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MANAGING A FEATURE-FUNCTION-STAKEHOLDER (FFS) FIT PROCESS IN AN ENTERPRISE SYSTEM IMPLEMENTATION

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Abstract

More attention is required on the unique issues of Enterprise System (ES) implementations. This paper focuses on two such issues. Since ES are packaged software embedded with vendor-defined best business practices, the first issue is the fit between package features and organizational functionality. Additionally, ES affect the entire organization and multiple stakeholders throughout the firm, and as external packages, they heavily involve external parties. Hence the second issue is the management of each stakeholder and their inter-relationships. This paper advocates a combinatorial study of these issues to focus on the facilitation of feature-function-stakeholder (FFS) fit and a processual view is taken to better understand the pattern of fit. This paper analyzes a case study of an ES implementation to describe a process model of the facilitation of FFS fit that involves four sets of activities. This paper concludes with theoretical and managerial contributions, and areas for future research.

Keywords: Enterprise system, feature-function fit, stakeholder theory, process theory, identity, power, knowledge exchange

Introduction

One of the more significant IT developments in recent years is the widespread implementation of Enterprise System (ES) packages (Davenport 1998; Markus et al. 2000). To date, many very large organizations have adopted ES, with at least 80 percent of Fortune 500 firms adopting Enterprise Resource Planning (ERP) systems alone (Gattiker & Goodhue 2005), and many small- and medium-sized enterprises following suit (Klaus et al. 2000). Besides ERP systems, other common ES include Customer Relationship Management (CRM) and Supply Chain Management (SCM) systems (Soh & Sia 2005; Ward et al. 2005).

This is hardly surprising, as ES deliver great rewards (Davenport 1998; Gattiker & Goodhue 2005; Markus et al. 2000), such as quicker systems development, improved order management, and a single face to customers (Al-Mashari et al. 2003; Luo & Strong 2004; Markus & Tanis 2000). ES implementations though are more complex than traditional IS projects (Ko et al. 2005; Luo & Strong 2004) and carry great risks (Davenport 1998; Markus & Tanis 2000). They are often time-consuming and expensive (Robey et al. 2002; Somers & Nelson 2004). For example, an estimated 90% of ERP implementations alone are late or over budget (Al-Mashari et al. 2003). Consequently, failed ES implementations are commonly cited in literature (Luo & Strong 2004; Nah et al. 2001; Soh & Sia 2005).

One key reason for this is that ES are typically external packages embedded with best business practices (Luo & Strong 2004) that, however, may not fully meet the functional requirements of most firms (Light 2005). Hence, a challenge for most organizations is to find a suitable fit between these package features and organizational functionality (Janson & Subramanian 1996; Lasilla & Brancheau 1999). Another key reason is that the organization-wide integrative nature of ES (Jones et al. 2006; Nah et al. 2001; Soh & Sia 2004) necessitates the involvement of multiple stakeholders from across the firm, while, as external packages, the involvement of external parties such as vendors or consultants is crucial as well (Wang et al. 2006). However, these stakeholders have inherent differences...
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(Agle et al. 1999; Light 2005) and management of ES implementations thus needs to consider each stakeholder’s characteristics (Flynn 2005; Serafeimidis & Smithson 2003). Furthermore, as these stakeholders do not exist in isolation, consideration of their relationships is also required (Rowley 1997).

The emphasis of much of prior research on ES implementations though overlooks such unique challenges in favor of limited studies on traditional project management metrics of success or business benefits (Robey et al. 2002). In contrast, this paper takes a step towards plugging this important gap in ES implementation research by focusing on these two issues: the packaged nature of ES, and the multiple diverse internal and external stakeholders of ES implementations. Specifically, this paper advocates a combined study of feature-function-stakeholder (FFS) fit, which involves the concurrent fit between package features, organizational functionality and stakeholder needs. This is in line with studies that highlight the importance of greater fit between tasks, technologies and actors (Dishaw & Strong 1999; Hong & Kim 2002). However, researchers note that a static ‘snapshot’ of these issues provides limited insight into the dynamic ‘moving target’ of alignment (Venkatraman 1989). As such, this paper adopts a processual view (Newman & Sabherwal 1989; Sabherwal & Robey 1995) of the facilitation of FFS fit throughout an ES implementation process to better understand the different phases of FFS fit.

The next part of this paper discusses prior research on the background and importance of the fit construct, individual characteristics and inter-relationship issues pertaining to the diverse stakeholders of ES, and the processual nature of ES implementations. From there, a case study of the implementation of an organization-wide learning management system in an institute of higher learning is presented, and the phases of the facilitation of FFS fit during the ES implementation in the case are discussed. Finally, this paper concludes with several theoretical contributions, areas for future research and implications for practice.

Literature Review

Belief in the benefits of Enterprise Systems (ES) remains entrenched in the mindset of academia and managers alike (Davenport 1998; Gattiker & Goodhue 2005; Markus et al. 2000). This is despite prominent reports of ES implementation difficulties in firms such as AeroGroup, Nash Finch, Boeing, FoxMeyer, Siemens and Panasonic (Robey et al. 2002), which have resulted in declines in profit or even bankruptcy (Liang & Xue 2004; Rowley & Moldoveanu 2003). Consequently, there has been a stream of research on the critical success factors associated with ES implementations (Soh & Sia 2004). However, the bulk of this research (e.g. Al-Mashari et al. 2003; Umble et al. 2003) was largely limited to defining success in terms of traditional project management metrics or business benefits (Robey et al. 2002). In contrast, this paper advocates the study of the more unique issues surrounding ES implementations. Specifically, two unique issues are explored: the packaged nature of ES, and the involvement of multiple diverse internal and external stakeholders.

Fit and ES Packages

The concept of fit or alignment has received attention in various research contexts due to strong evidence that fit affects performance (Mathieson & Keil 1998), and has been an important building block for theory construction in several areas of research for over 20 years (Miller 1993; Nath 1989; Venkatraman 1989). For example, prior research focused on the fit between tools or aids and processes (Dishaw & Strong 1999), structures and strategies (Slaughter et al. 2006), and Information Systems (IS) and the organizational environment (Mathieson & Keil 1998). Throughout this time, various studies have regularly highlighted issues of fit or alignment as among the top concerns of both IS managers and business executives (Miller 1993; Nath 1989; Reich & Benbasat 2000). This led to numerous studies on the antecedents of alignment and its impact on organizational outcomes (Hong & Kim 2002; Kearns & Sabherwal 2006-7; Reich & Benbasat 2000; Venkatraman 1989).

