Tripartite Stakeholder Management during an Enterprise System Implementation: A Processual Perspective

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TRIPARTITE STAKEHOLDER MANAGEMENT DURING AN ENTERPRISE SYSTEM IMPLEMENTATION: A PROCESSUAL PERSPECTIVE

Social, Behavioral and Organizational Aspects of Information Systems

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Abstract

Enterprise System (ES) implementations remain high-risk and technically challenging projects. This is partly due to their socio-technical nature, and in particular, the involvement of multiple internal and external stakeholders. However, the importance of these stakeholders has largely been undermined in ES practice and research. There is thus a need to re-focus attention on the tripartite aspects of stakeholder management: management of stakeholder identification, prioritization and involvement. Furthermore, since stakeholders are not static entities during ES projects, this paper proposes the development of a process model for an in-depth understanding of this stakeholder management process. This paper presents a case study of an ES implementation, and a stakeholder management process model that highlights a pattern of the management of stakeholder identification, prioritization and involvement. This paper then concludes with the theoretical and managerial contributions of this study, and several areas for future research.

Keywords: Enterprise system, stakeholder theory, process theory, stakeholder identification, stakeholder prioritization, stakeholder involvement

Introduction

There have been numerous stories expounding the benefits of Enterprise Systems (ES) following their successful implementation in companies like Microsoft, IBM and Dow Chemical (Adam & O’Doherty, 2000; Davenport, 1998). It is thus unsurprising that the adoption of ES is currently booming (Hirt & Swanson, 2001; Markus & Tanis, 2000). The implementation of ES though remains problematic, as many firms have realized (Lee et al., 2003). Companies find ES projects to be high-risk (Parr & Shanks, 2000), technically challenging (Davenport, 1998), time-consuming and costly (Lee et al., 2003). This is partly because while successful IS implementations rest on both social and technical influences (Robey & Newman, 1996), social influences are especially relevant during ES implementations given the involvement of multiple internal and external stakeholders (Light et al., 2001). These stakeholders are affected by the actions and decisions of the firm, and in turn can affect the organization’s performance and survival (Adelakun & Jennex, 2002; Scott & Lane, 2000). However, the importance of stakeholders has largely been undermined in ES practice (Papazafeiropoulou et al., 2002).

Stakeholder theory can help to plug this gap in ES implementation literature. It advocates that success in satisfying multiple stakeholder interests, rather than merely meeting conventional economic and financial criteria, constitutes the ultimate test of corporate performance (Adelakun & Jennex, 2002). It also encourages effective stakeholder management to more closely align organizational priorities and actions with stakeholders’ needs (Key, 1999). In
particular, attention should be given to the tripartite aspects of stakeholder management: the management of stakeholder identification, prioritization and involvement (Mitchell et al., 1997; Rowley & Moldoveanu, 2003).

Research also shows that stakeholders are not static entities during ES projects. For example, Markus and Tanis (2000) described a firm’s ES implementation experience as moving through several phases, characterized by typical activities and key players. Since stakeholders tie together events in the ES implementation story to provide a thread of continuity and meaning (Pentland, 1999), it may also prove beneficial to study how relevant stakeholders, and their management, vary during the ES implementation process (Sambamurthy & Kirsch, 2000).

The next section of this paper presents literature reviews of ES implementation, stakeholder theory and process theory. This is followed by an overview of the case studied. Subsequently, the case is analyzed and findings from the case are presented in line with a model of the tripartite stakeholder management process during the ES implementation from the case. This paper then concludes with the theoretical and managerial contributions of this study, and several areas for future research.

**Literature Review**

Organizations in the 1970s envisioned a single integrated IS, but due to various reasons, this vision remained a mirage (Markus & Tanis, 2000). Then, in the 1980s and 1990s, software entrepreneurs developed integrated software packages for multiple functional applications sharing a common database (Markus & Tanis, 2000). These Enterprise Resource Planning (ERP) systems contributed heavily to the growth of packaged software, and were the de facto standard for replacing legacy systems (Howcroft & Light, 2002; Parr & Shanks, 2000).

This paved the way for other enterprise-wide packages, such as Customer Relationship Management (CRM) (Markus & Tanis, 2000) and Supply Chain Management (SCM) (Davenport, 2000) systems. Given the broad functionality of such enterprise-wide systems, Davenport (1998) suggested that ERP was too narrow a term to denote them and proposed the term Enterprise System (ES) instead (Rosemann & Watson, 2002).

ES share several common features. ES are organization-wide systems whose impact cuts across a firm’s departmental boundaries (Ko et al., 2005; Robey et al., 2002). They employ an integrated database (Newell et al., 2003) to assimilate data and improve information flow (Davenport, 1998). They can even integrate software (Hitt et al., 2002), and business processes (Rosemann & Watson, 2002). This engenders closer inter-departmental interdependency and cooperation across the system’s multiple internal stakeholders (Hirt & Swanson, 1999).

