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Abstract:
Implementing an ERP system which has a broad scope and scale is a major change and business transformation event. In such cases, sound organizational governance - which ensures transparency and control of all organisational activities, appropriate levels of accountability, clearly identified decision making structures and attention to risks relating to organisational culture - is vital in ERP implementation. This paper contributes an analysis of the role of organizational governance in ERP-driven business transformation. Its importance is illustrated through an indepth interpretative study of a challenged ERP implementation in a large Australian service organisation.

KEYWORDS: governance, Enterprise Resource Planning implementation, Board of Directors, control structures, top management support, accountabilities.

INTRODUCTION
Sound governance of IT resources and IT projects is an important influence on the implementation of Enterprise Resources Planning (ERP) systems (Broadbent 2002; Patel 2002). IT governance ensures that an ERP system complements existing components of the IT infrastructures in order to achieve organisational goals. Project governance provides for accountable planning, control and monitoring of ERP implementation projects (Ewusi-Mensah 1997; Lyytinen & Hirschheim 1987). However, attention to IT and project governance is not sufficient to ensure that implementations of ERP systems provide their intended benefits. A third level of governance, organisational governance, is an increasingly important issue. High-profile corporate scandals such as Enron in the USA and HIH in Australia have reinforced the need to pay careful attention to organisational governance as a mechanism to ensure that the needs of governments and shareholder are met. This paper will focus on the role of organisational governance as a framework for ensuring internal accountability for all activities related to an ERP implementation within the organisation. At present, the role of organisational governance in the implementation of ERP systems is poorly understood.

ERP systems provide an integrated approach to data management that enables the organisation to manage data from diverse systems, sources and activities. Although ERP systems are often viewed as homogeneous, we suggest that implementations of ERP systems may vary according to their scale (number of organisational functions involved) and the scope (type of activities that are standardised). As a result, the organisational effects of implementing them vary widely. Some ERP implementations have limited scale and scope and so affect few organisational functions and automate routine activities. Other ERP implementations affect many or all organisational functions and standarise a range of previously diverse activities; this type of ERP system transforms the business. Such instances of ERP systems are not just IT projects that involve IT and project governance. Transformational ERP implementations are accompanied by profound changes to both internal activities and to the external profile of the organisation, and so raise the issue of organisational governance. This paper seeks to address the current gap in understanding and examine the influence of organisational governance on ERP implementations.

The paper is structured in the following way. Firstly, ERP systems are examined in relation to their role in transforming businesses rather than just automating functions. In the next section, organisational governance is reviewed and differentiated from both project and IT governance. Formal and informal governance constructs are examined and the role of organisational governance in providing a framework for cultural change is explored. Then the research method for the empirical work is described, followed by the findings. Analysis of an in-depth case study of a challenged ERP implementation in a large service organization in Australia
illustrates the importance of organisational governance when an ERP is used to transform the business. The paper concludes by highlighting the significance of this research for both research and practice.

**BUSINESS TRANSFORMING ERP SYSTEMS**

ERP systems are popular and widely implemented software application packages. Their popularity springs from claims that ERP systems deliver significant benefits to organisations. The availability of accurate and timely information is the basis for timely, strategic decision making (Rockart 1979; Shang & Seddon 2000; Vickers 2000; Willis, Willis-Brown & McMillan 2001). The implementation of standardised and generic 'best' work practices, procedures and reporting is the foundation for process improvement (Davenport 2000b; Glover 1999; Holland & Light 1999), as is the ability to capture organisationally specific tacit process knowledge in well-documented decision rules and information structures (Besson & Rowe 2001; Davenport 2000b). Finally, reduced costs are achieved through more efficient use of infrastructure (Shang & Seddon 2000).

In contrast to the claimed benefits of ERP systems are the documented difficulties in implementing these systems on time, within budget and with the required functionality (Davenport 2000, Hillman 2001, Parr, Shanks & Darke 1999, Willis, Willis-Brown & McMillan 2001, Zrimsek 2001). In addition, unintended and far-reaching organisational impacts have included unplanned financial commitment to system remediation or reimplementation; threats to core business and reporting activities and therefore to business continuity; loss of reputation; negative impacts on staff workload, morale and subsequent increased staff turnover and loss of organisational knowledge and expertise (Glover 1999; Keil & Montealegre 2000; Umble 2002).