Specifically, this paper focuses on feature-function fit, which is defined here as the alignment between external package features and internal organizational functionality. This concept of fit may be traced back to studies of task-technology fit, where fit is narrowly defined as the extent to which a particular task can be performed effectively and efficiently with a particular technology (Dishaw & Strong 1999; Mathieson & Keil 1998). There are also parallels between the study of feature-function fit and the ‘Social Learning’ perspective of IS diffusion, which identifies two processes of diffusion: ‘domestication’, which is a process in which firms accommodate new IS by learning by doing, and ‘innofusion’, which is a process of transforming the IS as it diffuses into the firm (Pollock et al. 2003).
Underlying these studies of fit is the assumption put forth by contingency theory that the better the ‘fit’ among contingency variables, the better the organization’s performance, with a firm that achieves a fit being in a state of equilibrium (Weill & Olson 1989). Contingency theory further proposes that there is no single way to achieve fit (Teo & King 1997). This suggests a need for more in-depth studies into what differentiates the issue of fit during ES implementations from that of traditional IS implementations, and how it can be managed. In general IS research however, many of the earlier studies on fit focused on the alignment of IS and organization at the strategic level (Kearns & Sabherwal 2006-7; Miller 1993; Reich & Benbasat 2000; Slaughter et al. 2006; Teo & King 1997), and how this contributed to success for the firm and its IS implementation (Kearns & Sabherwal 2006-7; Teo & King 1997). This strategic alignment has been among the top issues facing IS executives (Teo & King 1997) and has led to the development of several models, such as the ‘strategic alignment model’ (Hong & Kim 2002).

The issue of fit is especially complex in the context of package implementation though due to the external nature of a package. Researchers have highlighted the existence of potentially large gulfs between packages’ standardized solutions and the specific needs of organizations (Lucas et al. 1988; Pollock et al. 2003), and how the fit between these two areas may affect the IS implementation outcome (Cale & Eriksten 1994; Hong & Kim 2002; Janson & Subramanian 1996; Light 2005). Hence, prior research focused on the alignment between the capabilities of the external IS package and internal organizational needs (Dishaw & Strong 1999; Miller 1993). There have also been calls for studies on the fit between the vendor organization and its package, and internal users of that package (Cale & Eriksten 1994; Janson & Subramanian 1996).

ES are a type of comprehensive packaged software solution that is not custom developed in-house (Markus & Tanis 2000; Nah et al. 2001; Somers & Nelson 2003). ES packages are embedded with purported ‘best business practices’ (Light et al. 2001; Luo & Strong 2004; Markus & Tanis 2000) that dictate how the company’s strategy, organization and culture should be structured (Davenport 1998; Umble et al. 2003). These generic assumptions though, typically reflect the market-based perspective of vendors and consultants, rather than the views of companies (Soh & Sia 2005). These external parties believe in a ‘one size fits all’ genericification strategy, in which they take a package that works well in one place and attempt to make it work everywhere else (Pollock et al. 2003; Swan et al. 1999).

Adoption of an ES package is thus, in essence, the acceptance of an external party’s set of practices, assumptions, values and rules (Wang et al. 2006). Prior research though, has questioned the broad applicability of such best practices due to inherent differences between these practices and organizational processes, and several researchers have even gone so far as to attribute the high failure rate of ES implementations to such misfits (Hong & Kim 2002; Soh & Sia 2005; Wang et al. 2006). In fact, many organizations find that at least 20% of their requirements are typically missing from ES package functionality (Light 2005).

There are two main solutions identified in prior research for organizations to facilitate this feature-function fit, which is defined here as the alignment between the features of the external ES package and the internal functionality of the organization: adapting the organization to fit the package or modifying the package to fit the organization (Janson & Subramanian 1996; Lassila & Brancheau 1999; Lucas et al. 1988; Pollock et al. 2003; Soh & Sia 2005). Views on which option is more desirable in different contexts though, remain conflicting (Hong & Kim 2002).

The first alternative is to embrace the best practices inherent in the package and adapt the firm to fit the package (Gattiker & Goodhue 2005; Somers & Nelson 2003; Somers & Nelson 2004; Umble et al. 2003; Wagner & Newell 2004). This could entail changes to organizational work procedures, organizational structure, organizational culture or the interconnectivity between business processes (Hong & Kim 2002; Lassila & Brancheau 1999; Pollock et al. 2003; Swan et al. 1999; Wang et al. 2006). Moreover, prior research points to the additional complexity, risk, duration and cost of customization as compelling reasons for not customizing the package (Light et al. 2001; Markus & Tanis 2000; Swan et al. 1999; Wang et al. 2006). In addition, customization of the package makes it harder for future maintenance and upgrade of the package by vendors (Luo & Strong 2004; Pollock et al. 2003; Somers & Nelson 2003; Somers & Nelson 2004; Swan et al. 1999).

Alternatively, organizations can customize or modify the package to better fit organizational functionality (Gattiker & Goodhue 2005; Light 2005; Slaughter et al. 2006; Soh & Sia 2004; Soh & Sia 2005; Somers & Nelson 2003). These customizations can range from choosing from built-in reference processes and parameters to install a package that best suits organizational needs, to actually changing the source code of the package (Hong & Kim 2002). This is similar to the concept of ‘reinvention’, which is described in the innovation diffusion literature as the extent to which the user modifies an information technology after its original development (Lassila & Brancheau 1999). This course of action may sometimes be inevitable for organizations due to the infeasibility of changing their inherent business functionality (Light 2005; Pollock et al. 2003; Soh & Sia 2005). Customization not only means less
organizational adaptation, it may also result in lower resistance, reduced training needs, and greater differentiation from competitors using the same package (Hong & Kim 2002; Light 2005).

More recently, researchers have suggested that the full advantages of implementing technologies, such as ES, are unlikely to be enjoyed without adapting both the system and the organizational context during the implementation process (Lassila & Brancher 1999). This combinatory modification strategy, which has been termed ‘mutual adaptation’, however, may make the implementation process even more complicated (Hong & Kim 2002; Lassila & Brancher 1999; Pollock et al. 2003). However, while recognizing and addressing potential misalignments between ES features and organizational functionality is considered critical to ES implementation success (Gattiker & Goodhue 2005; Hong & Kim 2002; Luo & Strong 2004; Nah et al. 2001), broad-based empirical research in this area has been lacking (Hong & Kim 2002; Wang et al. 2006).

Multiple Stakeholders of ES Implementations

Researchers have suggested that most of the reasons for IS failure are related to organization, behavioral and human-related issues rather than technical issues (Pan 2005). From the ‘Social Shaping of Technology’ perspective, the design of technology may be seen as the outcome of social processes of negotiation between complicated, heterogeneous networks of diverse stakeholders who have different commitments, perspectives or positions in the structure (Wang et al. 2006). This need for interactions and negotiations also holds true among the stakeholders of ES implementations (Soh & Sia 2005).

Systems implementation research has thus advanced the need for greater fit between not just tasks and technologies, but also with actors (Cale & Eriksen 1994; Dishaw & Strong 1999; Hong & Kim 2002), with various studies having investigated the social dimension of alignment (Reich & Benbasat 2000). For example, in a study of the issues affecting the alignment of MIS with business goals, Nath (Nath 1989) identified 15 key factors, of which 12 were stakeholder-related. In fact, two main research approaches to the subject of fit have been mooted, with the first focusing on the strategies, structure and planning methodologies in organizations, as discussed in the previous section, and the second investigating the actors in organizations (Reich & Benbasat 2000), which is discussed here.