They are also typically commercial packages (Davenport, 1998) provided by external vendors (Hirt & Swanson, 2001). These external parties add another dimension to organizational stakeholder dynamics by contributing external knowledge and expertise to the organization (Robey et al., 2002; Sumner, 2000). The dependence on these external parties is compounded by the need for continued enhancements to these packages (Markus & Tanis, 2000).

As external packages, ES are embedded with best business practices (Robey et al., 2002) based on vendors’ assumptions about how organizations operate (Davenport, 1998). Organizations may accept these best practices without modification (Scott & Vessey, 2002) and change their business processes to fit the package (Howcroft & Light, 2002). This though, may cause cultural transformations (Baskerville et al., 2000), such as a redistribution of responsibilities (Lee & Lee, 2000).

Alternatively, firms can customize the package to align with their business needs (Themistocleous et al., 2001). This requires in-depth knowledge of the software (Ko et al., 2005), which further increases the dependence on external parties (Markus & Tanis, 2000). Customizing the package to meet user needs also requires the agreement and involvement of multiple internal stakeholders to preserve the consistency of the package across the firm. Such features set ES apart from conventional IS, as they increase the scope and complexity of stakeholder management during the implementation of such systems.

Many reasons for IS failure are related to organizational, behavioral and human-related issues rather than technical issues (Pan, 2005). As discussed above, this is especially pertinent for ES, as ES are socio-technical challenges (Newell et al., 2002) that involve large groups of people from across the firm or from different firms (Akkermans & van Helden, 2002; Markus & Tanis, 2000). These stakeholders directly or indirectly determine the contingencies, within which the project team operates, which control their success (Akkermans & van Helden, 2002). ES implementations, in particular, involve internal actors such as top management, internal IS staff and end-users, and external actors such as vendors and consultants (Hirt & Swanson, 2001; Light et al., 2001). These stakeholders
though, may have different individual attributes and inter-relationships (Friedman & Miles, 2002). The former involves the attribute data that are considered individual characteristics, while the latter involves the relational data about the ties relating one stakeholder to another that only exist as part of a set of stakeholders (Rowley, 1997).

ES projects involve a mix of stakeholders to tap onto their diversity (Newell et al., 2002). For example, they may possess diverse skills, expertise, control of key resources and domain knowledge (Frooman, 1999; Hirt & Swanson, 2001; Tesch et al., 2003). They may also have inherent differences that necessitate different management approaches, such as different interests, identity orientations and power (Adelakun & Jennex, 2002; Mitchell et al., 1997; Rowley & Moldoveanu, 2003). However, while economic utility maximization proposes that these issues are stable, in reality, they are liable to change (Kochan & Rubinstein, 2000; Pan, 2005).

This is because stakeholders do not exist in isolation. They need to effectively collaborate to utilize their diversity to create new competencies and produce synergistic solutions to complex problems (Hardy et al., 2005; Levina, 2005). The efficacy of this collaboration may be affected by factors such as effective communication (Akkermans & van Helden, 2002) and organizational culture (Nah et al., 2001) that affect stakeholder interactions. As such, stakeholders could have a hub-and-spoke model of interactions (Freeman, 1984), where the manager occupies a central node (Agle et al., 1999) with dyadic ties to other stakeholders (Rowley, 1997). Alternatively, since no matter what a stakeholder does, it affects somebody else (Robey et al., 2002), they could be highly interdependent (Donaldson & Preston, 1995) and form a stakeholder web of inter-relationships (Pan, 2005).

Consequently, while organizations should simultaneously address the interests of all stakeholders, in reality, imbalances of attention do occur at times due to various constraints (Greenley & Foxall, 1998; Scott & Lane, 2000). Stakeholder theory helps to alleviate this by clarifying which stakeholders deserve managerial attention and whom organizations are responsible to (Key, 1999; Mitchell et al., 1997), and recommending attitudes, structures and practices that, taken together, constitute stakeholder management (Donaldson & Preston, 1995).

There are generally three aspects to stakeholder management: the management of stakeholder identification, prioritization and involvement. The first issue is “Who are the stakeholders of the organization?” (Mitchell et al., 1997). This involves defining who the relevant stakeholders are (Frooman, 1984) and ascertaining their pertinent details, such as their interests (Frooman, 1999), inter-relationships (Adelakun & Jennex, 2002) and influence (Pan, 2005; Rowley, 1997). At this point, consideration of the widest possible range of stakeholders is supposedly imperative (Papazafeiroupolou et al., 2002). There are however few systematic guides to facilitate identification. What are available are merely generic lists with questionable general applicability (Serafeimidis & Smithson, 2003).

The second issue is “To whom do managers pay attention?” (Mitchell et al., 1997). Given the multitude of stakeholders involved in ES projects, a firm has difficulty simultaneously addressing all their expectations (Jawahar & McLaughlin, 2001). If all their views were represented in person, it could slow and hinder the decision-making process (Coakes & Elliman, 1999). Stakeholder prioritization helps decide where to concentrate effort (Vinten, 2000) by categorizing stakeholders based on various criteria to provide a simplified representation of the ES project environment (Wolfe & Putler, 2002) so more salient stakeholders can receive attention first (Agle et al., 1999).