One aspect that is likely to influence whether the claimed benefits of ERP systems are achieved is the type of ERP implementation. To date, examination of the type of ERP implementation has received less attention. This reflects the views of Orlikowski and Iacono (Orlikowski & Iacono 2001), who note that the nature of the IT artifact or system is taken for granted in much IS research. Implementations of ERP systems vary widely. Implementations that affect many of an organisation’s functions or units, standardise many activities and impact the strategic position of the organisation involve business transformation. Transformational ERP implementations may cause or support changes in organisational culture, business processes and ways of working and the skills and knowledge context of employees and managers (Davenport 2000b). ERP enabled standard practice may change the locus of control of activities, so that employees lose control over their work and become disempowered as the flexibility and creativity of their work is lost. The consequent shift in the balance of process-related power (Argyris, Putnam & McLain Smith 1985) within the transformed organisation will have an impact on organisational culture and hierarchy. We suggest that ERP implementations that involve business transformation require more careful attention to a range of issues, one of which is organisational governance.

**ORGANISATIONAL GOVERNANCE**

ERP system implementations are affected by governance at the project, IT and organisational level. Implementations with a tightly bound scale and scope may be successfully treated as IT projects. In such cases, attention to project and IT governance will be important influences on implementation success. Project governance involves control and monitoring structures to support the project and ensure project related accountabilities are met. These include attention to well-defined project objectives, limiting scope, establishing a realistic project schedule, a robust project methodology with sound project management and establishing clear roles and responsibilities for the project team (Jurison 1999; Keil & Cule 1998; Wiegers 1998). IT governance involves the organisation’s selection and deployment of information technologies and systems to support the achievement of organisational goals. It ensures that IT related risks are properly managed and that IT leadership, structures and processes are in place to give the organisation a competitive advantage in the marketplace (Parker, Benson & Trainor 1988). The third level, organisational governance, becomes important where the scale and scope of an implementation effect a full business transformation, as distinct from process automation.

Organisational governance provides the framework that supports an organisation in achieving its vision through systematic realisation of organisational goals. “How we define purpose, how we create structure, ... how we set goals and measure progress... these are the essential questions about organisational governance” (Block 1993). This governance framework is a suite of strategies, policies, performance measurements and controls, which guide, direct and align the work of the organisation towards achieving its goals. Traditional views of organisational governance build upon notions of control, consistency and predictability of practice, where control is based on clear lines of authority and strong leadership, consistency ensures common practice across the organisation and predictability is based on defined outcomes which can be measured (Block 1993). This provides clear mechanisms of accountability to external entities such as the legal system, government and shareholders. It also ensures that internal activities are accountable to those responsible for the organisation’s
governance. The two key groups who share responsibility for the establishment and operationalisation of sound organisational governance are the Board of Directors and the Senior Management team.

The Board of Directors has responsibility for business continuity, developing a shared sense of values within the organisation, safeguarding corporate knowledge and managing human capital (Aoki 2000; Schilling 2000; Tricker 1990). Ultimate responsibility for administration of the organisation and management of its resources rests with the Board of Directors (Shattock 2001). The Board of Directors delegates responsibility to the Senior Management team (Chief Executive Officer (CEO) and executives), who are responsible for achieving organisational targets, managing business activity and responding to various stakeholder needs (Sternberg 1996). It is the responsibility of the Senior Management team to design and operationalise governance mechanisms to ensure business viability and the optimal deployment of its human resource capital.

**Formal and informal governance**

Much of the focus of the governance literature is on formal structures. Senge (1999), for example, describes organisational governance as the formal structures and principles that lead to the achievement of the organisation’s goals and vision. Discussions of accountability focus on planning and implementing structures, processes and roles to establish an effective organisational governance system. However, it has long been recognised in the organisational literature that formal structures and processes are only one part of organisational operations. These are complemented by informal activities that reflect organisational politics, culture, personal relationships and leadership style (French & Bell 1999). The formal structures are documented and visible while informal activities may be covert and invisible (Senior 1997). The formal structures can be seen as the ‘skeleton’ of a governance system that need to be operationalised or ‘fleshed out’ in practice through activities that ground the principles of good governance in the organisation’s culture and politics and are reinforced by the actions of organisational leaders. One way of capturing the gap between the documented governance structures and informal ‘shadow’ activities can be described as the difference between our ‘Espoused Theory’ or ‘what we say we do’ and our ‘Theory-in-Use’ or ‘what we do’ (Argyris, Putnam & McLain Smith 1985). The gap between intentions and actions relating to governance is the difference between the documented governance structure and the ‘shadow’ governance activities that are enacted in everyday organisational life. This gap is identified in Figure 1.