Much of this can be attributed to ES’ ability to integrate different computing platforms (Jones et al. 2006; Somers & Nelson 2003), functional departments (Gattiker & Goodhue 2005; Klaus et al. 2000; Soh & Sia 2004), and business processes (Nah et al. 2001; Wagner & Newell 2004). In addition, the basic ES architecture is built either on a single centralized (Al-Mashari et al. 2003; Davenport 1998; Robey et al. 2002), or integrated (Klaus et al. 2000) database, which enables the integration of data (Li, Xue 2004; Luo & Strong 2004; Markus et al. 2000) to support virtually all of a company’s business activities (Davenport 1998). This in turn means that the cooperation and involvement of all the stakeholders of such organization-wide systems is essential (Somers & Nelson 2004). This paper adopts a modified version of Freeman’s (Freeman 1984) definition of stakeholders as ‘any group or individual who can affect or is affected by the implementation of an Enterprise System’, with the four main stakeholders of ES being top management, end-users, internal IS staff and external parties (Aladwani 2001; Light et al. 2001).

Top management is important, as they have the greatest capacity and social status to influence the behavior of other members and allocate resources across the organization (Wang et al. 2006). Users in turn are important, as they are the main source of in-depth knowledge of the organizational context (Soh & Sia 2005), and are likely to assume greater responsibility for support services after the ES is rolled-out (Hirt & Swanson 2001). While internal IS staff no longer design and build the software solutions, they are still important, as they may be needed to help interface the ES with existing systems, and address requirements for local functionality (Hirt & Swanson 2001). Finally, external vendors and consultants are particularly important as they typically possess exclusive technical knowledge of the package features (Lucas et al. 1988).

All these stakeholders are essentially different. For example, they each have different rationales and interests in relation to the adoption of the system (Light 2005; Swan et al. 1999). Faced with their multiplicity of demands, prior research has highlighted the need for more evolved responses that balance or align the interests of these internal and external constituencies (Soh & Sia 2005). In addition, individual stakeholders may possess numerous other differentiating characteristics, such as their commitment (Hirt & Swanson 2001), control of resources (Jawahar & McLaughlin 2001), legitimacy (Agle et al. 1999), and expertise (Aladwani 2001). Of particular interest in this paper though are the two stakeholder characteristics of identity and power.
Identity theories propose that actors are defined by identities, which is a polysemous concept that synthesizes individual and collective characteristics via a set of logically connected propositions, allowing individuals, groups and collectives to differentiate themselves from others in any given context (Flynn 2005; Rowley & Moldoveanu 2003). Stakeholders may vary in terms of their identity orientation, which could vary in different social situations, from seeing themselves as independent individuals to particular group memberships (Ellemers et al. 2004).

At the most basic level, an actor may be motivated by self-interests and possess a personal identity orientation (Brickson 2000; Flynn 2005). Alternatively, stakeholders may embrace a relational identity orientation (Brickson 2000; Flynn 2005) and collaborate with one another for joint gains based on relationships of trust (Ward et al. 2005). Finally, an actor may define himself as part of a broad social group and seek to ensure the welfare of the collective above all else, thereby reflecting a collective identity orientation (Brickson 2000; Flynn 2005). Getting stakeholders to embrace a collective organizational identity orientation may align their interests with those of the organization during ES implementations, thereby resulting in increased solidarity (Rowley & Moldoveanu 2003).

Stakeholders may also differ in terms of their power during an ES implementation. Researchers have suggested that organizations can be viewed as circuits of power and there is a need to better understand the allocation of power among its stakeholders (Serafeimidis & Smithson 2003). Power is deemed to exist when one social actor, A, can get another social actor, B, to do something that B would not have otherwise done (Agle et al. 1999). This power could be derived from various sources, such as institutionalized authority (Schneider 2002), possession of critical knowledge (Jawahar & McLaughlin 2001), or network centrality (Rowley 1997). During ES implementations, such power could in turn affect the stakeholders’ ability to get what they want, and their impact on the degree of alignment between themselves and other stakeholders.

While various ES studies looked at different groups of stakeholders individually or in pairs (Cale & Eriksen 1994; Nah et al. 2001; Swan et al. 1999; Umble et al. 2003), less attention has been given to the concurrent study of the entire spectrum of pertinent stakeholders and their inter-relationships, which is surprising since these stakeholders do not exist in isolation. As suggested by the ‘garbage can model’, which is a popular conceptualization of decision-making in the descriptive tradition, ‘who is involved and not involved in the decision-making process may affect the outcomes and extent to which those who are involved may also affect outcomes’ (Light 2005). Effective teamwork among these stakeholders is thus important to facilitate feature-function fit during the ES life cycle due to the assimilation of an external enterprise-wide package across different functional units (Nah et al. 2001).

According to prior research, there exist two extreme models of stakeholder interactions. In one extreme, stakeholders have a traditional hub-and-spoke model of interactions (Freeman 1984), in which the firm is seen as a nexus of contracts with managers occupying a central node (Agle et al. 1999) with dyadic ties to each stakeholders (Rowley 1997). Alternatively, since actors can be highly interdependent (Rowley 1997), recent studies explored how their surrounding context of relationships may determine their influence (Rowley & Moldoveanu 2003). Consequently, researchers propose a web model to understand and manage their inter-relationships (Pan 2005).

There is thus a need to better understand the structures and dimensions of their inter-relationships (Jawahar & McLaughlin 2001). One way is to study the structural properties of stakeholder networks, such as their local centrality (Nambisan & Agarwal 1998), or density (Rowley & Moldoveanu 2003). Another option is to study their relational characteristics (Borgatti & Cross 2003), such as their degree of self-management, nature of team membership, stakeholder history which includes their values, beliefs and rituals, and their formal and informal communications (Schneider 2002; Serafeimidis & Smithson 2003). In fact, relational data may tell as much or more about how stakeholders interact, as their individual attributes (Frooman 1999).

One relevant relational issue is knowledge sharing among stakeholders. This is especially important during ES implementations, as such projects rely on more than one form of specialized knowledge and this knowledge is dispersed and differentiated across multiple stakeholders inside and outside the firm (Jones et al. 2006; Kearns & Sabherwal 2006-7; Wang et al. 2006). In particular, prior research highlighted the importance of business and package knowledge for ES implementations (Nah et al. 2001). Effective knowledge sharing thus requires the involvement of multiple diverse stakeholders with different knowledge bases (Ko et al. 2005).

Knowledge sharing between diverse stakeholders though can be taxing given their varied individual characteristics, such as their different backgrounds and interests (Ko et al. 2005), and the challenge of cultivating an environment in which they are willing to cooperate, change and learn (Wang et al. 2006). Ultimately, knowledge sharing is important, as it affects stakeholder alignment by leading individuals to converge or diverge from each other in their mutual understanding of a topic (Reich & Benbasat 2000), which in this context is an ES implementation.
Despite the relevance of these diverse stakeholders throughout ES implementations though, scant attention has been paid to the simultaneous management of all relevant stakeholders and their inter-relationships during the ES implementation process.