Finally, while managers should theoretically proactively address stakeholder interests, little has been done to identify what managers should do to address these needs (Berman et al., 1999). What they do though, is partly dependent on stakeholders’ means and how organizations expect them to act to achieve their interests (Frooman, 1999). As such, the third aspect is the need to understand stakeholder involvement by diagnosing their willingness and capacity to influence the firm, and how they plan on doing it (Rowley & Moldoveanu, 2003). This provides insight into how stakeholders can then be managed, such as through strategies of proaction, accommodation, defense or reaction according to their salience (Clarkson, 1995).

Stakeholder management is complicated by their dynamism, as stakeholders are not static entities. Each phase of an ES implementation is characterized by different key players (Markus & Tanis, 2000). They possess different knowledge (Hitt et al., 2002), which may be relevant at different times. Even their interests may change across ES project phases (Smith, 2000). Given such differences, there is a need to consider the processual nature of stakeholder management throughout ES projects. Observing such patterns over time may be more useful in predicting the success of ES projects than merely examining stakeholders at single points in time (Piderit, 2000).

Process theory supports this focus on the dynamics of social exchange to explain how and why the results of development efforts are achieved (Adelakun & Jennex, 2002; Newman & Robey, 1992). According to the process approach, each process is a sequence of events over time (Newman & Robey, 1992). These events are instances of social action relating to a development process (Sabherwal & Robey, 1995). Consequently, process theory helps to
understand the underlying logic behind observed temporal progressions, to explain the relationships and temporal ordering between the events (Pentland, 1999).

The punctuated equilibrium model enables the application of process theory by differentiating events into episodes, which are relatively long periods of equilibrium, and encounters, which are shorter punctuations between longer episodes (Newman & Robey, 1992; Robey & Newman, 1996). This approach was adopted by Newman and Robey (1992) to model an IS development process, since IS development is an ongoing process (Parr & Shanks, 2000).

Thus, to better understand the ES implementation process, this study looks at the management of the diverse stakeholders involved in such projects. This study also develops a dynamic process model of stakeholder management during such projects. This study is facilitated by a case study of an ES implementation, which will be presented in the following section. In doing so, we hope to answer the following research questions:

1. How can stakeholder identification be managed during an ES implementation?
2. How can stakeholder prioritization be managed during an ES implementation?
3. How can stakeholder involvement be managed during an ES implementation?

Research Methodology

A study of the multiple stakeholders of an ES implementation requires a detailed understanding of this social phenomenon to better comprehend the motives for stakeholders’ actions (Denzin & Lincoln, 2000). An interpretive approach was adopted, as it facilitated the assessment of the meanings people assign to this phenomena to interpret the reality in terms of what it means to them (Neuman, 2003). This approach is especially applicable given the processual nature of this study (Orlikowski & Baroudi, 1991). Subsequently, this study considers how stakeholders are managed during this process and why this is so. In addition, this study of stakeholder management and ES implementation presents little opportunity to exert any control over either phenomenon. Moreover, the study of stakeholder management during an ES implementation process is a contemporary phenomenon within a real-life context. Thus, the case study method was the most viable approach for this study (Yin, 2003).

The site of this study, HLR, was an institute of higher learning with eight departments (i.e., four schools and four centers for education) involved in developing and using an organization-wide learning management system, ESL. These departments represented different temporal zones and social realities due to the presence of multiple stakeholders with diverse needs (Scott & Wagner, 2003), which was ideal for a stakeholder study. Furthermore, while ESL was not a typical ERP, CRM or SCM system, it was still representative of an ES, as it was an external package that had cross-departmental impact and employed an integrated database. Moreover, its development and use involved multiple internal and external stakeholders. Finally, the project, though completed, was still fresh in the minds of these stakeholders, which allowed for a retrospective study of the implementation process.

The study was conducted over six months and retrospective data was gathered for the period from August 2002, prior to the package selection, to September 2005, during the system maintenance. To obtain multiple, subjective points of view (Pentland, 1999), the main source of data was 25 open-ended interviews with top management, academic staff from different departments, internal IS staff and the external vendor. To increase the rigor of the research (Klein & Myers, 1999; Yin, 2003), this data was triangulated with data from other sources, including organizational documents, the HLR website, newspaper articles and direct observations.

Process data though can be messy as it rarely comes nicely sliced and packaged (Langley, 1999), and can be analytically complex (Newman & Robey, 1992). Hence, a thematic analysis process was adopted to systematically refine interpretations of the data into conceptual categories (Boyatzis, 1998; Denzin & Lincoln, 2000; Neuman, 2003) by analyzing it to recognize important themes that were then encoded and interpreted (Boyatzis, 1998). Several rounds of analysis were conducted throughout the data gathering process to check for test-retest reliability and ensure that the themes developed were consistent across each round (Boyatzis, 1998).
Sathish/Tripartite Stakeholder Management during an Enterprise System Implementation Process

Case Description

Background Information

HLR aimed to be an “institution of excellence in problem-based learning (PBL) in partnership with industry”. HLR accepted its first intake of students in 2003 and within a year, achieved ISO 9001 (Quality) certification. Two pillars of this achievement were its PBL educational methodology, and its synchronous and asynchronous learning environment. A key component of these pillars was its enterprise-wide learning management system (ESL). ESL was used daily by about 90% of staff and students, and facilitated information exchange, assignment submissions, quizzes, student evaluations and grading.