![Figure 1: Espoused Theory (intentions, expressed as documented formal governance frameworks) and Theory in Use (shadow and informal governance constructs)](image)

A gap or misalignment between formal governance frameworks and more covert, informal authority relationships will result in poor or ineffective organisational governance. In order to achieve successful organisational governance, the formal authority structures and the informal governance constructs should be aligned, so that the formal structures become an accepted part of ‘doing things’ within the organisation and political or personal influence cannot be used to by-pass the formal checks and balances that support the governance structures.
Organisational governance and cultural change

ERP driven business transformation will change workflows, work procedures and practices and is likely also to impact organisational culture through shifts in the locus of control of work related activities. Organisational culture refers those patterns of behaviour, belief and shared meaning, which are supported by norms and rituals specific to an organisation (Morgan 1997). These cultural patterns are underpinned by the history of the organisation, the rewards and sanctions that exist, the nature of the work undertaken, and to some extent the nature of the industry sector in which the organisation operates. Organisational cultures are characterised by the degree to which individuals identify with their organisation and their group; the way in which groups operate together; whether individuals or groups self-regulate or are directly controlled and the level of organisational tolerance for conflict (Senior 1997). The very nature of a business transformational ERP system implementation will have a profound effect on how individuals and groups interact, how they support their client base and how management and employees relate to one another. Sound organisational governance is the mechanism for moving the organisation from where it is today, via the achievement of a series of strategic goals, to where it needs to be to achieve the vision of its leaders and staff (Block 1993). Organisational governance constructs and frameworks are important mechanisms to facilitate organisational change throughout the rollout of a high impact ERP.

In summary, good organisational governance, through control (leadership and clear lines of authority), consistency (common practice and alignment across functions) and predictability (defined outcomes to achieve goals) (Block 1993), recognises and manages risks associated business transformation through an ERP implementation.

RESEARCH METHODOLOGY

This research examines the influence of organisational governance on ERP implementations where the business is transformed as part of the implementation. This research is exploratory for three reasons:

- there has been little investigation of the role of organisational governance in ERP implementation
- to date, ERP systems have been treated as homogeneous rather than as diverse implementations that vary significantly in terms of scope and scale, and
- the gap between the formal and informal instantiations of organisational governance as an influence on ERP implementations is a new research topic.

Case study research is particularly well-suited for exploratory research (Cavaye 1996). It allows the development of deep understanding of one or a small number of instances that provide the foundation for further research to test or refine the findings. Case study research is appropriate for this research as there are unclear boundaries between the phenomenon of interest (an ERP implementation) and its context which is the organisation and wider environment in which the implementation occurs (Yin 2003).

A single case study was chosen in order to develop the required depth of understanding of the complexities of ERP implementations at project, IT and organisational levels. Depth was especially important given the two aspects of governance, the formal and informal. While access to the formal structures of organisational governance is relatively straightforward, the covert, undocumented nature of the informal activities suggested that long-term engagement with one organisation would be an effective research strategy.

The ERP implementation in a large Australian Service organisation was selected. The implementation was neither a clear success nor failure. Rather, it was a challenged implementation: one that ran over budget, is operational but not delivering full functionality (StandishGroup 1999). It should be noted that there were divergent opinions on the success of the project from within the organisation: one senior manager stated that “I have no direct first-hand experience of the system as failing – I know people are coping with the system. I hear the full spectrum of system success”. In contrast, a lower-level manager said: “I’d describe [the system] as a disaster, an absolute disaster.” Although well over cost and delivering reduced functionality, the challenged implementation is supporting business processes and maintaining business continuity, therefore from an organisational perspective, the system is not a total failure. However, the ERP implementation jeopardised business continuity through corrupted corporate data, inability to bill clients and inability to meet government statutory reporting requirements. Staff at the client interface experienced extremely high levels of stress. Staff turnover was high and so was the consequent cost of training and loss of corporate knowledge. Staff in the back-office worked overtime for many months to develop workarounds that would minimise negative impacts on clients.

