Intellectual Buy-in and Emotional Buy-in: A Reappraisal of ERP Implementation

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Abstract

Enterprise resource planning (ERP) systems promise organizations the benefits of integration and competitiveness. This paper explores the process of ERP implementation within a global engineering firm. Implementation is often viewed as a rational and intellectual process, termed intellectual buy-in, through which stakeholders become aware of, understand, and are convinced by the benefits of ERP. This research suggests that, more importantly, the implementation of ERP is also a social and emotional process, termed as emotional buy-in, through which stakeholders are transformed from being distant from the project to being part of the project. As a result the social network landscape is reconfigured and appropriation is achieved.

Introduction and Conceptual Foundations

Cross-functional integration of processes is seen to be increasingly important within organizations for gaining competitive advantage. This is reflected in the increasing popularity of advanced systems, notably CAPM (Swan, Newell and Robertson 1999), GDSS (Gopal and Prasad 2000) and ERP (Communications of the ACM 2000), which all claim their key advantage is their ability to integrate data and information. There have been many reports of the implementation of such systems, some highlighting successes and others failures. These differential results have been related to factors such as the compatibility between technology and organization (Tornatzky and Klein 1982), the degree of alignment of processes (Orlikowski 1993), the degree of strategy integration (Barley 1990) and the management of stakeholders, such as end-users (Markus and Keil 1994). More recently, empirical accounts have highlighted the importance of supportive leadership (Armstrong and Sambamurthy 1999), establishing organizational memory (Cross and Baird 2000) and appropriately capturing and presenting information (Lim and Benbasat 2000). While these different accounts suggest that different factors are at work in the successful implementation of these complex and integrating technologies, it is possible to identify three common, inter-linked assumptions. First, the decision to adopt new technology is typically assumed to be objective, based on a rational calculation of the economic and strategic value that will result from the adoption (Case and Shane 1998). Second, decisions about the match between the technology and organization, and how end-users’ needs can and should be maximized based on available resources (Mamaghani 1999) are similarly based on this rational economic calculation. Third, success or failure of the implementation is then measured based on how the technology is accepted by end-users, primarily the “perceived usefulness” to the end users and technology’s assessed “user-friendliness” (Davis 1989).

While previous studies have provided important insights (e.g. in relation to the commodification of ‘best practice’ solutions, Newell et al, 2000), there is little research, which explores how social and emotional processes within and between stakeholder groups influences the system implementation process. Specifically, the incorporation of social and emotional dimensions into the examination of the implementation of complex and integrating technologies remains a theoretically underdeveloped area. Previous empirical accounts that have focused on emotional processes have tended to emphasize the nature and expression of emotions.
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(e.g. van Maanen and Kunda 1989) and the interplay of emotional processes with organizational processes and functions, such as learning (Argyris and Schön 1978) and job design (Hackman and Oldham 1980). Synthesizing research carried out at the time, Ashforth and Humphrey (1995) argue that it is possible to identify four domains of emotion which have different orientations - organizational, means/ends, intrapersonal and interpersonal. Moreover, research on social processes has tended to attempt to identify its characteristics (e.g. Scott 1992) and implications, such as its importance to innovation (Kanter 1988), knowledge creation (Nonaka and Takeuchi 1995) and organizational competitiveness (Nahapiet and Ghoshal 1998). Burt (1992), for example, argues that network ties nurtured through social processes provide network members with three distinctive but interrelated information benefits. First, network ties provide “access” which is defined as “receiving a valuable piece of information and knowing who can use it” (p. 13). Access is important because it not only serves as an information screening mechanism, but also creates opportunities for integrating the limited resources possessed by network members. Second, network ties are “timely” as they allow members to receive information or be exposed to information earlier than those who are not part of the network. Third, there is the benefit of “referrals”. This refers to the creation of opportunities, and is enabled by the legitimacy ‘guaranteed’ by other network members.

