The impact on ERP implementation by leadership and organisational culture: a case analysis

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Abstract: In this paper, we seek to investigate Ke and Wei’s (2008) propositions that ERP implementation success is positively related with top management leadership and organisational culture. This is accomplished by analysing the implementation of the ERP systems at a company, HealthSouth Corporation, longitudinally during two periods (1997 to 2003 and 2004 to 2007). During 1997 to 2003, leadership and culture in this organisation enabled accounting fraud to occur via the criminal misuse of a heavily-customised, unsupported ERP system. During 2004 to 2007, the leadership and culture enabled the company to avoid bankruptcy and a plain-vanilla (i.e., uncustomised) version of the ERP system was installed successfully. This paper provides valuable lessons to ERP practitioners on how ERP implementations are influenced by leadership, from the top management team, and organisational culture.

Keywords: case study; ERP implementation; leadership; organisational culture; HealthSouth.


Biographical notes: David M. Bourrie is a Doctoral student at Auburn University studying the Management of Information Technology and Innovation. He earned his Bachelor’s degree from Michigan State University. His current research interests are in the areas of innovation dissemination, information technology capabilities, health information systems, and how information technology can improve decision making and performance.
1 Introduction

Enterprise resource planning (ERP) systems have been shown to help companies cut costs, build strong capabilities, improve efficiency by integrating business processes and undertake better decision making by sharing common resources across the organisation (Jones et al., 2006; Majed and Abdullah, 2003; Zheng et al., 2000). ERP systems can also help improve the efficiency of management decisions and operation plans by increasing the flexibility to react to changes in business needs (Zheng et al., 2000). This is often done by integrating key business activities at all levels to achieve a competitive advantage (Al-Mudimigh et al., 2001; Davenport, 2000; Majed and Abdullah, 2003). Research studies have shown the failure rate of ERP projects is between 40% to 90% thereby indicating a need for research in this area (Barker and Frolick, 2003; Chen et al., 2009; Hong and Kim, 2002; Jafari et al., 2006; Legare, 2002; Scott and Vessey, 2002; Shi and Lu, 2009).

Many studies have looked at the key critical factors needed for successful ERP implementation (Nah and Delgado, 2006; Nah et al., 2001; Umble et al., 2003). Leadership has consistently been noted as the most important factor leading to ERP implementations success (Al-Mudimigh et al., 2001; Bingi et al., 1999; Parr and Shanks, 2000; Sarker and Lee, 2003; Umble et al., 2003). At the same time, organisational culture facilitates (or inhibits) the integration of individual learning with organisational learning by influencing the organisation’s ability to learn, share information, and make decisions (Kilman et al., 1986). After examining the concepts of leadership and organisational culture closely, Schein (2004) concludes that both are two sides of the same coin where neither can be really understood by itself. Ke and Wei (2008) theorised how leadership fosters the desired organisational culture needed for successful implementation of ERP systems. After a review of the literature, we could not find any articles or conference papers that related Ke and Wei’s (2008) theory to a real-world example.
In this paper, we seek to fill this void by investigating Ke and Wei’s (2008) propositions that ERP implementation success is positively related with top management leadership and organisational culture. This is accomplished by analysing the implementation of the ERP systems at a company, HealthSouth Corporation, longitudinally during two periods, 1997 to 2003 and 2004 to 2007.

This paper is organised as follows. In Section 2, we review the theoretical constructs of ERP implementation success, organisational culture and leadership and conclude that these concepts need to be integrated. In Section 3, we discuss the methodology used in this paper that is based on the theoretical model proposed by Ke and Wei (2008). In Section 4, we describe the HealthSouth case study and describe the ERP implementation process during the periods of 1997 to 2003 and 2004 to 2007. In Section 5, we analyse the case study and show how the ERP implementation was impacted by the leadership style and organisational culture during the two periods. In Section 6, we discuss the limitations of the research and discuss how the analysis might help the researchers and practitioners of ERP implementation process.

2 Literature review

2.1 ERP implementation success

Markus and Tanis (2000, p.176) defined ERP as “commercial software packages that enable the integration of transactions-oriented data and business processes throughout an organization.” An ERP system consists of a set of customisable and highly-integrative real-time business application software modules sharing a common database and supporting core business, production, and administrative functions such as logistics, manufacturing, sales, distribution, finance, human resources and accounting (Supramaniam and Kuppusamy, 2010). Enterprise systems provide a backbone of information, communication, and control for a company (Esteves and Pastor, 2000; Shehab et al., 2004).