Both pillars were top-down driven. The PBL educational methodology was especially pertinent. As a top management noted, “for us, the key for everything was getting the education right first”. While several top management staff contributed to outlining the PBL process, the main architect was the director of academic affairs (AAD), as the PBL methodology was a fairly novel approach to education for many of the staff in HLR. As described by a top management staff, “there were some givens …… given to us by the AAD”.

Implementing ESL

The first step in the implementation process was the selection of the package. This involved multiple HLR staff because, as a top management staff noted, “this decision was broad so we had the information systems people and corporate people involved.” The AAD was a key figure in this phase because, as one staff explained, “quite a bit of the PBL system was entirely him alone”. He was assisted by several other top management staff.

Shortlisted vendors were invited to present their packages to top management staff. Several academic staff were invited to sit in and, as they described it, “identify which packages had features that we thought would be beneficial to us”. However, as one academic staff noted, “frankly speaking, at that time, we didn’t even know how the whole process would work …… so we looked more at the general features”. Concurrently, the ISD and his team technically evaluated the packages.

Soon, they realized that these packages did not perfectly fit their needs. As a top management staff put it, “there wasn’t anything out there that really gelled with our philosophy of education”. Hence, they selected a package that could be heavily customized to meet their needs. As a management staff recalled, in selecting the final vendor, “one of the attractions was that they were prepared to work with us in revamping [their system]”. It helped that the vendor was based locally because, as one staff noted, “there [may] be a longer development time because of the distance between the [vendor’s] development office and where we are”.

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Subsequently, an internal ESL manager was appointed. While internal IS staff technically supported the package development and integration with existing systems, the ESL manager oversaw the implementation process, and liaised between the vendor IT team and internal staff. This external IT team from the vendor (ESL team) was seconded to HLR to customize and maintain the package. They reported directly to the ESL manager. As one ES team member highlighted, “we didn’t have to work with different groups … if there’re any priority issues we could escalate to him and he could give the direction”. Together, the ESL manager and ESL team comprised the ESL development team.

The ESL manager consolidated user requirements, primarily from the AAD. He also spoke to several staff involved in the selection process to understand HLR’s educational and technological direction. Much of this phase was managed by the ESL manager due to the urgency of having to implement the system before the first student intake, while the rest of HLR focused on developing the educational content. Other top management staff were not involved at this juncture because, as a top management staff explained, “there’s no need … it’s under the direction and jurisdiction of the ESL development team”.

The ESL manager also sought the input of academic staff, albeit initially not for the main system features because, as one staff recalled, “it would not be the right thing to go to them to decide the main features”. However, their contributions gradually increased. For example, an end-user team was set up to communicate between the ESL development team and their departments. As explained by a top management staff, this was “so that there was some awareness going on … they would not come to the first day of the term and see the interface for the first time … that would be a disaster”. Even so, only several academic staff were involved and their contributions were limited, because as a top management staff noted, “the bigger problem was getting them to understand teaching … their main job was not designing or supervising our software”.

Subsequently, there was a lot of discussion between the ESL manager and ESL team on the changes to make. The ESL manager sought to operationalize as many user requirements as possible while the ESL team resisted unnecessary changes that invited more trouble and risk. This required the ESL manager to understand both what HLR wanted and what the package offered.

Their interactions were facilitated by frequent communications. As one staff described it, “they had a lot of electronic documents flying around … [however], there were still a lot of face-to-face meetings, as the documents themselves would not have been sufficient”. Moreover, they worked in close proximity with each other and with the AAD. As one staff noted, “they’re situated right outside the door of the AAD so the accessibility was very close … so there was almost daily communication going on”.

The customized package was rolled out a few weeks before the start of HLR’s first term. The ESL development team aimed to minimize formal training because, as one top management staff put it, “certain features had to be explained but that was about it … the page itself should tell you what needs to be done”. Thus, while academic staff could test how the system would be used in class, as one staff succinctly put it, “they had a short introduction course … which didn’t really work”.

Additionally, the ESL development team uploaded online resources, such as FAQ sheets and screen shots to explain how to use the system. Academic staff could also approach the ESL development team for clarifications. As one HLR described it, “you could just send any questions to them [via email] and they would reply … and most of the time, being a small organization we just took the notebook, walked upstairs and asked them how this worked”.

Most academic staff though relied on peer learning. For example, staff who learnt something from the development team would share this knowledge with their peers. They also played with the system while on-the-job. As one staff elaborated, “the best way really is to learn while you’re using it but make sure you’ve got colleagues there to answer your questions and help you while you’re engaged in using it”.