The organisation had previously successfully implemented an ERP system that was limited in scale (it covered one business function) and scope (it automated routine business activities). The challenged implementation was much wider in scale (it affected the majority of business functions) and more radical in scope (a wide variety of
activities were standardised and workers had little flexibility to adapt business activities to suit exceptional situations).

The case study spanned a period of 4 years. Insights into all aspects of an ERP implementation were gained through longitudinal observation of people, processes and the ERP itself. A range of qualitative methods was used in the study and considerable effort went into triangulating findings using various sources of information. Direct observation of the interaction of the ERP project team with stakeholders, together with analysis of 18 in-depth, unstructured field interviews yielded a rich and complex set of data. Interviews were undertaken with stakeholders who span the hierarchy of the organisation including members of the project team, the organisation’s IT leaders, members of senior management and the Board of Directors as well as with the CEO and organisational stakeholders. Participative observation of ERP project steering committee meetings, top management meetings chaired by the CEO, current and future state business process events and formal stakeholder briefing sessions were also used to inform study conclusions. Another important source of data was the collection and review of a huge number of key internal and external documents. These included strategic plans and plan operationalisation documents, internal reports, external consultant reports, agendas, minutes and meeting notes from internal committees. In addition presentation materials from stakeholder briefing meetings, technical documents relating to the project, email information exchange and both internal and external auditor reports were reviewed in detail. An extensive review of external media references to the implementation was also undertaken over the four-year period.

The data were analysed using existing concepts relating to governance from the organisational and IS literature. Further themes and concepts were identified as part of the analysis process. The case study data provided a rich and detailed description of the operation of organisational governance and its influences on the challenged ERP implementation. In the following section, the findings from analysing the observations, interviews and document data relating to the ERP implementation are presented. These are complemented by key stakeholder suggestions to ensure sound governance at the organisational level for ERP implementations. All quotations (identified by italics) are taken directly from transcripts of taped interviews with stakeholders in the case study organisation.

FINDINGS

Findings relating to formal organisational governance hierarchies and frameworks and informal or shadow governance structures are presented in this section, together with an insight into organisational culture and governance.

Formal governance structures

The explicit support and control through leadership of top management and the Board is one aspect of organisational governance (Block 1993). Top management support is often cited as a critical success factor for ERP implementations where top management refers to executive level support (Ewusi-Mensah 1997; Jurison 1999; Parr, Shanks & Darke 1999; Sauer 1999; StandishGroup 1999). This may be indicated by “the level of commitment by senior management to the project in terms of their own involvement and willingness to allocate valuable organisational resources” (Holland & Light 1999) and to a willingness and ability to undertake the cultural, political and structural change which may be necessary for successful ERP system implementation (Sumner 1999). However, ‘top management support’ is not a binary concept but rather is a combination of different types of support, expressed in different ways over the period of the implementation. This is illustrated clearly in the case study. The CEO of the organisation clearly expressed support for the implementation: “The CEO was right behind the project”. However, it was noted by several participants that support needs to be expressed in tangible forms, such as making aims and expected objectives clear to both the project team and the wider organisation and then providing the necessary resources and control structures and frameworks to ensure that the project achieves the required organisational goals. It was noted that this did not occur. “The biggest role for the CEO is making sure that things are on track is to ask all the questions they need to ask and demand answers” and “Top management didn’t provide the sort of support to push successful process change through”. This participant observed “It’s not enough to paint a picture”. The word ‘govern’ is derived from earlier Latin and Greek roots ‘to guide, to steer, to rule and direct’ and organisational governance is the process of continually guiding, steering setting and adjusting the direction of an organisation (Senge 1999). This kind of governance was especially important given the degree of process and culture change that was involved in the case study implementation.