A critical challenge in ERP implementation has to do with identifying gaps between the ERP generic functionality and the specific organisational requirement, and then deciding how these gaps will be handled (Hong and Kim, 2002; Soh et al., 2000). It has been found that, unique risks in ERP implementation arise due to tightly linked interdependencies of business processes, relational databases, and process reengineering (Wright and Wright, 2002). For the successful implementation of an ERP system, finding the proper organisational fit for the ERP system is important, because organisational misfit can require massive changes to the adopting organisation’s business processes, ERP systems, or both (Pereira, 1999). According to Markus et al. (2000), three main factors that can be held responsible for failure of an ERP system are: poor planning or poor management, changes in business goals during project, and lack of business management support. We review literature on the importance of management leadership on ERP implementation next.

2.2 Leadership

Armstrong and Sambamurthy (1999, pp.304–305) defined the top management team (TMT) as “the Chief Executive Officer (CEO), the Chief Operating Officer (COO), the
Chief Financial Officer (CFO) and other senior business executives responsible for key business or functional areas.” Hennessey (1998) found that leadership plays a major role in nurturing the appropriate organisational culture needed to implement reforms. The two components of leadership are transactional and transformational leadership. The transactional leadership process builds upon exchange, with the assumption that people are basically instrumental and calculative. Transactional leaders offer rewards (or threaten punishments) for the performance of desired behaviours and the completion of certain tasks (Bass and Avolio, 1997). This type of leadership may result in followers’ compliance, but rarely generates enthusiasm toward task objectives. Transformational leadership lies in the leader’s ability to inspire trust, loyalty, and admiration in followers, who then subordinate their individual interests to the interests of the group (Bass, 2000). Transformational leaders encourage individuals to question assumptions, take intelligent risks, and share their learning within and across departments (Vera and Crossan, 2004). Unlike transactional leadership, transformational leadership focuses on intangible qualities such as vision, shared values, and ideas in order to build relationships (Nguyen and Mohamed, 2011).

Table 1  Impact on ERP implementation by eight dimensions of the TMTs’ leadership style

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Influence on ERP implementation</th>
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<tr>
<td>Transform vision</td>
<td>• Leadership that views ERP as a key driver value proposition and by doing so views the ERP initiative as a critical organisational resource resulting in firm allocating slack resources to ERP projects (Armstrong and Sambamurthy, 1999).</td>
</tr>
<tr>
<td>Active advocacy</td>
<td>• Leadership advocate their vision and help followers understand the need for ERP adoption thus increasing followers’ compliance with this vision (Milgram, 1964; Rogers, 1995; Yulk, 1998).</td>
</tr>
<tr>
<td>Participation in learning sessions</td>
<td>• Leadership involved in ERP learning sessions to inspire individuals and groups to proactively participate in the project (Ke and Wei, 2008).</td>
</tr>
<tr>
<td>Citizenship behaviour</td>
<td>• Individual behaviour that is discretionary, not directly or explicitly recognised by formal reward systems, and that eventually promotes the effective functioning of the organisation (Organ, 1988).</td>
</tr>
<tr>
<td>Power sharing behaviour</td>
<td>• Leadership that sets a role model by delegating power to managers at lower levels (Ke and Wei, 2008).</td>
</tr>
<tr>
<td>Sharing and inquisitive behaviour</td>
<td>• Leadership that fosters intellectual stimulation among followers and sharing knowledge with employees (Ke and Wei, 2008).</td>
</tr>
<tr>
<td>Setting up a learning structure</td>
<td>• The institutionalised structural and procedural arrangements allowing organisations to systematically collect, analyse, store, disseminate, and use knowledge relevant to ERP assimilation. (i.e., setting up of ad hoc committees, special task forces and planning meetings) (Vera and Crossan, 2004)</td>
</tr>
<tr>
<td>Dispensing appropriate contingent rewards</td>
<td>• Leadership gives rewards that recognise continuous learning, risk taking, and collegial support and collaboration; they provide an atmosphere where correct behaviour is prized and serve as extrinsic motivation for desired behaviour (Amabile et al., 1996; Natter et al., 2001).</td>
</tr>
</tbody>
</table>

Source:  Adopted from Hurley and Hult (1998), and Ke and Wei (2008)
Ke and Wei (2008) proposed that ERP implementation was influenced by eight characteristics of the TMT’s leadership style: transform vision, active advocacy, participation in learning sessions, citizenship behaviour, power sharing behaviour, sharing and inquisitive behaviour, setting up a learning structure, and dispensing appropriate contingent rewards. Table 1 describes each of the eight dimensions of the TMT’s leadership style and how they influence ERP adoption. Schein (2004) stated that it is critical to analyse the organisational culture to determine how it facilitates ERP implementation.

2.3 Organisational culture

Prior research has shown that no clear consensus exists regarding the definition of organisational culture (Baumgartner, 2009; Jones et al., 2005; Wilson, 2001). Schein’s (1990) three-dimensional view of organisational culture consisting of assumptions, values, and artefacts has been adopted by many researchers. Assumptions are beliefs that are taken-for-granted about human nature and the organisational environment that reside deep below the surface. Values are the shared beliefs and rules that govern the attitudes and behaviours of employees, making some modes of conduct more socially and personally acceptable than others. Artefacts are defined as the more visible language, behaviours and material symbols that exist in an organisation.