Processual View

Much of the prior literature on fit, particularly with respect to the issue of feature-function fit, focused on the initial IT planning and identification of discrepancies between the package and organizational needs, and how this affects the quality of the final system (Hong & Kim 2002; Janson & Subramanian 1996; Light 2005; Lucas et al. 1988; Reich & Benbasat 2000; Soh & Sia 2005; Wang et al. 2006). The bulk of this research though is based merely on static ‘snapshots’ of a cross-section of the ES implementation life cycle, primarily the initial selection phase, with little attempt to follow the ongoing evolution and dynamic ‘moving target’ of coalignment (Hong & Kim 2002; Pollock et al. 2003; Venkatraman 1989; Weill & Olson 1989).

A longitudinal study may help researchers to better understand the facilitation of feature-function fit, such as by assessing if the alignment of IT was leading, in synch or lagging behind the alignment of organizational functionality (Reich & Benbasat 2000). This was exemplified by one of the few longitudinal studies of the facilitation of feature-function during an ERP implementation, which identified five stages of a unique process that was specific to a particular project; (1) highlighting of the incommensurabilities between the package and organization, (2) actual means by which the package was translated for use, (3) attempting to fit module to multiple demands, (4) develop a system for a generic user, and (5) moving the package towards one organization-wide design (Pollock et al. 2003). However, a study of the phases related to ES implementation processes in general is required.

The study of the stakeholders too would benefit from greater attention to their dynamic nature throughout the ES implementation process. As noted by Markus and Tanis (Markus & Tanis 2000), the ES implementation experience moves through several phases, each characterized by different key players. While economic utility maximization proposes that individual stakeholder characteristics, such as their power and importance at any point in time are assumed to be stable, in reality, they are liable to change (Pan 2005; Rowley & Moldoveanu 2003).

Likewise, the relative degree to which a stakeholder’s identity is salient may vary across different context or time, thus affecting their behavior in that context or time (Ellemers et al. 2004). Furthermore, as the salience of each stakeholder varies, their interactions and inter-relationships may also vary during the ES implementation process (Newman & Noble 1990; Sambamurthy & Kirsch 2000). Hence, more insight is required into the management of all the key stakeholders in each phase of aligning them with feature-function fit during an ES implementation process.

The bulk of research on ES implementations though, typically focused on variance research to identify critical success factors and use them to explain variation in ES implementation outcomes (Liang & Xue 2004). However, the narrow focus of such cross-sectional studies face a limitation in not capturing the temporal aspects of the various dynamic activities that occur throughout the ES implementation process (Ko et al. 2005; Liang & Xue 2004). As such, research on ES implementation success needs to consider what happens in each phase of the ES life cycle (Liang & Xue 2004), and in the context of this paper, focus on the facilitation of FFS fit across all these phases.

Process theory supports such a study by focusing on the sequence of events during the implementation process (Nah et al. 2001) with an emphasis on understanding the sequence of these events to capture the dynamics of ES projects (Newman & Sabherwal 1989; Sabherwal & Robey 1995). Researchers have employed one such variation of these process models to analyze ES implementations, and that is the stage model, which prescribes a definite order to a sequence of events (Luo & Strong 2004; Sabherwal & Robey 1995).

The number of phases and definition of different ES project stage models may vary but, at their core, they share certain similarities. Companies begin with an initial planning phase that entails determining the project scope and broad implementation approach (Parr & Shanks, 2000). Companies then go through a project phase that comprises activities intended to get the system up and running, either by modifying the package or organization, leading to its roll-out to users (Markus & Tanis, 2000). Finally, companies enter a maintenance phase which involves coming to terms with the new ES and resuming normal operations while repairing, extending and transforming it until the next major upgrade (Markus & Tanis, 2000; Parr & Shanks, 2000).

While such linear models remain informative, their use of pre-defined stages may sacrifice several additional details and potentially valuable information about the process (Sabherwal & Robey 1995). In contrast, a process model can build on a stage model by scrutinizing two main components – events and people – which coincide with the research
focus of this paper. Process theory helps to understand the underlying logic behind the observed temporal progression of events to explain their temporal ordering and relationships (Pentland 1999). This facilitates understanding of the flow of activities involved in aligning the package and organizational needs during ES implementation.

In addition, process theory advocates the importance of people in tying together events in the story about the ES implementation process and providing a thread of continuity and meaning (Pentland 1999). This facilitates the incorporation of the study of stakeholder management during the ES implementation. Combining all these elements would therefore facilitate the study of the facilitation of FFS fit throughout the entire ES implementation process.

**Process of Feature-Function-Stakeholder (FFS) Fit**

Although both areas of feature-function fit and stakeholder management are acknowledged as important during ES implementation, they have separately received varying degrees of attention in general research and in ES implementation literature. This paper thus looks at both these areas in the context of ES implementation. Specifically, several studies have underscored the importance of achieving greater fit between tasks, technologies and actors (Cale & Eriksen 1994; Dishaw & Strong 1999; Hong & Kim 2002). Consequently, this paper moves beyond studying the two areas of feature-function fit and stakeholder management in isolation, and instead combines them to study the facilitation of feature-function-stakeholder (FFS) fit during ES implementation. In this way, this paper seeks to highlight important issues pertaining to each area, discuss how they occur in tandem, and offer some insight into how they may be inter-related. Moreover, this paper aims to trace the evolution of these issues across the phases of the FFS fit process during ES implementation to better understand differences in terms of their relevance and management in each phase of the process.

**Research Methodology**

This study adopts an interpretivist approach to understand a socially constructed phenomenon through the meanings assigned to it by participants and researchers (Klein & Myers 1999; Walsham 1993). Specifically, a case study approach was adopted to answer ‘how’ and ‘why’ questions about a contemporary ES implementation phenomenon in its real-life context, and to explain the phenomenon in question (Yin 2003).

This case study was of the implementation of an organization-wide learning management packaged system (OWLMS) in an institute of higher learning (IHL). Since this system transcended the entire organization, the unit of analysis of this study was set at the system level, that is, the level of the OWLMS Enterprise System. From there, the focus of the study was the facilitation of fit between the external package, institute’s needs, and management of the institute’s multiple stakeholders, who had varied backgrounds, goals, and approaches to practice, or in short, different epistemic cultures (Wagner & Newell 2004).

Data was collected over five months and retrospectively covered a period of about three years since the inception of the institute. The main source of data was semi-structured interviews (Yin 2003) with 25 different stakeholders, which included top management staff, academic staff, internal IS staff and external IS staff. Interviewing these diverse informants not only offered multiple subjective points of view (Pentland 1999), it also increased the internal validity of the data collected (Miles & Huberman 1994). In addition, data triangulation was used to enhance the validity of the findings (Denzin 1988), as additional data was collected from organizational documents, the organization’s website, newspaper articles, and hands-on exposure to the system. A thematic analysis process was then used to code the data and systematically refine interpretations of it into conceptual categories (Neuman 2003).