The initial batch of students had no manual or specific training. Rather, as a HLR staff explained, “we had a compulsory IT orientation for first year students … we didn’t teach them to click this button or click that button but we did introduce them to all our systems”. Students then picked up how to use ESL by themselves or from their classmates. One staff member explained that this was because, “kids today are IT-savvy so there’s no major issue in getting them to understand what ESL is about”, especially since they only used a subset of the features used by staff.

Attention then shifted to maintaining the system by the ESL development team, under the purview of the AAD. The focus was on upgrading and enhancing the system, because as a top management staff noted, when the system was rolled out, “the job was not done because it turned out to be an ongoing project”. Another top management staff felt
that “this was the right way to implement complex systems” because as he explained, they couldn’t “ask somebody to sit down and think through the whole process, especially in a system like ours where we didn’t have a school or students”. So, as he recalled, in customizing the package, “[the ESL manager] was told to minimize changes and then later, build on them”.

Suggestions for change came from three sources. As a HLR staff explained, “major shifts in requirements [came from top management] … the development team [may] see a more efficient way of doing things or recognize that there are bottlenecks or bugs … users would request for new features or say that something is too troublesome to do or was wrong because what the system provided [did not match] how they expected things to work in real life”. Students offered few suggestions about ESL. Instead, their feedback largely pertained to back-end issues, such as the network stability.

Everyone could submit suggestions through formal channels, such as the Staff Suggestion Scheme, or informal channels, such via email to the ESL development team because as one staff put it, “we do not believe in too much bureaucracy”. One HLR staff explained that there were multiple channels because, “we’re not stopping any of them … the important thing is to get feedback … if you try to limit to only one channel, by the time I give feedback, I’ll forget what I wanted to feedback”. Furthermore, staff would sometimes discuss the feasibility of ideas with colleagues, especially if it was related to their module or department, before submitting a suggestion.

Besides major suggestions where the ESL manager consulted the AAD, the ESL manager had the autonomy to implement or reject a change. The ESL team merely operationalized the changes with the approval of the ESL manager. A top management staff explained that the ESL team was not authorized to make changes themselves because “that can be damaging … too many cooks”.

In determining the feasibility of suggestions, the ESL manager considered the stakes of diverse parties, such as the AAD’s vision of “a sound academic system”, internal IS staff’s concerns about “the IT infrastructure”, and whether academic staff would find it “too cumbersome”. As a top management staff noted, “you can’t issue a decree today that we’ll do this and get the best for an organization … you have to do a lot of consultation”. However, as not everyone could be consulted all the time, the ESL manager typically spoke to select people.

The ESL manager then assessed whether the suggestion countered HLR’s academic policies. As a top management staff explained, “if it runs counter, then he says no … if it’s something that will enhance what we want to do, then with all force and might, he’ll get it done”. He also judged if the change affected the consistency of the system across HLR. As one staff noted, “if you want to do something that differs from the rest, you do it separately”. Sometimes, he even considered the authority of the person making the suggestion because, as one staff highlighted, “it’s reality and you can’t run away from that … if you have someone high up who wants something done quickly, then that usually gets done quickly”.

The rest of HLR though were unaware of how the ESL manager evaluated suggestions. Several though, were generally uninterested in knowing because, as one staff explained, “to be honest, I’m too busy to be worried about it”. Other staff were also not concerned because “[the ESL] manager had been a facilitator [and] the AAD was the most critical person to oversee PBL and the curriculum”, and they trusted them to make the right decisions.

Whether or not a change was implemented, the person who suggested it was typically notified. As one staff explained, “if you have not replied, they will keep chasing you”. Then, after the change was implemented, stakeholders were notified depending on the scope of the change. For minor changes, users were not explicitly notified and they learnt about the changes during their daily use of the system and then informed their colleagues. Bigger changes may require emails that described the change with instructions on possible disruptions and how to henceforth use the system. Users then learnt to use the modified features on their own. These guides were stored in a central web site because, as one staff explained, “staff [may] need some sort of reference to what happened [previously]”. Some training was sometimes needed for specific people such as when, as one staff noted, “they put in a completely new feature that changed the way we would work”. Users could then submit feedback on the change.

**Evaluating the Implementation of ESL**

Adopting the organization-wide learning management system was deemed beneficial for HLR. As one staff noted, “we could see straightaway so many things we could draw from the technology than would not have been possible if
it was not there”. This tied in with top management’s view that “not only was technology central to our campus, administration & learning, it was a way of life at HLR”.

There were however several areas that HLR had to address. They had to cope with the increased use of ESL due to the growing student and staff population. Top management also felt the need to split responsibilities so that “[the ESL manager] took care of the academic policy and [the ISD] took care of the development and maintenance work”. In general, the emphasis had shifted. As the vendor noted, “in the early days, a lot of work was concentrated on getting the system up and now we’re going to another phase where it’s a lot of performance tuning”.

Generally most staff were, “pretty impressed by the system”. As one top management staff summarized, “I won’t say it’s a roaring success …… but certainly we’ve done something quite different”.