One consequence of good organisational governance is the creation of formal structures through which authority and responsibility are devolved and controlled. Serious shortcomings in the formal organisational governance structures had negative effects on the case study ERP implementation. Many of the participants noted that the Steering Committee interacting with the ERP project had no Terms of Reference; its decision powers and the rationale for allocating representation to the committee were all unclear. For committee members: “it needs to be known by everyone who is accountable and if you are not prepared to be accountable then you shouldn’t be
The importance of a ‘whole of project’ Charter which documents strong committee structures with pre-determined accountabilities, responsibilities, reporting lines and decision limits was stressed by several interviewees: this is important so that individual committee members understand their individual roles in ensuring that the implementation is a success. “It needs to be very clear whether a committee can make decisions, recommendations, what the information flows are (both formal and informal), why the representation on the committee exist, and people need to be accountable for their decisions”. “We often don’t know who is responsible or accountable for something”. The importance of the role of the Steering Committee was noted throughout the whole of the implementation, from initial planning through to the ‘go-live’ decision: “If the appropriate governance was in place, it would never have gone live”.

The need to validate governance controls with both internal and external checks and balances was raised in interviews. It was recommended that ERP project contracts, costs, and timelines should receive careful scrutiny from an appropriately qualified probity auditor. “It’s very hard to accurately cost an ERP implementation. They tend to take on a life of their own where things that people normally do in contract management, like really having a close look at the costs and risks, just go out the window and people are focused on the vision, on what the system can do for the organisation.” A strategy to commission a probity auditor, to undertake a discrete task to provide recommendations to the Board of Directors and senior management at key decision points, would provide an external check on the probity of decisions. In addition, the need to tender for an independent, external Quality Assurance function, which undertakes constant, ongoing review of planning and implementation and reports regularly to the board and executive team, was identified in interviews. It was recommended that this independent QA function report in parallel with regular project leader reporting.

Further, such a large, important and complex project really required a dedicated Steering Committee and a substantial commitment of time from Committee members, so that the project received the attention and monitoring that was necessary “rather than tack this business (the ERP project) onto the back of an already busy agenda”.

Informal Governance Structures

Creating the formal structures of organisational governance is not sufficient to ensure appropriate governance of ERP-related business transformation. Appropriate checks and balances must be implemented to monitor the effectiveness of these structures. In the case study organisation, even when the required formal governance constructs, structures and frameworks existed and were operationalised through a committee with a Chair and minutes, they were not effective because they had no authority. The power of a few individuals within governance frameworks overtly established (eg the Steering Committee) and their relationships with the CEO was much stronger than that of the Steering Committee members and Chair. The ‘actual’ authority and power relationships played out as a ‘shadow’ of the overt, documented governance framework. The ‘shadow’ governance framework was based on trust relationships between individuals in the project team and CEO and was shaped by the CEO’s confidence, or lack of confidence in individual members of the senior executive team.

In the case study organisation a wide gap between the documented governance constructs and ‘shadow’ framework was observed. We have suggested that this gap reflects the difference between our ‘Espoused Theory’ or ‘what we say we do’ and our ‘Theory-in-Use’ or ‘what we say we do’ (Argyris, Putnam & McLain Smith 1985). In the case study organisation one example of this gap between Espoused Theory and Theory-in-use is in the gap between stated and documented frameworks and actual governance constructs. The problem with a ‘shadow’ authority framework is that it is invisible, undocumented and completely unable to be controlled by any but the key authority figures involved. In the case study organisation, the formal governance structure was frequently bypassed and informal decision making structures flourished. One participant observed that: “There is a formal organisational chart which represents a hierarchy which doesn’t reflect reality”. An ongoing pattern existed whereby the Project leader circumvented his Steering Committee Chair and went straight to the CEO to overturn or pre-empt decisions of the committee.

Supporting Cultural Change

Instituting formal organisational governance is only effective if it is supported by strong leadership in shaping the organisational culture. In the case organisation, it appears that there was a powerful culture that stifled criticism of the ERP implementation. This culture was described variously as a “blame” or a “fear” culture and problems and concerns were not communicated because the person expressing dissenting views was seen to be too negative. One participant observed “The project lead was reporting the system was working and there was anger when individuals said they had problems.”

