

2016

Organizational & knowledge challenges faced during an ERP implementation: The case of a large public sector organization

Anjali Ramburn Gopaul

University of Cape Town, hiranjali.ramburn-gopaul@uct.ac.za

Gwamaka Mwalemba

University of Cape Town, gt.mwalemba@uct.ac.za

Lisa Seymour

University of Cape Town, lisa.seymour@uct.ac.za

Follow this and additional works at: <http://aisel.aisnet.org/confirm2016>

Recommended Citation

Gopaul, Anjali Ramburn; Mwalemba, Gwamaka; and Seymour, Lisa, "Organizational & knowledge challenges faced during an ERP implementation: The case of a large public sector organization" (2016). *CONF-IRM 2016 Proceedings*. 29.
<http://aisel.aisnet.org/confirm2016/29>

This material is brought to you by the International Conference on Information Resources Management (CONF-IRM) at AIS Electronic Library (AISEL). It has been accepted for inclusion in CONF-IRM 2016 Proceedings by an authorized administrator of AIS Electronic Library (AISEL). For more information, please contact elibrary@aisnet.org.

51. Organizational & knowledge challenges faced during an ERP implementation: The case of a large public sector organization

Anjali Ramburn Gopaul
University of Cape Town
hيرانjali.ramburn-gopaul@uct.ac.za

Gwamaka Mwalemba
University of Cape Town
gt.mwalemba@uct.ac.za

Lisa Seymour
University of Cape Town
Lisa.Seymour@uct.ac.za

Abstract

Many large organizations are now dependent on Enterprise Resource Planning (ERP) systems for their daily operations. ERP systems allow enterprises to integrate various processes across different functional areas in an attempt to increase productivity, efficiency and to sustain their competitive edge. However, despite the various positive outcomes of adopting ERP systems, the implementation process poses a number of challenges for organizations. The implementation process is described as costly, complex and risky whereby firms have not able to derive benefits from the systems despite huge investments. This research reports on the case of a failed ERP implementation in a large South African organization and looks into the organizational and knowledge challenges that contributed to the failure of the ERP system. While ERP implementations within large organizations have been well researched, there has been relatively fewer studies focusing on the organizational and knowledge challenges faced by organizations. The study seeks to close the identified gap, hence contributing to the existing body of knowledge.

Keywords

Organizational & Knowledge Challenges, ERP Implementation, Public Sector, Large Organization

1. Introduction

Enterprise Resource Planning (ERP) systems are, generally, characterized by their complexity and wide footprint in the enterprise with regards to scope. Consequently, implementing an ERP system is seen as a multifaceted project which exposes organizations to numerous challenges owing to the complexity involved (Kumar, Maheshwari, & Kumar, 2003) and, as a result, giving rise to a high failure rate on the whole (Chen, Law, & Yang, 2009; Kumar et al., 2003; Kwahk & Lee, 2008; Momoh, Roy, & Shehab, 2010). Half of all ERP implementations fail to meet the adopting organizations' expectations (Jasperson, Carter & Zmud, 2005). This has been attributed

to the disruptive and threatening nature of ERP implementations (Zorn, 2002). With an ERP introduction, comes the requirement of adapting work practices to the global processes inherent in the ERP system. This requires the organization to undergo a major transformation; users have to come to terms with the organizational changes, new ways of work and unlearn previous practices (Robey, Ross & Boudreau, 2002). This process however can be less challenging and more effective through proper use of knowledge management (KM) throughout the ERP lifecycle phases. However, there has been very little work conducted to date that assesses the knowledge challenges organizations face during an ERP implementation (Parry & Graves, 2008; Sedera, Gable & Chan, 2004). There has also been a growing concern on the organizational challenges impacting the implementation process, yet research pertaining to this area is limited (McAdam & Galloway, 2005; Sarker & Lee, 2003). This paper therefore seeks to explore the organizational and knowledge challenges faced by organizations during the ERP implementation process.

2. Overview of ERP Systems

Enterprise Resource Planning (ERP) systems include a set of software products which are mostly targeted to support day to day operations, decision making and automation, streamlining and improvement of processes in organizations (Sedera et.al, 2004). ERP systems are characterized as large, complex, multifunctional, modular and generic systems which support the key functional areas of an enterprise (Rana & Abdullah, 2011). ERP systems were originally designed to support the business processes of organizations “in a way that was perceived as best practice” from the point of view of the ERP system vendor (Gotze, 2009), hence accounting for the standardized nature of these systems. Nevertheless, in most cases, there seems to be a misfit between the functionalities delivered by the vendor and the requirements of the end customer. For this reason, most enterprises are required to customize their ERP packages to align their specific business needs to the capabilities of the systems, in an attempt to achieve optimum business value. This process however poses a number of challenges to organizations, leading to high implementation costs, big investments and risky projects. The subsequent section reports on the ERP implementation challenges.