Table 2 Impact on ERP implementation by six dimensions of the organisational culture

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Impact on ERP implementation</th>
</tr>
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<tbody>
<tr>
<td>Communication</td>
<td>• A culture in which cross-functional perspective sharing and comprehensive internal and external communication helps innovation (Ancona and Caldwell, 1992; Clark et al., 1987; Cohen and Levinthal, 1990; Imai et al., 1985).</td>
</tr>
<tr>
<td>Learning and development</td>
<td>• A culture that emphasises individual learning and development which will infuse the organisation with new ideas (Damanpour, 1991; Hurley, 1995; Katz and Tushman, 1981; Marquis, 1972; Thompson, 1965).</td>
</tr>
<tr>
<td>Participative decision making</td>
<td>• A culture that encourages employees to increase involvement and the commitment to innovate by participating in the firm’s decision making process thus increasing information flow and communication up and down (Damanpour, 1991; Kanter, 1983; Thompson, 1965).</td>
</tr>
<tr>
<td>Power sharing</td>
<td>• A culture that facilitates collaboration, the sharing of information and resources necessary for implementation by reducing the focus on turf, politics, and status (Kanter, 1983; Thompson, 1965; van de Ven, 1986).</td>
</tr>
<tr>
<td>Support and collaboration</td>
<td>• A culture that nurtures and encourages innovative ideas thus reducing fear and increasing openness to cooperate with others and be ready to offer help (Cummings, 1965; Pierce and Delbecq, 1977; Scott and Bruce, 1994; Waldman and Bass, 1991).</td>
</tr>
<tr>
<td>Tolerance for conflict and risk</td>
<td>• A culture in which the organisation accepts conflicts and risks to encourage and promote innovation (Amabile et al., 1996; Jaworski and Kohli, 1993; Kanter, 1983; Thompson, 1965).</td>
</tr>
</tbody>
</table>

Source: Adopted from Hurley and Hult (1998), and Ke and Wei (2008)
Hurley and Hult (1998) operationalised these three dimensions into eight cultural behaviours that must be valued and promoted inside an organisation in order to achieve innovativeness and the capacity to innovate-market focus, learning and development, status differential, participative decision making, support and collaboration, power sharing, communication and tolerance for conflict and risk taking. Ke and Wei (2008) grounded their theory by following Hurley and Hult’s cultural behaviours but eliminated market focus and status differential. The remaining six behaviours were renamed the dimensions of organisational culture-communication, learning and development, participative decision making, power sharing, support and collaboration, and tolerance for conflict and risk. Table 2 lists the six dimensions of organisational culture and how they impact ERP adoption.

3 Methodology by extending Ke and Wei’s (2008) Theoretical Framework

The literature review shows that there is paucity of real-world examples that show how ERP implementations are impacted by leadership from the TMT and organisational culture. We developed a framework (Figure 1) to study the links among the constructs of ERP implementation, leadership, and organisational culture based on Hurley and Hult (1998), Ke and Wei (2008), Sarker and Lee (2003), Somers and Nelson (2004), and Nah and Delgado (2006).

![Figure 1 Research framework](image-url)
We used a longitudinal case study analysis to look at the leadership and organisational culture that existed in a company during a period when the ERP system was customised to facilitate accounting fraud and another period when a vanilla ERP system was implemented to bring the company back from near-bankruptcy. The rational for a qualitative study was that an in-depth study of a particular corporation would provide deeper understanding of the impact of organisational culture and leadership on the ERP implementation process.

The unit of analysis was at the organisational group level, namely how the actions of the TMT affected the implementation of the ERP system by the Information Technology Group (ITG). All participants were selected according to the following criteria:

1. they worked at HealthSouth during the period of 1999 to 2003 and during 2004 to 2007
2. were a member of the TMT, ITG or part of a governance committee
3. had insight into how the organisational culture and leadership at HealthSouth affected the decision process involving ERP implementation.

Data collection occurred mainly through semi-structured interviews that were made over a period of 27 months, starting in February 2009 and ending in April 2011. There were a total of six interviews with five individuals for a total of 20 hours. After the initial meeting, semi-structured interviews were conducted at HealthSouth’s corporate offices. Each of the interviews lasted at least an hour, and was recorded with permission. Notes on each interview were written up using an activity log and interviews were transcribed from digital audio files as soon as possible. Analysis was manual since the number of interview transcriptions was rather low and this allowed us to stay closely connected to the data. Codes used in analysis were based on the constructs defined by Ke and Wei (2008). For those individuals who were interviewed twice, the second interview was always held after analysing the data obtained from the first interview. Cross-verifications were done and when apparent contradictions emerged, further clarification was obtained either by telephone or email. Two of the executives came to class to discuss the case study when it was presented to students.