Findings on the Stakeholder Management Process

A major gap in stakeholder theory, and in particular ES implementation literature, is the study of how organizations should manage and respond to stakeholders (Rowley, 1997) and their dynamic changes (Key, 1999). From the case, stakeholder management appeared to consist of the management of stakeholder identification, prioritization and involvement, albeit at different times during the ES implementation process. Evidence from the case though, does not suggest a simple linear progression between these three components.

Rather, the ES implementation process consisted of periods of evolutionary change or episodes (P1-P8) (Newman & Robey, 1992) punctuated by short periods of extensive change or encounters (E1-E8) (Newman & Robey, 1992) related to the management of stakeholder identification, prioritization or involvement. These episodes and encounters traversed back and forth among these three aspects of stakeholder management during the first three phases of the ES project before settling into an iterative loop in the post-implementation phase. Together, this represents a possible evolution of stakeholder management during an ES implementation process (see Figure 1).
Gather Selective Input: Selection Phase

In the first phase of ES implementation in the case, the focus was on a specific activity; the selection of a package (Markus & Tanis, 2000) whose technological imperatives best suited the firm’s business needs (Davenport, 1998). Although top management had the institutionalized power (Schneider, 2002) to carry out this activity because they were the only ones who holistically understood HLR’s direction, they required supplementary knowledge to make an informed choice. However, no single stakeholder had all this knowledge, which was shared among the collective (Schneider, 2002). Hence, top management mobilized the knowledge of their stakeholders (Kochan & Rubinstein, 2000), for example, by gathering input from academic staff on the general package features and from internal IS staff on the compatibility of the package with existing systems. Rather than involving all stakeholders and then only considering salient contributions (Agle et al., 1999) though, top management had to streamline their decision-making process. Thus, they effectively managed stakeholder identification in this encounter by selectively identifying (E1) only the stakeholders with relevant contributions.

This was followed by an episode of consolidation (P1), as top management balanced the different interests (Frooman, 1999) of these stakeholders. Eventually though, they still had to make the final decision.

Top-Down Package Selection

The focus here was still on the selection of a package (Markus & Tanis, 2000). Top management still had the institutionalized power (Schneider, 2002) to carry out this activity. After consolidating the input of selected stakeholders, they better understood how the proposed package could satisfy HLR’s needs (Hirt & Swanson, 1999) and could select the most appropriate package. There was also an urgent need to select the package, as any delays were unacceptable (Schneider, 2002) since they had to implement the system before their first student intake. Hence, stakeholder involvement at this point was limited to a single group of stakeholders, top management. Thus, it was necessary to manage and facilitate closer interactions and discussions among this stakeholder group to enable top management to make this selection as a unified single decision-making (E2) entity.

Once the package was selected, there followed an episode of development team formation (P2), as the emphasis shifted to setting up a development team with the best representation and composition (Nah et al., 2001; Robey et al., 2002) to customize the package. This team primarily consisted of an internal ESL manager and an external IT team seconded from the vendor.

Gather Selective Input: Development Phase

In the next phase of the ES implementation in the case, the focus was on the development of the package (Markus & Tanis, 2000). In this case, this involved the customization of the package to meet organizational needs (Gefen, 2004). This time, the ESL manager was delegated the necessary power (Serafeimidis & Smithson, 2003) to carry out this activity, as the attention of the rest of HLR shifted to the development of the educational content. Again, the input of selected stakeholders helped to lower the knowledge barriers (Ko et al., 2005) of the ESL manager so he could facilitate the customization of the package. Again, rather than involving many stakeholders and only employing the salient contributions (Agle et al., 1999), the ESL manager managed stakeholder identification by only selectively identifying (E3) stakeholders whose knowledge he needed. In doing so, he avoided hindering his decision-making process (Coakes & Elliman, 1999). This was in contrast to the call to consider the widest possible range of stakeholders (Papazafeiropoulou et al., 2002), when managing stakeholder identification.

This was followed by another episode of consolidation (P3), as the ESL manager assessed the different interests (Frooman, 1999) of these stakeholders. However, he still made the final decision on the changes to the package.

Top-Down Decision on Package Fit

The focus here was still on developing the package (Markus & Tanis, 2000). The ESL manager still maintained his delegated power (Serafeimidis & Smithson 2003) to facilitate the customization of ESL. Time was again a key factor, as the system had to be ready before the first school term started and delays were unacceptable (Schneider, 2002). Thus, it was necessary to effectively manage stakeholder involvement by limiting it to two stakeholders; the
ESL manager who was the single decision-maker (E4) of the changes to make, and the ESL team who worked closely with him, provided input and customized the package.

This was followed by an episode of system development (P4), as the development team engaged in the technical customization of the package to operationalize its fit with organizational needs (Kutar & Light, 2005).