2.1 ERP Implementation Challenges

Some of the discussed implementation challenges faced by organizations as per the literature include change management, project management, knowledge management concerns, resource and technical constraints (Kamhawi, 2008). Yusuf et al. (2004) classifies the implementation challenges into three main categories namely; business, technical and cultural challenges.

Studies conducted by Kumar et al., 2003; Markus, Axline, Petrie, & Tanis, 2000 have attempted to identify the different implementation challenges which organizations may encounter at different stages of the implementation lifecycle (Kumar et al., 2003; Markus, Axline, Petrie, & Tanis, 2000). Both studies use the ERP experience lifecycle model to uncover the common problems. While Kumar et al. (2003) focus on the project and shakedown phase, Markus et al. (2000) classify the issues along the chartering, project, shakedown and onward and upward phases. Common difficulties encountered by organizations in the chartering phase include failure to link the technology to the business strategy, poorly defined project metrics, poor understanding of organizational requirements and poor change management. In the project phase, organization may experience staffing problems, poor knowledge transfer from consultants

and vendors, poor quality of documentation and configuration errors while the challenges experienced in the shakedown phase include bug fixing, data inconsistency, slow system performance and failure to resume to optimal performance (Kumar et al., 2003; Markus et al., 2000). Some of the most commonly debated organizational & knowledge challenges are discussed below.

2.1.1 Lack of Top Management Support and Commitment

Incontestably, one of the most significant challenges faced by organizations is ensuring top management's support and commitment throughout the implementation cycle. Lack of top management and unrealistic management expectations have been cited as critical failure factors (Soja, 2011; Wong, Scarbrough, Chau, & Davison, 2005). While top management support has always been rated as one of the most crucial factors contributing to a positive ERP implementation outcome (Ehie & Madsen, 2005; Soja, 2011), some studies have, however, alluded to lack of top management support and unrealistic management expectations as critical failure factors (Soja, 2011; Wong et al., 2005). Soja (2011) further highlights that lack of management's support and awareness was ranked as the fourth most crucial implementation impediment.

2.1.2 Lack of Cross Functional Coordination

Adequate functional coordination is regarded as one the key challenge faced by organizations as lack of coordination amongst different business units and stakeholders has been attributed as one of the factors leading to implementation delays and organizational conflicts eventually leading to implementation failure (Kim et al., 2005). Conflict of interest between different functional units and a lack of resource commitment were highlighted as a critical issues linked to implementation failure (Kim et al., 2005).

2.1.3 Knowledge Challenges

Identified knowledge impediments include configuration and assimilation knowledge (Robey & Ross, 2002). Assimilation knowledge gap refers to the difficulty encountered by employees to understand the ERP system while configuration knowledge gap is the lack of required expertise to configure an ERP system to match the organizational needs. Assimilation knowledge gap is an ongoing challenge experienced by organizations and the gap is amplified by employees' lack of process and technical knowledge. Knowledge transfer from consultants to the organization's employees is another widely cited knowledge challenge (Wong et al., 2005). Ineffective knowledge transfer mechanisms have been cited as negatively influence to the ERP implementation outcome. Reluctance of consultants to transfer the knowledge to employees, ineffective training and communication, reluctance of employees to accept the knowledge and lack of employees' absorptive and retentive capacity may hinder the knowledge transfer from outside consultants to the organization (Volkoff, Elmes, & Strong, 2004).