4 HealthSouth case study

We first present a brief background on HealthSouth Corporation. Then we present how an ERP implementation was customised during 1997 to 2003 to facilitate accounting fraud and near collapse of the company. We then discuss how during 2004 to 2007, HealthSouth Corporation successfully implemented a plain vanilla ERP system to facilitate a growing and thriving company. Then we discuss how the systems created at HealthSouth are still being used five years after the ERP implementation leading to new innovative projects.

4.1 Brief background

HealthSouth Corporation based in Birmingham, Alabama, was founded in 1984 by Richard M. Scrushy. HealthSouth is one of the nation’s largest providers of inpatient rehabilitative healthcare services. HealthSouth serves patients through a network of
inpatient rehabilitation hospitals, long-term acute care hospitals, outpatient rehabilitation satellite clinics and home health agencies. HealthSouth’s hospitals provide a higher level of rehabilitative care to patients who are recovering from conditions such as stroke and other neurological disorders, orthopaedic, cardiac and pulmonary conditions, brain and spinal cord injury, and amputations. At its peak in 2003, corporate revenue was nearly $4.5 billion employing more than 60,000 people at 2,000 facilities in every state in the USA along with facilities in Australia, Canada, Puerto Rico, Saudi Arabia and the UK. In 2010, HealthSouth recorded nearly $2.0 billion in revenue, with 23,000 employees operating in 26 states across the country and in Puerto Rico.

4.2 Implementation of a customised, unsupported ERP system to facilitate accounting fraud by leadership team: the events of 1997 to 2003

In 1997, HealthSouth completed an upgrade from PeopleSoft version 5.0 to version 6.0 through the use of two outside consulting companies. The PeopleSoft ERP system version 6.0 managing the financial, human resources and payroll functions was customised from the original off-the-shelf (‘vanilla’) product that was purchased from PeopleSoft back in 1995. The manager of the ERP system noted that:

Back in 1997… the consultants that were here at the time decided to start their own company so then we started dealing with a separate entity… that created some issues and we did not get good documentation of the system. We had customizations in our systems that were not documented very well.

The lack of documentation and the amount of customisation performed on the ERP system led designers to not install software patches or upgrades due to lack of knowledge as to how the changes would affect the functionality of the system or the quality of the information. Eventually, the ERP system and Oracle database were outdated and no longer supported. Kenneth Livesay was promoted to CIO at HealthSouth in 1999, after working as the Assistant Controller in the accounting department (United States of America v. Kenneth K. Livesay: Appeal from the United States District Court for the Northern District of Alabama, 2008). ITG had approached HealthSouth’s executives about the need to upgrade the ERP system and had money in the budget for this implementation but were not allowed to move forward because of the resistance of the TMT. On July 30, 2002, the Sarbanes-Oxley Act (SOX) was passed by the United States Congress as a response to the corporate and accounting scandals that had taken place at Enron, Tyco International and WorldCom. This legislation required more stringent accounting practices and personally held the chief executives and accountants responsible for accuracy and completeness of corporate financial reports and took effect on January 30, 2003. With PeopleSoft version 6.0 being outdated and not being able to support updates, important changes to the ERP system could not allow this system to be in compliance with SOX.

Ernest & Young LLP accountants audited HealthSouth Corp.’s 2002 financial statements using a ‘risk-based audit’ approach. This audit approach performed far fewer tests on the financial numbers than a company that was perceived to have a higher risk of accounting fraud. One of the items not checked at all by Ernst & Young auditors was additions of less than $5,000 to individual assets on the company’s ledger. In the 2002 audit planning papers, Ernst & Young wrote that HealthSouth’s system for generating
financial data was reliable, the company’s executives were ethical, and that HealthSouth’s management had “designed an environment for success” (Weil, 2004).

On March 18, 2003, the FBI raided the corporate headquarters of HealthSouth Corporation in Birmingham, Alabama. The following day the Securities and Exchange Commission (SEC) filed charges and the investigation showed that HealthSouth Corporation had overstated its earnings by $1.4 billion which represented more than 10% of the company’s total assets. This was landmark investigation because this was the first time that SOX was being used to enforce the accuracy and completeness of corporate financial records. Five executives (Kenneth Livesay, Chief Information Officer; Rebecca Kay Morgan, group Vice President, accounting; Cathy Edwards, Vice President, asset management; Angela Ayers, Vice President, finance and accounting; and Virginia Valentine, Assistant Vice President, finance and accounting) admitted they conspired to commit wire fraud, security fraud and filing false records (Katz, 2003). Three additional finance executives (William Owens and Weston Smith, who had both been CFOs, and Emery Harris, assistant controller) pleaded guilty to fraud charges (Katz, 2003). Court documents show that four finance executives got involved in the conspiracy in 1994 and the CIO became the fifth person involved when he joined the group in 1996 (Anonymous, 2004; Katz, 2003).