**Case Description**

As the Principal of IHL noted in their 2004 Annual Report, “Not only is technology central to our campus, administration and learning, it is a way of life at IHL.” Nowhere was this more evident than in the implementation of OWLMS to support their standard institute-wide educational pedagogy. OWLMS was used by about 90% of staff and students from across IHL’s eight educational departments and achieved over two million hits a day. This case study chronicles IHL’s journey in implementing this ES.
Selecting a Suitable Package

The motivation for OWLMS was two-fold. Firstly, a suitable solution was required to facilitate IHL’s educational methodology, which was unique to the local education scene. This educational direction was spearheaded by the Director of the Office of Academic Affairs (OAA). The second motivation was the heavy use of IT to make IHL a fully paperless, wireless and mobile campus. This technological direction was spearheaded by the Deputy Principal.

With a firm direction in mind and the support of key top management staff, IHL set about looking for a package that met their needs. At this juncture, they had approximately a year to put everything in place before their first intake of students. Short-listed vendors were invited to present their systems to top management. Internal IS and academic staff were invited to sit in on these presentations and, as an academic staff put it, “identify which of these packages had features that we thought would be beneficial to us.” In addition, top management also solicited additional feedback and comments from selected staff.

These staff though, were largely unsure of the educational needs of IHL, as this direction was still being finalized. Hence, as an academic staff recalled, “Frankly speaking, at that time, we didn’t even know how the whole process will work … so we looked more at the general features of what it can provide.” Concurrently, internal IS staff focused on technical evaluations of whether the packages fit existing systems.

In consolidating this feedback, top management fairly quickly discovered that, as a top management staff put it, “We couldn’t really find a system that really jumped at us … so I think we fairly early on came to the conclusion that there wasn’t anything out there that really gelled with our philosophy of education.” Hence, top management picked a package and vendor that was most able and willing to accommodate their anticipated customized changes. As a top management staff strongly proclaimed, “In this day and age … it makes nonsensical sense, non-business sense for a business to go along with the features of the software.”

Customizing the Package to Ensure a Closer Fit

Time was running short by the time work on the customization of the project was due to begin, and they had approximately six months left before they opened their doors to students. A new staff member was appointed by the OAA as the OWLMS manager. He was responsible for overseeing the post-purchase tailoring and use of the package, and liaising between the vendor and IHL staff. Concurrently, an external IS team from the vendor was seconded to IHL to handle the customization and maintenance of the package. As the gatekeeper between the external IS team and internal staff, the OWLMS manager’s main responsibility was to understand both parties and devise a solution to ensure a tighter fit between the package and organizational needs in time for it’s roll-out.

The OWLMS manager thus picked up knowledge on the features of the package, and what it could and could not do, from the external IS team. Additionally, his main source of information on IHL’s educational pedagogy was naturally the Director of OAA. Concurrently though, he solicited input from selected academic staff on both what transpired before his arrival, so he could better understand IHL’s motivation and direction, and on general package features, as again the project manager explained how it was felt that, “it would not be the right thing to go to them to decide the main requirements.”

During the course of this phase, however, the involvement of several academic staff increased, as an end-user team was set up to liaise between the development team and departments, and increase buy-in. As a top management staff explained, “[This was done] so that there was some awareness going on … they would not come to the first day of term and see the interface for the first time … that would be a disaster.” In addition, at certain junctures, the involvement of internal IS staff was required to facilitate the fit between the package and existing systems.

Subsequently, the OWLMS manager was responsible for working closely with the external IS team to ascertain how best to incorporate IHL’s academic needs without creating unnecessary work or more trouble and higher risks by excessively changing the package. At this point, it was decided that changes to the package would be kept to a minimum and non-essential requirements would be carried over to the maintenance phase because, as the project manager put it, “You must understand that at that time, the [educational] methodology was still in flux … we did not know what [some of] the functions we needed were.”
Roll-Out the New System

Finally, the system was ready to be rolled out to the entire institution a few weeks before the first term started. This too was overseen by the OWLMS manager and facilitated by the external IS staff who were the main repositories of knowledge about the final system. However, in rolling out the system, the main focus was not really on ensuring that everyone had in-depth knowledge of the new system and how it fit with their academic needs before they started teaching. Rather, as a top management staff recalled, “I think time was an essence … our focus wasn’t really on the system … our focus was on developing the right problems [for our curriculum].” Hence, the initial plan was for zero training, and as the project manager put it, “the page itself should tell you what needs to be done”. In the end though, some basic training was still required for all relevant staff as the majority were unfamiliar with the system and how it met their needs. In addition, supplementary online resources such as FAQ sheets and screen shots were provided. The focus of the training, however, was on IHL’s educational pedagogy, and as an academic staff noted, “They had a short induction course … basically lectures which did not really work.” Subsequently, once users had gained a basic understanding of the system, they were free to learn more about the system by trying it out on their own and sharing what they learnt with their peers. Alternatively, staff could approach the LEO development team for clarifications. As an academic staff described it, “You can just send any questions to the helpOWLMS [email] and they will reply back to you … and most of the time, being a small organization, we just take the notebook, walk upstairs and ask the developer how this works and he will just show you … and then, you will just come down and share amongst your peers.”

Ongoing Maintenance of the System

Once OWLMS was in place there was no longer any fixed deadline for any major upgrades of the system. Rather, the focus was on ongoing system evolution because, as the project manager put it, “Expectations keep changing.” Changes were also required to add-on features that were overlooked or carried over from the customization phase. The three main sources of feedback were top management, the development team (i.e. OWLMS manager and external IS team), and academic users. The project manager summarized the types of change requests, “One is major shifts in requirements [from top management] … another source for change is the development team … either they see a more efficient way of doing things or recognize that there are bottlenecks or even bugs … the third source would be users … users would request new features or say that something is too troublesome to do or wrong.” Internal IS staff sometimes also contributed feedback on underlying technical issues, such as network speed.

Typically, stakeholders had the luxury of using the system and, at their own pace, sending in feedback on possible changes. Formal channels, such as an online Staff Suggestion Scheme system, and informal channels, such as emails or Instant Messaging, were available for use. Although the OWLMS manager was responsible for consolidating feedback, beyond a small monetary reward for each suggestion, little else was done to force stakeholders to contribute. They were instead left to manage themselves and assess for themselves when best to provide feedback. Then, while it was the external IS team that made the actual changes, it was the OWLMS manager who first evaluated and prioritized the change requests.

His first criteria in doing so, was to balance the multiple stakes of the various stakeholders. As a top management staff explained, “You can’t issue a decree to say that, “We’ll do this” and get the best … you have to do a lot of consultation.” He also considered whether the change affected the consistency of the system across IHL. As the project manager put it, “If you want to do something that differs from the rest, you do it separately.” Finally, another major consideration was whether the change ran counter to IHL’s academic direction. As a top management staff elaborated, “If it runs counter, then he says no … if it can go without doing any damage, then he says yes … if it’s something that will actually enhance what we want to do, then with all force and might, he’ll get it done.”