This paper builds upon the theoretical arguments of Burt by introducing the element of emotion. It presents an empirical study of an ERP implementation, framed in relation to the following research questions: First, how do social networks influence the process of technology implementation? Second, how do individuals’ emotions influence the way in which new technology is perceived? The paper is structured as follows. Following a brief account of the research methodology, there follows a section, which discusses intellectual and emotional buy-in in the case company. This leads to a consideration of their impact on social networks. The paper concludes with an identification of the implications of the research for the theory and practice of systems implementation.

Methodology

Given the aim of generating in-depth insights in relation to the proposed research questions, a case study approach (Lee 1989; Yin 1984) was used. The case study was conducted between 1998 and 1999. Company A,1 a first-tier multinational engineering firm, designs and manufactures standard and custom-built products and provides consulting services for corporate clients across the globe. The case company began its global ERP implementation during the third quarter of 1995 and completed during 1998. The implementation of ERP was facilitated by a leading IT service provider and long-term strategic partner of Company A. Three sources of evidence were collected from 37 interviews (see Table 1), on-site observation, and the examination of documentation, including written reports, administrative documents, archives, and newsletters. Multiple data collection methods were employed not only to enrich the depth of findings, but also to triangulate the data as a means of ensuring the validity of the findings (Denzin 1988). Data collected from these sources was then analyzed based on the coding techniques proposed by Miles and Huberman (1994) and Strauss and Corbin (1990). Emerging insights were iteratively compared with the current literature for the purposes of identifying and articulating theoretical similarities and differences.

Table 1. Interviews Conducted at Company A

<table>
<thead>
<tr>
<th>Role of the Interviewee</th>
<th>1st Interview</th>
<th>Follow-up Interview</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Sponsor (Senior Manager)</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Steering Group (Head of Division)</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Project Team Members</td>
<td>11</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>End User</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Consultant (Vendor)</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>12</td>
<td>37</td>
</tr>
</tbody>
</table>

Analysis and Discussion

For the purposes of categorizing and displaying the collected data, Table 2 outlines the initial phase of the analysis. This considers events in relation to various contexts.

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1Names of the case company and consulting firm have been disguised.
Table 2. Contextual Analysis

<table>
<thead>
<tr>
<th>Environmental context</th>
<th>Customers</th>
<th>Competitors</th>
<th>Technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Custom built and standardized engines and components, as well as consulting services</td>
<td>Some offer standardized engines and consulting solutions at relatively low price</td>
<td>Increasing number of firms adopt ERP systems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organizational context</th>
<th>Structure</th>
<th>Culture/ Subculture</th>
<th>Corporate Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project-based structure with the majority of staff in engineering production and consultancy working in various projects</td>
<td>Innovative culture enhanced by working closely with clients and suppliers</td>
<td>Providing world class solution and products by continuous innovation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IS context</th>
<th>Role of IS in Firm</th>
<th>IS-related Staff</th>
<th>IS and User Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In addition to the intensive use of ICT for dispersed project team members and divisions, IS has long been aligned with strategic business development</td>
<td>A decentralized and dispersed IS division had over 400 staff in total among 6 main sites worldwide</td>
<td>An increasing number of members of staff attended courses (over 1900 staff in 1998) and on-line forums (over 4000 staff in 1998) organized by the IS division.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project context</th>
<th>Project Scope</th>
<th>Overall Cost</th>
<th>Internal Project Participants</th>
<th>External Project Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimated project length 42 months</td>
<td>ERP system was implemented globally and covered all major divisions</td>
<td>Estimated saving £45 millions over five years</td>
<td>Software cost: £2.2 millions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System implementation (including evaluation and training): estimated cost £17.8 millions and actual cost £19 millions</td>
<td>Internal man hour cost: estimated at £13.5 millions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 project sponsors consisted of senior managers</td>
<td>11 steering group members formed of division heads</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18 project team members (7 from IS division, and one representative from each division)</td>
<td>SAP software, evaluation study, business case, and implementation services were all provided by firm Z</td>
</tr>
</tbody>
</table>

**Intellectual Buy-in**

From the contextual analysis highlighted in Table 2, it can be seen that the stated rationale behind the adoption of ERP was that this system would increase competitiveness in the face of increasing external competition. In addition, the adoption of ERP ‘fitted’ with the case company’s corporate culture, which was oriented towards continuous innovation through integrating knowledge intra- and inter-organizationally. This rationality coincides with those who argue that organizations increasingly depend on technology for revitalization (Orlikowski and Robey 1991) and those who see the decision-making process for technology investment as being entirely objective (e.g. Frohlich and Dixon 1999). Specifically, from a cost/benefit perspective, the adoption of ERP in company A, was premised on it providing such tangible benefits as cost saving (Palaniswamy and Frank 2000) and improved information flow between functions (Davenport 1998).