One former CFO testified that part of this was done by entering fraudulent or inaccurate information into the existing ERP system, PeopleSoft version 6.0. The majority of the fraud occurred in the ‘contractual adjustments’ account which is where on the income statement an allowance is placed for the difference between the gross amount charged to a patient and the actual amount that insurers will pay for treatment (Weil, 2004). In an April 2003 court hearing, an Ernest & Young auditor acknowledged that the audit only looked for sharp fluctuations on contractual adjustments and not increases of less than $5,000 (Weil, 2004). The company’s ledger also showed everyday expenses reclassified as assets for example, gasoline and auto-service bills (Weil, 2004). The executives conveniently did not let the PeopleSoft version 6.0 system be updated thereby allowing fraudulent entries in the ERP system since this version was outdated and not able to support changes mandated by SOX. By the end of 2003, the company was able to avoid Chapter 11 bankruptcy with the help of Alvarez and Marsal, a restructuring firm, and interim CEO Robert P. May.

4.3 Implementation of vanilla version of PeopleSoft version 9.0 during 2004 to 2007

On May 10, 2004, Jay Grinney was chosen by the board of directors as HealthSouth’s CEO. On September 20, 2004, John L. Workman became the CFO and Executive Vice President. At this time, the remaining members of an entirely new senior management team were formed and the company then set into action a plan to move forward with its goal of becoming relisted on the New York stock exchange by the SEC. The first item of business was restatements of all of the financials from 1999 to 2003. Between 200 to 300 financial consultants, costing over $400 million, were involved in restating all of the financial statements over nearly the next two and a half years.

During 2004, the new leadership of the company finally gave ITG the approval to purchase a new ERP system. PeopleSoft was in the process of being taken over by Oracle during the second half of 2004.
During December 2004, HealthSouth took advantage of the merger and was able to purchase PeopleSoft Financials version 8.4, PeopleSoft Human Resource version 8.8, 40 other modules and training at deeply discounted rates. Unfortunately, due to the financial restatement that was taking place, ITG was not allowed to begin the process of installing until the start of 2007 due to a lack of resources. Due to this delay, HealthSouth decided to implement the latest edition of Oracle PeopleSoft version 9.0 rather than have to upgrade the system shortly after implementing the versions purchased in 2004.

On May 15, 2006, the company completed the restatement process and filed its first quarter 2006 financial results with the SEC. This was the first time the company had been able to file SEC paperwork since the scandal was announced in March of 2003. On August 16, 2006, the company unveiled its restructuring plan that would sell or spin off the surgery, outpatient and diagnostic divisions, along with a 1-for-5 reverse stock split. HealthSouth Corporation was once again listed on the New Your Stock Exchange under the symbol HLS on October 26, 2006.

On January 30, 2007, at a kick-off meeting, the CFO relayed the company’s high-level objectives for installing a new ERP system by the start of 2008:

- replace the current highly customised PeopleSoft Financials 6.0 applications
- deploy general ledger, asset management, and accounts payable by 01/01/2008
- implement vanilla with no customisations
- implement on schedule and within budget.

Implementation of the PeopleSoft Financials 9.0 upgrade project was critical to the future success and stability of the company. This ERP implementation was successful by being on schedule and within budget.

4.4 Current use of ERP systems at HealthSouth

Starting in the first quarter of 2011, the ERP system was in the process of upgrading to PeopleSoft version 9.1 using the systems put in place in 2007. The SharePoint server is still in use and has become the hub for project management projects in the company. The ERP Steering Committee continues to meet once a month and now includes the areas of accounting, finance, human resources, payroll, supply chain, tax, and treasury. These processes and systems that were created for the ERP system have now been adopted in ITG for all current innovative projects that are being used at HealthSouth including business analytics, business intelligence efforts, and clinical system implementations such as Electronic Medical Records.

5 Analysis

The case study narrative is analysed using leadership style (Table 3) and organisational culture (Table 4) dimensions during the periods, 1997 to 2003 and 2004 to 2007 in this section.
Table 3  Impact on ERP implementation by HealthSouth’s leadership style