After a change was implemented, the person who suggested it was typically notified first. Then, based on the scope of the change, other relevant staff were also notified. In general, they were not notified for minor changes, whereas for moderate changes, emails would be sent out, sometimes with detailed instructions. Finally, for major changes, training may even be provided for affected staff.

In addition to making suggestions, several staff even stepped forward to contribute in developing add-ons that bolstered the core OWLMS system. One example was a student evaluation system that regularly gathered student feedback through online surveys on facilitators and modules, collated this data, and processed and disseminated it to
relevant staff. In fact, as of mid-2004, some 144 of the 175 applications in IHL were developed in-house, with a fair number through the support of internal stakeholders. The OWLMS development team merely had to provide guidance where necessary and oversee efforts to ensure that the add-ons fit the core system.

**Final Thoughts on OWLMS in IHL**

On the whole, as the project manager reflected on this experience, “I think actually the number of procedures was a bit more than necessary because we were inheriting a fixed structure … within which we tried to add features … so the resulting structure was different from what might have come out if we had built up the system from scratch … but of course, it’s much faster to start with an existing system.” Generally, staff were happy with the final system and considered it a success, as it was fairly easy to use, suited their needs, and was uniformed and organized.

**Findings on the Facilitation of FFS Fit**

**Evaluation of Discrepancies in Fit**

In line with prior research on fit, the initial identification of discrepancies between the package and organization (Hong & Kim 2002; Lucas et al. 1988; Soh & Sia 2005) was a prominent starting point for facilitating FFS fit during the ES implementation in the case. This was handled by top management. In this case, beyond merely providing crucial support for the project, as widely emphasized in prior literature (Wang et al. 2006), the role of top management in this phase was more hands-on, as they consolidated the necessary business, package and internal IS knowledge from the users, vendors and internal IS staff respectively.

This was largely because they were the only stakeholders with the necessary power based on their hierarchical authority (Schneider 2002; Wang et al. 2006) to allocate resources for the project. Furthermore, they were the only stakeholders at this juncture who shared a collective identity orientation in line with the organization and best understood how the ES package could fit organizational needs. In contrast, the other stakeholders were unfamiliar with the direction of the organization and what was expected of the package. Hence, their priorities largely revolved around their personal self-interests (Flynn 2005).

Thus, top management occupied a central position and maintained dyadic interactions with the other stakeholders while inter-relationships between the other stakeholders were largely non-existent. This was primarily because top management understood the need to ascertain their diverse input for different reasons. The input from vendors was important to showcase the features of the package. Input from users and internal IS staff was important to share their domain knowledge on the general area of education and internal systems respectively.

Only selected users though were invited to contribute, based in part on their possession of relevant domain knowledge. Top management consolidated this diverse input with their domain knowledge of the organizational functionality and business direction. The focus here was to consolidate all the necessary knowledge from a select few relevant stakeholders by the central top management staff. In this way, top management selected a package that provided the best fit with the organizational functionality and the diverse needs of internal stakeholders.

In summary, this set of activities focused on the recognition of possible misfits between the package, organization and stakeholders, and occurred during the planning phase of the ES implementation life cycle (Parr & Shanks 2000). Managing the fit between package features and organizational functionality involved learning more about them. At this point, most stakeholders, other than top management who had a collective identity orientation, had a personal identity orientation, while the key sources of individual stakeholder power were institutionalized authority and domain knowledge. Hence, management of individual stakeholders to ensure a closer FFS fit involved the use of selective identification. In addition, the exchange of knowledge between stakeholders involved the consolidation of relevant knowledge from selected stakeholders by top management. Hence, management of stakeholder inter-relationships as a whole to ensure a closer FFS fit involved the use of central control.

**Eclectic Resolution of Misfits**

Despite having selected the most suitable package, given the unique educational pedagogical needs of the organization in the case, as highlighted in prior literature (Light 2005), the presence of some misfit was still
inevitable. The next step in facilitating FFS fit was thus the eclectic resolution of remaining misalignments, which entailed the development of a resolution strategy that is drawn from what seems to be the best of different ideas or beliefs. This could involve adapting the organization to fit the package, modifying the package to fit the organization, or combining both strategies through mutual adaptation (Pollock et al. 2003).

This phase is crucial to avoid wasting unnecessary resources, as was evident in the study by Pollock et al. (Pollock et al. 2003) in which the organization went through multiple phases involving different strategies before finally electing to fit the package to one organization-wide design. In contrast, in this study, the preferred strategy from the start was to customize the package. This phase was handled by an ES project manager who, unlike top management, did not possess any institutionalized authority (Schneider 2002) but rather was delegated the necessary authority (Serafeimidis & Smithson 2003) to manage this ES implementation. He then picked up necessary diverse knowledge on the organizational functionality, package features and stakeholder interests from various relevant stakeholders.

As in the first phase, this was primarily achieved by the ES project manager occupying a central role in a hub-and-spoke type model of dyadic interactions with selected relevant stakeholders who were deemed important because they possessed important business or package knowledge that he required. The emphasis in these stakeholder interactions was the consolidation of relevant knowledge from certain relevant stakeholders by the central ES project manager. In turn, he acquired a collective identity orientation akin to that of top management which drove him to try and implement a package that best suited organizational needs. This also led him to more closely align his interests with those of the organization and work to align the package with the organization.

In contrast, as the other stakeholders were mainly not involved in this phase, they largely persisted in retaining their personal interests, except for a few users who, due to their work on educational material for their departments and sharing of knowledge on their modules and courses with the ES project manager, began to develop a closer relational identity orientation (Flynn 2005) in line with their immediate workgroups. This was evident, as their input began to go beyond merely reflecting their personal interests to also reflect the interests of their department and modules, such as when several users served to liaise between the ES project management and their respective departments. In turn, this enabled the ES project manager to work more effectively with the external IT team in customizing the package to fit organizational needs and the needs of the diverse internal stakeholders.

In summary, this set of activities focused on the resolution of potential misfits between the package, organization and stakeholders, and occurred during the project phase of the ES implementation life cycle (Markus & Tanis 2000; Parr & Shanks 2000). Managing the fit between package features and organizational functionality involved modifying the package or organization or both, as necessary. At this point, several stakeholders started to embrace a relational identity orientation, while the key sources of individual stakeholder power were delegated authority and domain knowledge. Hence, management of individual stakeholders to ensure a closer FFS fit still involved the use of selective identification. This time, the exchange of knowledge between stakeholders involved the consolidation of relevant knowledge from selected stakeholders by the ES project manager. Hence, management of stakeholder inter-relationships as a whole to ensure a closer FFS fit again involved the use of central control.