Forced Involvement

The next phase involved rolling-out the system to the users (Markus & Tanis, 2000). The focus here was on sharing information among implementation partners (Nah et al., 2001) to reduce knowledge asymmetry that could create knowledge barriers (Ko et al., 2005). This entailed disseminating package-related knowledge from the development team to other stakeholders (Robey et al., 2002), and the sharing of knowledge among peers to facilitate organizational learning (Serafeimidis & Smithson, 2003). Again, the development team worked under considerable time pressure (Akkermans & van Helden, 2002) to roll-out the system before the start of their first term. Thus, the ESL manager had to manage the concurrent forced involvement (E5) of all relevant stakeholders by holding formal training sessions, and facilitating and promoting peer learning so stakeholders could quickly learn to use the system.

Stakeholders then shifted their attention to the actual use of the system. This moved them into an episode of system assessment (P5), as their regular use of the system contributed to their increased expectations and constant evaluation of the fit between package functionality and their evolving needs (Janson & Subramanian, 1996).

Proactive Involvement: Gather Contributions

The post-implementation phase of the project involved ongoing system maintenance and upgrading (Markus & Tanis, 2000), as stakeholders’ assessment of the system regularly led to new change requests. The focus was thus also on sharing information among implementation partners (Nah et al., 2001) to reduce knowledge asymmetry (Ko et al., 2005). However, this time, there was no specific task focus. Moreover, this ongoing process had few time pressures as delays in attending to general suggestions were usually acceptable (Howard et al., 2003). Thus, the organization managed and advocated the proactive involvement (E6) of all stakeholders by providing avenues for them to contribute suggestions whenever they felt that they had urgent personal needs (Mitchell et al., 1997).

Then, as stakeholder suggestions for changes poured it, it resulted in yet another episode of consolidation (P6) as the ESL manager assessed their different interests (Frooman, 1999). This time though, the ESL manager had more time to prioritize these suggestions to accommodate as many of them as possible.

Evaluate Multiple Contributions

It is impossible for an organization to simultaneously address the needs of all their stakeholders (Jawahar & McLaughlin, 2001). Hence, the question arose in the post-implementation phase of the case, as to whom the ESL manager should pay attention to (Freeman, 1984). This differed from the earlier encounters involving selective identification, as here, all stakeholders could contribute first. Moreover, delays in attending to stakeholder requests were less unacceptable (Howard et al., 2003). Thus, the ESL manager had to manage the prioritization of these multiple contributions (E7) to decide which ideas were more salient and deserving of attention (Agie et al., 1999). One issue here was the reconciliation of stakeholder requests and the technological imperatives of the package (Davenport, 1998) or core business needs. This was specifically facilitated in the case as the ESL manager balanced stakeholder suggestions against HLR’s educational methodology and the consistency of the system across the eight educational departments.

This was followed by an episode of system maintenance (P7), as the development team made the necessary technical changes to the system.

Proactive Involvement: Information Dissemination

Once the change was made, there was again the need for information sharing (Nah et al., 2001). This successful dissemination of information involved the management of the proactive involvement (E8) of all relevant stakeholders (Rau, 2004). The management of stakeholder involvement though varied according to the scope of
changes made. For major changes, package-related knowledge on the change and its impact were disseminated, and supplemented with training session where necessary, for all stakeholders (Robey et al., 2002). For minor changes though, no notice or simple email notifications with embedded instructions were deemed sufficient, and staff were encouraged to look out for and learn more about such changes on their own. In addition, there was a need to manage and promote the subsequent sharing of knowledge among peers to facilitate organizational learning (Serafeimidis & Smithson, 2003), as stakeholders helped one another cope with the change.

Stakeholders then shifted their attention back to their ongoing assessment of the system (P8), as they continued to use the system and made other suggestions where necessary in line with their personal interests (Frooman, 1999).

**General Findings**

As discovered from the case, an ES implementation process may consist of a series of eight episodes interspersed with eight encounters (Newman & Robey, 1992). The encounters in particular involved the tripartite aspects of managing stakeholder identification, prioritization and involvement (Mitchell et al., 1997; Rowley & Moldoveanu, 2003), in line with the characteristics of the respective event. In tracing this stakeholder management process, several other general findings were noted.

Urgency (Schneider, 2002) and the presence of a specific task focus (Markus & Tanis, 2000) were important factors during the stakeholder management process. In the first two phases, the urgent need to complete the project on time and focus on specific activities limited stakeholder involvement to that of a single decision-maker. Subsequently, in the third phase, these factors necessitated the forced involvement of all stakeholders to ensure their timely education about the system. It was only in the final phase, when urgency was less of an issue and the focus was on an ongoing rather than specific activity, that broader and more proactive stakeholder involvement was possible.

In addition, in the case, the stakeholder who held the central position in coordinating the activities in the initial three phases, needed sufficient power to push through the activity and facilitate stakeholder cooperation. This could be in the form of institutionalized (Schneider, 2002) or delegated (Serafeimidis & Smithson, 2003) power. Power was especially pertinent in this case as the institution was new, as someone had to take charge of the ES implementation while other internal stakeholders focused on developing the educational content for the fledgling institution.