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<tbody>
<tr>
<td>Transform vision</td>
<td>ITG showed a transactional leadership vision processing requests as they were received.</td>
<td>The new CFO became the catalyst for the transition of the executive team becoming transformative leaders by focused on leveraging individual’s strengths and managing the right people for the work.</td>
</tr>
<tr>
<td>Active advocacy</td>
<td>Did not exist with the executive level against upgrading the ERP system and viewed ERP as a cost centre.</td>
<td>Was shown at the January 30, 2007 kick-off meeting by the CFO relaying the company’s objectives for the ERP project and CEO’s town hall meetings.</td>
</tr>
<tr>
<td>Participation in learning sessions</td>
<td>No participative learning sessions existed during this time.</td>
<td>The CFO was visible during the installation of the new ERP system and the CIO was a member of the ERP Steering Committee.</td>
</tr>
<tr>
<td>Citizenship behaviour</td>
<td>Not promoted with the executives setting up an unethical role model by allowing earnings to be overstated by $1.4 billion.</td>
<td>Moved ITG into one facility rather than being in multiple locations which improved camaraderie.</td>
</tr>
<tr>
<td>Power sharing behaviour</td>
<td>Power was not delegated to ITG to update the ERP system to newer versions. Also the CIO was not a member of the executive level of the company.</td>
<td>Shown by the ERP Steering Committee that acted on any requested changes to the ERP system.</td>
</tr>
<tr>
<td>Sharing and inquisitive behaviour</td>
<td>Intellectual stimulation was not fostered by the top management team toward members of ITG. A knowledge sharing system for project management did not exist.</td>
<td>The SharePoint site served as a repository of all documents pertaining to the reimplementation project. The Scope Change Request (SCR) process allowed users to request that changes take place to the ERP system that would be entered into the SharePoint server.</td>
</tr>
<tr>
<td>Setting up a learning structure</td>
<td>Learning structures did not exist at ITG and were not promoted by the top management team.</td>
<td>SharePoint was used as the centralised collaboration tool for the reimplementation project, project management and all company committees.</td>
</tr>
<tr>
<td>Dispensing appropriate contingent rewards</td>
<td>Ethical behaviour was not prized with financial information being falsified.</td>
<td>Incentives are now tied to salary and job performance if technical certifications and training are obtained.</td>
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Table 4  Impact on ERP implementation by HealthSouth’s organisational culture

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<tr>
<td>Culture of communication</td>
<td>HealthSouth had no formal process to share information with the organisation other than e-mail. Documents were not stored in one central location.</td>
<td>The SharePoint site became the one stop shop for all project management and committee information and anyone with access could retrieve information on demand. Several departments have also instituted portals for department information.</td>
</tr>
<tr>
<td>Culture of learning and development</td>
<td>Individual learning was not valued and ITG’s budget did not include training. Consultants were hired to fill needed skill sets rather than train individuals.</td>
<td>Training budgets were instituted that allowed tuition reimbursement, paid certifications, and management development training.</td>
</tr>
<tr>
<td>Culture of participative decision making</td>
<td>Did not exist with employees not being valued in the firm’s decision making process.</td>
<td>Creation of the SharePoint site and ERP Steering Committee allowed more individuals in the company to participate in the ERP installation besides only the top management team and ITG. Yearly companywide employee surveys were implemented and suggestions have been implemented from feedback on the surveys.</td>
</tr>
<tr>
<td>Culture of power sharing</td>
<td>The CIO was not able to upgrade the ERP system because of the unwillingness to share power and fear that the account fraud would be uncovered.</td>
<td>Creation of the ERP governance Committee and formal project management allowed the top management to share the power of customisation with the business users.</td>
</tr>
<tr>
<td>Culture of support and collaboration</td>
<td>Lack of oversight that allowed anyone to adjust the ERP system as long as a request existed. This allowed the system to be manipulated possibly causing financial records to be no longer accurate.</td>
<td>Creation of the SharePoint site and ERP Steering Committee allowed employees in other area of the company to have up to date information regarding the ERP implementation process and became the one stop location for this and other projects and committees. In addition, all members of ITG moved into one facility at the corporate office rather than in multiple locations.</td>
</tr>
<tr>
<td>Culture of tolerance for conflicts and risk</td>
<td>A lack of corporate governance that included unethical reporting of accounting information and resistance to upgrading PeopleSoft after ITG knew that the system could not be properly supported by Oracle or PeopleSoft.</td>
<td>CEO showed support for the ERP vanilla implementation at the kick-off of the project and placed the CFO as the project champion. The new CIO and ITG were able to make decisions without needing approval for spending to upgrading systems or try new innovations.</td>
</tr>
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5.1 Analysis of leadership dimensions during the period of 1997 to 2003

An analysis of the leadership behaviour during 1997 to 2003 among the eight dimensions (Table 3) shows that the ITG management team was composed of transactional leaders. In such an environment, ITG assumed that business users requesting changes to the ERP system knew what changes needed to be made and trusted that they were being asked to do the right things for the company. One member of the ITG group commented:

We had users that felt quite free to submit a change to the system and we would do whatever the user asked us to do, so there was no governance process in place. If a department called and said I need you to make a change in the accounts payable system, we programmed that change and put it out there.