In addition, it was noted that the breadth of change meant that time should be spent examining ‘big picture’ issues such as alignment of the project with the organisation’s vision as well as the more detailed monitoring and control of implementation activities. Lack of a holistic view meant that lack of alignment was not observed
by those in leadership roles. “You have to be sure that the organisation is ready... You really have to be sure that it is the right moment in the organisation’s history to implement a new technology – otherwise wait until the organisation is in the right stage until you implement.”

The scope of this ERP system was very great. It involved shifting from a rule-breaking, flexible and individualist culture to a standardized, organisation-wide way of doing business. However, the required changes were not made clear to those in the organisation, nor was the rationale for this change communicated. One participant noted that there was no recognition that “everybody had to accept one rule for everything they did”.

The project team understood that the ERP system required standard practice but the rest of the organisation saw this as a threat to the flexibility of offerings to their clients. Participants had differing views about the appropriateness of the ERP system for their particular organisation: “There is a tension between being an innovative [organisation] that is cutting edge in doing things in different ways and being flexible – and doing things within the ERP framework....” Some people noted that the foundations of an ERP system contradict the existing organisational culture: “The application is rule-based and we never follow the rules as an organisation: overwriting the rules has always been the prerogative of individuals in the organisation.” There was no alignment between these opposing views and no process for mediating between them or shifting the workers’ expectations. In addition, top management failed to reward change or the new, desired behaviours. Traditionally, organisational rewards were based on difference or individuality which was contrary to the tenets underlying an ERP system: “There were conflicting signals from top management: focus on bringing consistency of practice but reward difference.”

The preparation for changing the culture prior to implementation had not occurred: “We were trying to adopt a system which would suit a ‘mass’ service provider when the organisation was really a ‘niche’ service provider.” The widespread fragmentation in the organisation and the lack of acceptance of the ERP implementation goals should have been addressed prior to the start of implementation. Good leadership, clear articulation of the vision for the organisation and implementation of control structures to achieve organisational goals, was not evident in the case study organisation.

CONCLUSION

This paper has employed an in-depth case study to investigate the influence of organisational governance on an ERP implementation. The scope of the new ERP system impacted most functions within the organisation. The scale of the system involved standardising a range of previously diverse and flexible processes. This ERP implementation transformed, rather than just automated, business process and organisational systems.

The paper focuses on formal and informal governance constructs and governance in relation to managing the risks associated with cultural change. The research described in this paper contributes in three ways to IS research and practice:

- it investigates organisational governance and its role in ERP-driven business transformation. It describes the ways in which organisational governance affected the implementation of a new ERP system in the case study organisation and suggests pitfalls to be avoided in such cases.

- it highlights the necessity of analysing the type of ERP implementation being studied. In this paper, ERP systems are differentiated according to their scale (number of organisational functions involved) and scope (type of activities that are standardised). The importance of the scale and scope of an ERP implementation, for governance is indicated and illustrated in the empirical work. The findings suggest that this is an area for future IS research.

- It demonstrates the importance of both formal, documented structures and informal, covert structures of organisational governance in ERP implementations. We argue that the formal and informal aspects of organisational governance should be aligned. Although inherently complex and difficult to achieve, this alignment can be facilitated through appropriate changes to the organisational culture, so that the formal governance structures become an everyday part of ‘doing things’ in the organisation.

In-depth research into business transforming ERP systems is vital because, although the original hype that surrounded these systems has been ameliorated by the difficulties relating to their implementation, their benefits are well documented (Davenport 2000a; Hillman 2001; Willis, Willis-Brown & McMillan 2001). However, the impacts of poor implementation are far reaching and may have serious financial and human consequences and even affect the ability of an organisation to carry out core business activities (Fitz-Gerald & Carroll 2003). Notoriously difficult to implement successfully on time and within budget, an ERP system implementation is a major investment for any organisation and, as such, should be the focus for both IS practitioners and researchers.
In this paper we have argued that attention to formal governance structures and recognition of the impact of both organisational culture and informal governance constructs are important factors in large scope and scale ERP implementations. Based on findings in an indepth case study, undertaken over a four year period, the value of strong organisational governance –through leadership, establishing formal governance structures and attention to the risks associated with organisational culture – cannot be underestimated in ERP system implementation. The lens of governance has been focused on a rich and extensive case study data set to highlight the role of organisational governance in ERP implementation.

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