Another prevalent issue was the exchange of information to reduce knowledge barriers (Ko et al., 2005). This was evident in the gathering of selective input during the first two phases and more proactive input during the post-implementation phase. It was also seen in the dissemination of information about the package in the roll-out phase and about the system changes in the post-implementation phase, and the sharing of information among peers during these latter two phases. Due to the enterprise-wide impact of the system, this sharing of information was regularly required to ensure all stakeholders were in sync about the system.

**Conclusion**

Despite the much publicized stories of successful ES implementations (Adam & O’Doherty, 2000; Davenport, 1998), many companies still have difficulty in implementing ES packages (Lee et al., 2003). One reason for this is the lack of understanding of the effective management of stakeholders (Papazafeiropoulou et al., 2002) throughout the ES implementation process.

To help bridge this gap in ES implementation research, this paper employed stakeholder theory to understand how stakeholders can be managed, and focused on three aspects of stakeholder management: identification, prioritization and involvement. Subsequently, the pattern of the stakeholder management process during this ES project was traced to facilitate the development of a process model of this process. In doing so, several findings were identified which offered various theoretical and managerial contributions, and suggested areas for future research.

**Theoretical Contributions**

Stakeholder identification entails picking the relevant actors out of a pool of possible organizational stakeholders (Rowley, 1997). This study takes this one step further by showing how multiple instances of stakeholder identification may occur in different phases of an ES implementation depending on the different needs of that phase. Furthermore, while research calls for the consideration of a wide range of possible stakeholders (Papazafeiropoulou
et al., 2002), this study showed how selective stakeholder identification may be more appropriate initially to pinpoint the specific stakeholders who can address the needs of the phase, rather than dealing with the entire set of actors involved in the project. More research though is needed to locate the specific stakeholders required to facilitate each activity in an ES implementation process.

Stakeholder prioritization is necessary due to the improbability of an organization’s ability to simultaneously address the needs of all its stakeholders (Jawahar & McLaughlin, 2001). This study showed how this mainly occurs in the post-implementation phase of an ES implementation when there was low urgency and no particular task-focus. This study also explained how this differed from stakeholder identification. In stakeholder prioritization, multiple stakeholders could make contributions before their input was analyzed to determine which were more salient, whereas in selective stakeholder identification, this differentiation was done at the point of pinpointing the stakeholders. More research though is needed to locate the specific stakeholders required to facilitate each activity in an ES implementation process.

This study also facilitated a deeper understanding of stakeholder involvement in facilitating their interests. It showed how stakeholder involvement varied across each phase of an ES implementation process in line with the activities in that phase (Markus & Tanis, 2000) and urgency to accomplish the activities (Schneider, 2002). It also highlighted how a stakeholder’s power (Schneider, 2002; Serafeimidis & Smithson, 2003) granted certain stakeholders control over the initial phases of the project. There was also evidence of a possible relationship between stakeholder involvement and the scope of information exchange (Ko et al., 2005) that occurred in each phase. Consequently, stakeholder involvement in any phase could entail centralized control by a single stakeholder, or forced or voluntary involvement of multiple stakeholders. More research though is required to understand the different levels of stakeholder involvement and the triggers for each level of involvement.

Finally, this study addressed the issue of dynamic stakeholder changes (Key, 1999) by showing how stakeholder management existed as a process during an ES implementation. Evidence from the case highlighted how stakeholder management consisted of a series of evolutionary episodes interspersed with short encounters (Newman & Robey, 1992) based on stakeholder identification, prioritization and involvement. This study showed how this pattern of events existed as a linear progression during the initial phases of an ES project before settling into an iterative loop in the post-implementation phase. This study also showed a potential link between the stakeholder management process and the events that occur during an ES implementation process. More research though is necessary to map out the broad pattern of stakeholder management across ES implementations in general and its relationship with the events during the ES implementation process.

Managerial Contributions

From a practitioner’s standpoint, this study showed how stakeholder identification was an important element when a specific decision or task had to be carried out. Selectively identifying a small subset of relevant stakeholders who can viably contribute to the effective fulfillment of that activity enables the organization to create the semblance of multi-stakeholder involvement, while controlling their input to avoid cluttering the decision-making process.

However, when there is no urgency or no specific task to be fulfilled, particularly during the post-implementation phase, this study showed how organizations can allow for greater proactive stakeholder involvement. This though entails the need for a set of clear guidelines, such as based on the organization’s business direction, to facilitate the effective prioritization of multiple concurrent contributions.

This study also highlighted the need for diverse stakeholder handling techniques in each phase of an ES implementation due to the variability of the level of stakeholder involvement in each phase. It showed how at different times, organizations may have to manage a single key stakeholder or a multitude of stakeholders. It also showed how organizations may sometimes have to force the involvement of their stakeholders whereas at other times, stakeholders could be allowed to contribute willingly.

Finally, this study showed how an ES implementation process was closely tied to the management of a multitude of stakeholders who could affect or be affected by the system. It exemplified how stakeholder management during such projects did not consist of a single action plan that was applicable throughout the project. Rather, this study showed that stakeholder management traversed back and forth through stakeholder identification, prioritization and involvement as dictated by the needs of the activities in each phase of an ES implementation process.
References