Minimal controls were in place with no checks and balances to protect the integrity of data in the system. The ERP system was not looked at as a critical organisational resource but rather as part of ITG. Active advocacy possibly did not exist with executives resisting upgrades to a newer version of the ERP system so that faults in the ERP system would not be exposed. One of the ITG employees described his/her frustration:

We let them (CFO, CEO, and General Accounting) know you have an outdated system that is unsupported and so if we ever have a problem that we cannot fix, we can’t go to Oracle. It is a catastrophe that we have to live with.

The executive leadership was not involved in learning sessions since none were scheduled. Citizenship behaviour was not promoted by executives because top management was not setting a proper role model by allowing earnings to be overstated by $1.4 billion. Power sharing did not exist since the CIO position was not created until 1999 and this person did not have the power to install updates to the ERP system. Sharing and inquisitive behaviour did not exist with minimal communication and no systems to foster project management and transparency. Learning structures also did not exist since no governance committees were used and email was the only method of communication for sharing knowledge. Contingent rewards were only given to the top levels of management and the lack of ethical behaviour was rewarded with bonuses and overstated financials that resulted with increased stock values on stock options that were issued by the corporation.

5.2 Analysis of leadership dimensions during the period of 2004 to 2007

An analysis of the leadership behaviour during 2004 to 2007 among the different dimensions (Table 3) shows how the leadership of the TMT changed at HealthSouth. In 2004, the executive team started the process of moving away from being transactional leaders and moving toward transformational leaders with the new CEO having town hall meetings and consolidating many levels of management. In 2006, the CFO promoted Randy Carpenter from interim CIO to the CIO position, making the head of ITG a part of the executive team for the first time in company history. With this promotion the CFO gave ITG the support it needed to look into the process for re-implementing or upgrading the PeopleSoft Financials system. Active advocacy was shown at the January 30, 2007, “kick-off” meeting by the CFO. Citizenship and power sharing behaviour were shown with the creation of an ERP Implementation Steering Committee. The Steering Committee was used to make sure that requested changes to the software did not take the software in a direction that was contrary to the mission of the upgrade project. The
Steering Committee members included the VP of Accounting, VP of Finance, VP of Tax, VP of internal audit, the CIO and the VP or IT. This group met every other week evaluating requested changes to the software to ensure that the integrity of the software and its functionality were preserved. A Scope Change Request (SCR) process was created to meet the needs of those users who wanted changes to the ERP system. The originator of the request entered the request on a SharePoint server using a SCR Form. The process was systematic and organised so that each request had to go through the same procedure.

The governance committee makes a work of difference, the user cannot get everything they want and we are not in a position to have to tell them no… somebody else is looking at this first and making a determination does it make sense and then it comes to us and we will give them the impact of this request they are submitting because this will require effort including the number of hours it will take to accomplish this request and this gives people a chance to talk about this request and see if some better way exists to accommodate this request without committing resources.

Priority of the change as well as budgetary information about the change was also required. This resulted in a sharing of ideas and accomplishments, and the setting up of a learning structure with the implementation of a Microsoft SharePoint site that served as a repository of all documents pertaining to the reimplementation project. SharePoint is a software package from Microsoft Corporation that allows for project management from a centralised server that can be accessed companywide through the web or internal network. The features of the SharePoint site included knowledge management, document storage, and a message board, among others. The project manager described SharePoint as:

The central module was essentially a phone book and a list of roles and responsibilities so if an individual needed to know who was responsible for a specific portion of the project, that individual could retrieve that information from the SharePoint site. The site also included photographs of all the external contractors so people knew who they were.

All personnel were able to quickly and efficiently track down any change requests, management hierarchy diagrams, presentation outlines, or system design documents. SharePoint also became a hub of contact within the organisation. Because they were working with ‘implementation partners’ (outside consultants), it was occasionally difficult to find who was in charge of what issues. SharePoint alleviated confusion by keeping an up-to-date directory of all individuals involved in the installation of PeopleSoft version 9.0. HealthSouth used SharePoint as the centralised collaboration tool for this project by keeping a record of all mass messaging, meeting agendas and presentation slides in case people needed to be reminded of what was said in a meeting. It was also used to hold people accountable for actions/tasks and was clearly critical to the success of the project.

5.3 Analysis of organisational culture dimensions during the period of 1997 to 2003

An analysis of the organisational culture during 1997 to 2003 among the different dimensions (Table 4) showed that, learning and development did not exist in ITG since no budget for training existed and if technical skills were needed that did not exist in the
company, consultants were hired that had these skills and then attempts would be made to convert these consultants into HealthSouth employees. This is how the IT department grew from five to 300 employees during this time. Participative decision making was not prevalent since employees did not participate in the decision making process and innovation was not valued inside ITG. Power sharing did not exist between ITG and the Executive team with the CIO not being able to install upgrades to the system. One such example involved the installation of Oracle Financials:

Senior management was against any type of upgrades to the ERP system because of the view that IT was a cost centre (a necessary expense)… we attempted to install Oracle Financials and Oracle was kicked out when they wanted to change the chart of accounts and implement a new asset management system.