3. Research methodology

This research is qualitative and descriptive in nature. An inductive research approach has been used, allowing the derived findings to emerge from the raw data. The use of a case study is deemed suitable for this particular research context since an ERP implementation is seen as a dynamic process which is best studied in its setting (Venugopal & Rao, 2011). Through

purposive sampling, 11 semi-structured interviews have been conducted to allow unrestricted responses from the participants, providing richer insights into the organizational and knowledge challenges faced. All interviews were conducted by the researcher. Both face-to-face and telephonic interviews were scheduled with employees. Interviewees were given the opportunity to express their experiences on the different challenges they faced during the ERP implementation, with the interviewer occasionally intervening to ensure that the responses remained pertinent to the area of research. The duration of each interview was approximately 60 minutes, giving the researcher sufficient time for detailed probing where required. All the interviews have been recorded and transcribed. The transcripts of the interviews have been read a number of times to identify, conceptualize, and categorize emerging themes. Thematic analysis has been used to analyze the data (Attride-Stirling, 2001). An inductive approach to thematic analysis ensures the analysis is data driven with a close link between the uncovered themes and the gathered data (Thomas, 2006).

3.1 Case Description

The case organization has a number of branches throughout South Africa, employing over 39 000 people. The organization had recently implemented new SAP modules throughout its different business units across the country. Data was collected from two different business units. The sample included support users and managerial staffs from both cases as depicted in Table 1 below.

Case A		Case B	
Assigned Code	Participant's Role	Assigned Code	Participant's Role
SU1A	IT Support Administrator	SU1B	IT Support Administrator
SU2A	Senior Technician	SU2B	IT Support Administrator
SU3A	Senior Engineer/Compliance Officer	SU3B	Systems Controller
MM1A	Manager	SU4B	Compliance Officer
MM2A	Manager	MM1B	Manager
		MM1A	Manager

Table 1: Interviewed Participants

All the interviewed participants had been through the training and were impacted by the SAP implementation process. The sample consisted of 8 males and 3 females. The essence of the new ERP implementation was to automate the tracking and monitoring of strategic and operational projects to enhance visibility and integrity of information in order to prioritize and allocate funds based on the criticality of projects. A SAP vanilla solution was therefore implemented for all project planning and scheduling purposes. The directive from executive management was that, use of the new SAP vanilla solution was mandatory throughout the operating functions of the business and funds would only be allocated to projects uploaded to the SAP solution.

4. Analysis and Findings

The case organization is currently in its post-implementation phase and the implementation has been categorized as a failure. "This implementation is an absolute failure, not just a failure, an absolute failure" [SU4B]. Although numerous implementation challenges were unveiled, this paper focuses on the experienced organizational and knowledge challenges as discussed in the subsequent sections.

4.1 Organizational Challenges

This research unveiled a number of organizational challenges at the forefront of the implementation. A weak leadership and a prevailing financial crisis and staff shortage, coupled with a lack of uniform practices were identified as the prominent challenges of this category. The prevailing financial crisis, staff shortage and the lack of uniform practices were subsequently regrouped as pre-existing organizational challenges.

4.1.1 Weak Leadership

A weak leadership in this study is characterized by a lack of clear and shared vision and a division in leadership.

Lack of clear and shared vision & division in leadership

Employees pointed to the unclear and impractical vision from a strategic level. They argued that top management's vision did not translate into practical objectives. The organization's vision of using SAP to address its inefficiencies and cater for most of its business needs was criticized by the employees who felt that the chosen approach was not ideal. The vision was also seen as short term. Employees blamed senior management for not conducting any due-diligence and risk assessment, hence not understanding the repercussions of implementing an enterprise solution in such a large diverse organization.

In addition to the aforementioned issues, the findings also unveiled the division and mistrust within the leadership team. Conflicts of interests between different executives resulted in contradictory messages sent throughout the organization. Internal politics and power struggle were noticeable between the Chief Information officer (CIO) and the Chief Financial Officer (CFO). While the CFO stated that all business units should be using SAP for budget allocation, the CIO informed the business that the IT department will only support an alternate Oracle tool, leaving the employees further confused on which tool should they be using.

4.1.3 Pre-Existing Organizational Challenges

The pre-existing organizational challenges record all instances where the employees discussed the financial crisis the organization was facing, the prevailing staff shortage and the lack of uniform practices between the different business units.

Financial Crisis

Interestingly, the organization's decision to implement the enterprise solution was due to the major financial difficulty it was experiencing at that time. The financial difficulty implied that the organization did not have the required finance to sustain its major undertakings. The organization needed to react speedily to the cost pressures it was facing. In order to increase the visibility of all projects and in an attempt to prioritize and allocate funds to critical areas needing investment, the need for a holistic system was identified. The organization required a centralized and integrated source of information in order to sustain critical projects and a decision to implement an enterprise solution was made. The consolidated projects in an enterprise solution would allow the organization to prioritize its major projects and source the required funding.