**Education on Fit Solution**

Once the package was ready, the ES development team rolled it out to the entire organization (Markus & Tanis 2000). As most stakeholders were not involved in the modification of the package and had few interactions with anyone other than the ES project manager, they were largely in the dark about the final system. Consequently, a key aspect of this phase was the education of all stakeholders on (1) what the package entailed, (2) how it fit the organizational direction and functionality, and (3) how it addressed their needs.

However, rather than merely transferring directions or instructions to these stakeholders without sharing any underlying knowledge (Kearns & Sabherwal 2006-7), the ES development team, led by the ES project manager, used a two-part knowledge dissemination strategy. Firstly, due to the importance of this phase and need to interact and convince multiple stakeholders on the viability of the package, the ES project manager again slotted into a central role and with his development team, interacted directly with other stakeholders via basic training sessions.

Several stakeholders were satisfied with these sessions that enabled them to use the new system to meet their personal needs without actively trying to better understand how it explicitly fit the organization. Such stakeholders largely continued to be motivated by their personal identity orientations (Flynn 2005). In contrast, other stakeholders wanted to find out more about how the system could be used to meet the needs of their workgroups and modules.
These stakeholders proactively managed their own search for further knowledge by playing with the system and learning more about it on their own. In addition, they actively interacted with other stakeholders, including members of the ES development team. All these activities were self-managed by the stakeholders themselves without the coordination or involvement of the ES project manager.

These stakeholders not only developed stronger relational identity orientations (Flynn 2005) but several of them became more powerful and influential, as they coordinated knowledge exchanges about the system among their peers due to their growing domain knowledge about the system and local centrality (Nambisan & Agarwal 1998), or possession of numerous ties with stakeholders in their workgroups. While participation in the latter activity was optional, participation in the initial training sessions was compulsory and all stakeholders were forced to participate by the ES project manager to ensure that everyone at least had a rudimentary understanding of the system. In this way, knowledge on how the FFS fit was achieved was quickly disseminated to all relevant stakeholders.

In summary, this set of activities focused on educating stakeholders about how fit between the package, organization and stakeholders was achieved, and occurred during the roll-out phase of the ES implementation life cycle, which is treated here as a distinct phase unlike in other ES implementation stage models that subsume this as part of the main project phase (Markus & Tanis 2000; Parr & Shanks 2000). Managing the fit between package features and organizational functionality involved explaining how to use the package and how it fit organizational functionality. At this point, more stakeholders began to embrace the relational identity orientation, while the key sources of individual stakeholder power were delegated authority, domain knowledge and network centrality. Hence, management of individual stakeholders to ensure a closer FFS fit involved a mix of forced and proactive participation. In addition, the exchange of knowledge between stakeholders involved the dissemination of relevant knowledge from the ES development team to other stakeholders, and the sharing of knowledge among these other stakeholders. Hence, while management of stakeholder inter-relationships as a whole to ensure a closer FFS fit primarily involved the use of central control, a certain degree of self-management was also evident.

Enhancement of Fit

Prior research highlighted how the adaptation of packages and organizational functionality is an ongoing process (Hong & Kim 2002). As such, even after the system went live in the case, relevant stakeholders of the organization continued to evaluate the package fit with organizational functionality and stakeholder needs, and proposed enhancements to it. This was facilitated by the ES project manager who consolidated all enhancement requests and retained the delegated authority to make the final decision on which requests to accede to. He prioritized these requests based on their merits, such as whether they affected the enterprise-wide nature of the system or fit organizational functionality. Once changes were made, the ES project manager facilitated the dissemination of knowledge on the changes and their impact to relevant stakeholders in line with his dyadic links with the stakeholders. These stakeholders may then proactively share this knowledge with their peers and other stakeholders.

Beyond this though, there were no other obvious sources of power differential between the other stakeholders, as they were free to contribute at their own pace and their input was judged on merit rather than on the stakeholder making the suggestion. Thus, the bulk of the stakeholders proactively interacted with one another in a web of inter-relationships (Pan 2005) to share knowledge and ideas about the system and potential changes before directly or indirectly sending feedback to the ES project manager.

While several stakeholders persisted in proposing changes that suited their personal interests (Flynn 2005), through greater exposure to the system and more in-depth understanding of how it worked and fit organizational functionality and diverse stakeholder needs, more stakeholders began to make suggestions in line with the needs of their immediate workgroups or modules (Flynn 2005). Several stakeholders even began to embrace a more collective organizational identity orientation and not only made suggestions but also helped to develop add-ons that enhanced the overall fit of the package with organizational functionality. In a way, they had aligned their personal interests with those of the organization (Brickson 2000). In this way, continuous evaluation and enhancements to the package was achieved to improve the FFS fit.

In summary, this set of activities focused on the ongoing improvement of the fit between the package, organization and stakeholders and occurred during the post-implementation maintenance phase of the ES implementation life cycle (Parr & Shanks 2000). Managing the fit between package features and organizational functionality involved continuous comparisons between the package and organization, and fine-tuning of their fit. At this point, as more of the remaining stakeholders embraced a relational identity orientation, several stakeholders started to develop a
collective identity orientation, while the key source of individual stakeholder power was delegated authority. Hence, management of individual stakeholders to ensure a closer FFS fit involved proactive participation and merit-based prioritization of stakeholder contributions. In addition, the exchange of knowledge between stakeholders involved the consolidation of knowledge from all stakeholders by the ES project manager, dissemination of knowledge from the ES development team to relevant stakeholders, and sharing of knowledge among all stakeholders. Hence, in this instance, management of stakeholder inter-relationships as a whole to ensure a closer FFS fit primarily involved stakeholder self-management with a certain degree of central control.

Conclusion

The failure rate of Enterprise Systems remains high (Luo & Strong 2004), despite the vast potential of ES (Davenport 1998). In contrast to prior research on ES implementation success that focused on traditional project management metrics or business benefits (Robey et al. 2002) though, this paper supports the call for more studies based on the unique characteristics of ES. In line with this, firstly, this paper focused on the fit between the best practices embedded in ES packages (Light et al. 2001) and the organization (Pollock et al. 2003). Secondly, this paper highlighted the importance of the multiple stakeholders to ES implementations (Soh & Sia 2005), with particular emphasis on both their individual characteristics and inter-relationships (Friedman & Miles 2002).

This study then consolidated these two issues and introduced the notion of facilitating feature-function-stakeholder (FFS) fit to underscore the need for greater fit between the package, organization and people (Cale & Eriksen 1994; Hong & Kim 2002). Moreover, the lack of attention to the dynamic process of fit (Reich & Benbasat 2000) and management of stakeholders (Rowley & Moldoveanu 2003) prompted the adoption of a processual perspective (Nah et al. 2001) for this study. Through this lens, a case study of the implementation of an organization-wide learning management system in an institute of higher learning was analyzed.

Based on this analysis, four key sets of activities in facilitating FFS fit during an ES implementation were identified, and links were explored between the management of fit between the package features, organizational functionality, two individual stakeholder characteristics of identity orientation and power, and the stakeholder inter-relationship issue of knowledge exchange (see Table 1). From this study, several implications for research, areas for future research and implications for practice were identified.