While this cost-benefit rationale for implementation was clearly important, the analysis also suggests that having enabling contexts and conditions in place prior to the implementation was equally critical. For instance, the innovation-oriented culture and the continuous implementation of corporate-wide initiatives suggest that employees were familiar with ongoing changes. This familiarity is not only useful in preventing the occurrence of resistance (Kirkman, Bradley; Shapiro 1997), but also critical for explaining an individual’s willingness and ability to learn new knowledge (Kolb and Fry 1975) and unlearn obsolete knowledge (Hedberg 1982). Additionally, employees’ awareness and understanding of ERP prior to implementation was also observed as a critical factor. Such awareness was generated through the acquisition from outside sources of ERP-related information by boundary spanners (Tushman and Scanlan 1981). This information was then effectively disseminated internally through channels, such as the Intranet, seminars and meetings.

These enabling contexts and conditions were also important in influencing how stakeholders, particularly end-users, perceived the value of ERP and became committed to the ERP project. Similar to other empirical accounts (e.g. Davis 1989; Markus and
Keil 1994), perceived value and commitment of end-users critically affected the implementation process and further determined the success of ERP adoption and appropriation. In other words, it is vital for the stakeholder groups to be aware of, understand and be convinced of the value of the new system, so that it is appropriated with a minimum level of resistance. The process and dynamics of achieving such a degree of awareness, understanding and conviction is termed in this study as “intellectual buy-in”. Intellectual buy-in was important in relation to three stages of technology adoption: acquiring ERP-related information externally, disseminating such information internally prior to implementation and the implementation process per se. The process of achieving intellectual buy-in coincides with the three inter-linked assumptions addressed earlier, suggesting that technology adoption is a rational process through which the value of technology is identified, evaluated and appropriated.

**Emotional Buy-in**

Additionally, the influence of social and emotional processes during the implementation of ERP in Company A was also paramount. First, the selection of internal project participants, including project sponsors, the steering group and project team members, was based on a consideration of their representativeness. In other words, selection decisions were made to ensure that the ERP project was not owned by one or two divisions, but shared throughout the organization, even though the IS division had more representatives than other divisions. Shared project ownership is important because it helps to nurture stakeholder’s commitment (Bishop 1999). Moreover, this commitment will, in turn, influence how stakeholders prioritize their activities (Huang 2000).

Second, there were positive relationships between the IS division and end-users. This was evident not only in a high level of user satisfaction reported by a corporate-wide survey, but also in the growing number of end-users who participated in on-line forums and obtained information through the company’s Intranet. These positive relationships were found to be a critical element in disseminating ERP-related information across the organization, as well as building trust within and between ERP stakeholder groups. The trust here was a “competence trust” (Newell and Swan 2000, p. 1295), which is defined as “trust that is based on perceptions of the others’ competence to carry out the tasks that need to be performed”. In other words, the IS division performed consistently and reliably and this helped to generate substantial confidence from other stakeholders that the ERP project would be delivered successfully.

Third, this competence trust helped to stimulate the development of “companion trust” (Newell and Swan 2000), which refers to trust derived from judgements of goodwill or personal friendships and rests on a moral foundation (Misztal 1996). Companion trust within and between stakeholder groups developed over the implementation process. This was evident from the way in which the social landscape was reconfigured in parallel with the formal project structure. The importance of companion trust stemming from competence trust portrays not only how stakeholders’ beliefs in ERP’s value were formed, but also how stakeholders’ commitments were actualized through increasing participation in the ERP project.