Support and collaboration did exist between the TMT and ITG. During this time anyone in ITG was allowed to make changes to the ERP systems as long as a request existed. If a systems of checks and balances or oversight had existed the falsification of earnings statements might have been prevented. HealthSouth also did not have a culture that was tolerant of conflict and risk, with executives resisting upgrades to newer versions of PeopleSoft. A lack of corporate governance existed with unethical reporting of accounting information. ITG knew the ERP system could not be properly supported by Oracle or PeopleSoft yet the executives resisted upgrading to a newer version of PeopleSoft. The absence of cultures of support and collaboration, and cultures of tolerance for conflicts and risk led to the ERP system not being able to receive updates and software patches from PeopleSoft. The culture of communication existed only in the form of an e-mail system for the organisation. No central repository for information was available that allowed the sharing of information on a demand basis during this time. These led to upkeep stagnation and vulnerabilities to the integrity of the ERP system from the installation in 1997 through 2003.

5.4 Analysis of organisational culture dimensions during the period of 2004 to 2007

An analysis of the organisational culture during 2004 to 2007 among the different dimensions (Table 4) shows the many changes that had taken place since 2003. The dimension of learning and development changed dramatically as noted by the Vice President of Corporate Systems:

HealthSouth now has training budgets for tuition reimbursement and certification programmes and if you pass the test HealthSouth pays for the training. We also promote sending individuals to management development training and have incentive tied to salary and job performance if you obtain technical certifications.

The dimension of communication, participative decision making, power sharing and support and collaboration were started with the Microsoft SharePoint site, ERP Steering Committees, yearly surveys and moving all of ITG into one facility. The TMT showed that a culture of tolerance for conflict and risk existed with the CEO supporting and the CFO being the project champion of the reimplementation or upgrade of the PeopleSoft Financials 6.0 system.
6 Limitations and implications for practitioners and researchers of ERP implementation processes

6.1 Limitations

This study does have several limitations. First of all, we were not familiar with the characteristics of individuals within ITG who interacted with leaders and this might have influenced the results. Second, this study is limited to the study of organisational culture in a company located in Alabama. The effectiveness of TMTs being able to influence organisational culture may be different in other parts of the country, world or in different economic environments. Further research should look at how cultural differences impact the TMT’s ability to manipulate organisational culture. Third, this study took place in only one business sector. The examples and situations that are relevant in the healthcare sector may not cross over to other business sectors such as manufacturing or entertainment. More research needs to focus on industry specific influences that effect top management’s ability to influence organisational culture. Future research could develop a model based on this case study and test it with empirical data. Future survey research should be conducted that allows data to be collected from many different organisations to extend the understanding of the relationship among leadership, organisational culture and ERP implementation success. Finally, this study was also limited by the number of people who were interviewed.

6.2 Implications for practitioners and researchers of ERP implementation processes

The work presented in this paper offers several findings of interest to researchers and practitioners of ERP implementation process. From the perspective of theoretical advancement, this case study investigates propositions created by Ke and Wei that show the impact of leadership and organisational cultures on ERP success using a real-world case study. This case study provides examples on how the dimension of leadership and organisational culture at HealthSouth impacted ERP implementations in both positive and negative ways. Overall, it shows support for Ke and Wei’s (2008) propositions and provides a means of documenting the impact of executive leadership and organisational culture on ERP implementation process.

From a practitioner standpoint, this study provides examples as to how the decisions made by the TMT can influence ERP implementation success. Implementation of a ‘vanilla’ system was preferred in the second period to a customised installation because a vanilla system allowed upgrades and patches to be installed into the ERP without risk of the system not working properly because of all the customisation. If any customisation needed to take place to the ERP system, a steering committee or governance group looked at each proposed item and evaluated the importance of the customisation. This strategy is used by other companies such as Kennametal that reported that 6,400 customisations on its ERP system led to a $10 million expense on maintaining of the system over 13 years. This company and others are beginning to implement vanilla implementations of ERP systems and changing the company’s business processes thereby saving substantial amount of funds (Johnson, 2009). Another strategy used by HealthSouth was the use of SharePoint for its project management team during the
second period. This strategy could be used by other corporations and might lead to ERP implementation success.

The HealthSouth case provides examples of how leadership can facilitate or hinder organisational changes that in the long run impact the ability of ERP implementations to benefit or hurt the company’s performance. It shows that IT practitioners need to be aware that TMTs may manipulate the ERP implementations to serve their purposes and the need to question the motivations when top management does not want ERP systems to be upgraded. The lessons learned from this case can be useful to researchers and practitioners of ERP implementation processes.

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References


The impact on ERP implementation by leadership and organisational culture