<table>
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<tr>
<th>Phases of ES implementation</th>
<th>Planning</th>
<th>Project</th>
<th>Roll-Out</th>
<th>Maintenance</th>
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<tr>
<td>FFS Fit Facilitation Process</td>
<td>Evaluation (Recognize possible misfits)</td>
<td>Eclectic resolution (Resolve misfits)</td>
<td>Education (Education on how fit is achieved)</td>
<td>Enhancement (Ongoing improvements to fit)</td>
</tr>
<tr>
<td>Feature-Function Fit</td>
<td>Learn about package features and organizational functionality</td>
<td>Modify package or organization or both (as necessary)</td>
<td>Explain how to use package and how it fits organizational functions</td>
<td>Continue to compare between package and organization to fine-tune the fit</td>
</tr>
<tr>
<td>Individual Stakeholders</td>
<td>Identity orientation</td>
<td>Personal (Users, Internal IS staff, External IS staff)</td>
<td>Personal (Users)</td>
<td>Personal (Users)</td>
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<tr>
<td></td>
<td>Collective (Top management)</td>
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### General Topics

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<th>Key sources of power</th>
<th>Institutionalized authority</th>
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<th>Delegated authority</th>
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<tbody>
<tr>
<td></td>
<td>Domain knowledge</td>
<td>Domain knowledge</td>
<td>Domain knowledge</td>
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<td>Individual stakeholder management</td>
<td>Selective identification</td>
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#### Stakeholder Inter-Relationships

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<th>Knowledge exchange</th>
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<th>Consolidation from selected stakeholders by ES project manager</th>
<th>Dissemination from ES development team to all relevant stakeholders; Sharing among different users</th>
<th>Consolidation from all relevant stakeholders by ES project manager; Dissemination from ES development team to all relevant stakeholders; Sharing among different users</th>
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<tr>
<td>Stakeholder inter-relationship management</td>
<td>Central control</td>
<td>Central control</td>
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<td>Self-management (partial)</td>
</tr>
</tbody>
</table>

### Theoretical Contributions and Areas of Future Research

Given the complexity of ES implementations, researchers highlighted the need for greater fit between tasks, technologies and actors (Hong & Kim 2002). Concurrently, there have been calls for more comprehensive models of fit or alignment (Reich & Benbasat 2000). This paper answered both calls by exploring the three areas of package features, organizational functionality, and stakeholder needs and inter-relationships during an ES implementation. In doing so, it presented a process model of facilitating FFS fit during an ES implementation that involved four key sets of activities. Future research can build on this in two ways. Firstly, researchers can explore the fit between other elements of the package, organization and stakeholders to add more depth to this process model. Secondly, researchers can operationalize this model or at least the underlying premise of the need for FFS fit, such as by quantitatively employing a variation of the task-technology fit model that incorporates stakeholder-related variables to study ES implementations.

Moreover, concurrently exploring the facilitation of FFS fit throughout the duration of an ES implementation provided insight into the dynamic ‘moving target’ of coalignment (Venkatraman 1989) and changes in stakeholder management (Rowley & Moldoveanu 2003). However, for a richer understanding of the reasoning behind customization, and by extension the facilitation of FFS fit, researchers can consider the ‘context’ in terms of the nature of the facilitation, and ‘process’ in terms of how this was done (Light 2005). Process theory further supports this need to include the contextual element, which is liable to change (Newman & Sabherwal 1989) and affect the project (Sambamurthy & Kirsch 2000) and stakeholders (Newman & Noble 1990). While this paper provided insight into the process and, to some extent, the content, future studies may benefit from exploring all three areas concurrently.

Much of the prior literature on fit during ES implementations focused on the initial identification of discrepancies or misfits (Janson & Subramanian 1996). While this paper supported the importance of the initial evaluation of fit between the package, organization and stakeholders, it went further to underscore the importance of managing fit throughout the ES implementation process and provided insight into how this can be done in each phase. Researchers can build on this to extend their previous focus and explore the issue of fit in each of the other phases. However, while researchers may be inclined to separately explore fit in each of these phases, a longitudinal study of fit may prove more beneficial in tracing its effect throughout the ES implementation process (Wang et al. 2006).
In addition to highlighting the importance of fit between the package and organization during an ES implementation, this paper emphasized the importance of the hitherto under-explored area of stakeholder management during such projects (Friedman & Miles 2002). In doing so, this paper identified the need to study both individual stakeholder characteristics, such as their identity orientation (Flynn 2005) and power (Serafeimidis & Smithson 2003), and stakeholder inter-relationship issues, such as their exchange of knowledge (Kearns & Sabherwal 2006-7). Future research can continue to delve into this area of stakeholder management and explore other factors beyond those highlighted in this paper that similarly govern how these stakeholders individually and as a whole affect or are affected by the facilitation of FFS fit during ES implementations.

While prior research has delved into the sources of misfits (Soh & Sia 2005) and factors affecting fit (Hong & Kim 2002), there has been a lack of attention on the management of the facilitation of fit. Similarly, while stakeholders of ES implementations received some attention in prior literature (Reich & Benbasat 2000), little has been done to explore how to maximize their contributions (Nah et al. 2001) and manage the cross-functional stakeholder teams that implement the ES and other relevant stakeholders. This paper took a first step towards filling this gap in prior research by identifying several strategies to manage the package, organizational functionality, and both individual stakeholders and their interactions. Future studies can expand on this line of research to explore the effectiveness of these strategies, and identify other strategies for managing the facilitation of FFS fit during ES implementations.

Managerial Contributions

The findings of this study are also of interest to practitioners. Firstly, this paper reinforced the notion that an ES package rarely fits organizational functionality perfectly. Hence, managers need to embrace the inevitability of having to engage in some kind of post-purchase tailoring activity, such as modifying the package or adapting the organization or both, to ensure a closer fit between the package features and organizational functionality.

This paper also introduced the notion of FFS fit to underscore the importance of stakeholders both to an ES implementation, and in particular to the fit between the package and organization. Hence, managers need to concurrently manage the relevant stakeholders of their ES to improve the fit between the package, organization and the needs of these stakeholders.

This paper emphasized the need for more attention to be paid to the multiple stakeholders of ES implementations due their diverse impact on the project and facilitation of fit between the package and organization. Furthermore, this paper highlighted the need to understand and manage these stakeholders individually by identifying their degrees and sources of power, and how their identity orientations can be changed to expand their contributions to the project. In addition, this paper encouraged managers to go beyond managing each stakeholder individually to manage them as a whole due to their potentially rich inter-relationships, which may also impact the project.

Another implication of this paper was that the management of fit did not end with the selection of a suitable package, or even with the necessary tailoring of the package or organization to enhance the fit, but rather continued throughout the ES implementation process. Hence, managers need to understand the impact of fit in all phases of the implementation process, and how it can be managed accordingly.

References