The significance of shared project ownership, competence trust and companion trust is that these social and emotional processes transformed stakeholders from being aware of, understanding and being convinced by the value of the project to actively being involved in the processes of identifying, creating and actualizing the value of ERP. This transformation process is described in this study as achieving “emotional buy-in”. In other words, because stakeholders emotionally believe in the value of new technology, they become “part of the project” through participation, rather than understanding the value of ERP intellectually and being distant from it physically. Emotional buy-in is critical not only in determining the success or failure of technology implementation, but also in providing a potential answer to the question of how stakeholders’ perceived usefulness, commitment and participation can be aligned.

**Social Networks, Intellectual Buy-in And Emotional Buy-in: The Interrelationship**

The above discussion on achieving intellectual and emotional buy-in pinpoints two distinctive but interconnected processes underlying the adoption and implementation of ERP. Seeing it from the perspective of network ties as proposed by Burt (1992), it is clear that intellectual buy-in can be perceived as an essential catalyst for triggering the creation of new networks or linkage between different networks. This is because different stakeholders can come to a shared understanding about the perceived values of technology. Such a shared understanding is significant not only for allowing the exchange of different perspectives (Boland and Tenkasi 1995), but also for enabling collective sense making within and between stakeholder groups (Boyce 1995). Opportunities for network extension or creation generated by intellectual buy-in are further capitalized with the achievement of emotional buy-in. As a result, the landscape of social networks is reconfigured. Moreover, synergy and coherence within and between different stakeholder groups are cultivated. In other words, the benefits of social networks would not be released and leveraged without the achievement of emotional buy-in enabled by the reconfiguration of social networks.
The reconfiguration of the landscape of social networks observed in the case endorses the viewpoint that the value of social networks can be maximized through connecting detached networks (Burt 1992; Nahapiet and Ghoshal 1998). More importantly, this study surfaces potential approaches to enable and organize the reconfiguration of social networks. Specifically, it suggests that this reconfiguration is linked to the achievement of intellectual and emotional buy-in. The discussion of the interrelationship between social networks and intellectual and emotional buy-in echoes the benefits of social networks proposed by Burt (1992). Moreover, it reveals a parallel line of argument that is critical but that is often not incorporated into the examination and understanding of technology implementation. Specifically, the fact that intellectual and emotional buy-in are mutually reinforcing suggests that technology implementation cannot be based simply on rational arguments that calculate economic value. More critically, technology implementation needs to be based on understanding the intertwining between rational, social and emotional dimensions.

Conclusion and Implications

This paper has explored the processes and dynamics underlying the implementation of ERP within a multinational engineering firm, and has suggested that intellectual and emotional buy-in serve as the foundation to enable the adoption and implementation processes. The discussion of intellectual buy-in suggests its theoretical similarities with some of the dominating paradigms found in the current technology adoption and implementation literature. The concept of emotional buy-in has depicted how stakeholders were transformed from merely understanding the value of technology to actively participating in the process of implementation and value creation. The achievement of emotional buy-in has pinpointed the need for aligning stakeholders for the creation of synergy. This synergy was enabled by the achievement of intellectual buy-in and derived from the reconfiguration of the social network landscape which lead to the linking of detached networks.

In addition to its theoretical contribution, this study has identified issues that are vital to practitioners. For organizations planning to adopt and implement ERP, it is critical to consider how intellectual buy-in can be achieved through creating enabling conditions and contexts, such as increasing potential stakeholder awareness. Moreover, the study highlights the importance of ensuring emotional buy-in. Thus, stakeholders do not only need to be intellectually convinced by the value of new technology. They also need to be actively involved in the implementation and value creation processes. This suggests that the significance of social networks and their configuration should not be underestimated.

In relation to the growing need for organizational revitalization and transformation through technology adoption and implementation, future research might usefully place emphasis on broadening our understanding of how different initiatives can influence the reconfiguration of the landscape of social networks. In particular, the adoption of ERP is aimed primarily at the integration of internal systems and business processes. Understanding how such process and system integration impacts on the integration of social networks would appear to be a valuable future line of enquiry.

Reference


