performance at large.

This research could be further extended to explore other possible social integration processes, enablers or inhibitors which could provide more comprehensive SI findings in ES use. We also recognize that social integration may result in negative consequences in ES use. Detailed studies should be done to further explore both the positive and negative impacts of social integration in an organizational setting.

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