Staff Shortage

The empirical findings depict that employees were visibly understaffed. Employees asserted that they were already struggling with an existing high workload due to the resource limitations and the enterprise systems implementation only added to their workload. Consequently, they could not dedicate any time to experiment with the enterprise solution. The, the timing of the implementation was not deemed appropriate. The SAP implementation was conducted during a period where employees were already overwhelmed with their daily tasks due to the resource constraints. Consequently, they did not see any possibility of using the enterprise solution in the short term as they did not have the capacity to undertake further responsibilities.

Lack of Uniform Practices

The case organization is a large organization operating with 6 different business units. Through the interviews, it became apparent that the different business units operate as silos and each business unit has their own unique practices and requirements. Moreover, each individual business unit has numerous decentralized regional centers across the different provinces. Differences exist within those centers as well, with each regional center operating in a diverse way. The strategic objective of the restructuring was, primarily, a means to standardize the different processes in order to achieve a certain degree of standardization amongst the different business units. Executive's management decision to implement a SAP vanilla solution was seen as one of the initial fundamental contributors to the shortcomings of the resulting implementation. Enterprise solutions dictate a standardized way of operation and the different business units were expected to abide to the designated process. However, due to their diverse nature of doing business and noted cultural differences, use of the enterprise solution was not used uniformly as intended.

4.2 Knowledge Challenges

A lack of process and technical knowledge amongst different stakeholders, knowledge drain and ineffective KM practices were identified as the main knowledge challenges.

4.2.1 Lack of Process Knowledge

Lack of process knowledge records all instances where participants discussed the lack of process knowledge of key stakeholders' namely external consultants, executive management and end users.

Consultant's Lack of Process Knowledge

Respondents complained that external consultants did not have the required knowledge to understand the organizational structure and processes. They further stated that despite their good technical skills, external consultants had not successfully configured and mapped the organization's processes to the enterprise system. Employees unanimously agreed that understanding how the business works required expert knowledge that only resides with knowledgeable end users. Since employees were not involved in the pre-implementation and subsequent phases, external consultants implemented what they deemed suitable for the organization. Consequently, the implemented solution had a number of shortcomings and did not meet users' requirements.

Executive Management Lack of Business Knowledge

Executive management's knowledge of the business was also questioned. Employees were persuaded that executive management lacked essential holistic business knowledge. The financial director who commissioned and owned the whole restructuring was fairly new to the business. His past expertise comes from running a small organization in the construction industry. Employees reasoned that a large organization has complex dynamics that differs from small organizations, as a result of which, poor decisions were taken during the restructuring. They further attributed a lack of executive management knowledge as a determining factor between a successful and a failed implementation.

End Users' Lack of Process Knowledge

In-house trainers and support users pointed out that end users were mostly only aware of the sub processes and tasks that they were involved with and seldom showed interest in the holistic organizational processes. As a result, training different sets of users became a challenge as end users were only concerned with their tasks and responsibilities and did not attribute any importance to the learning and understanding of organizational wide processes.

4.2.2 Lack of Technical Knowledge

Lack of technical knowledge discuss the limited technical expertise of in-house trainers and end users.

In-House Trainers' & End Users' Lack of Technical Skills

In-house trainers were not SAP experts. They stated that the way the training sessions were conducted were not conducive as they needed more time to understand the systems. The course was too short for them to be adequately equipped with the required technical expertise to tackle the different system related challenges that surfaced during the training. Gaining the required technical know-how is a challenging, time consuming process and in-house trainers had to first ensure that they fully understand the system before training others.

On the other hand, end users were criticized for not having the required technical expertise to adapt to the new enterprise system. Technically, they were not seen as adequately competent to deal with the numerous ERP challenges. In-house trainers stressed on the difficulty experienced while training end users because of their lack of technical expertise.

4.2.3 Knowledge Drain

From a knowledge standpoint, another key concern put forward by the employees was the knowledge drain throughout the project implementation lifecycle. Due to the lengthy timeframe of these projects, the probability of having a consistent team for the entire duration of the implementation cycle is relatively low. Knowledge drain with any team changes increase the risk of loss of tacit knowledge which in turn may jeopardize the implementation if no prompt and corrective actions are undertaken. Employees assert that they were not aware of any measure or processes in place to minimize knowledge drain.

4.2.4 Ineffective KM Practices

Due to ineffective KM practices, employees could not reuse the existing knowledge of prior implementations. Expressing their disappointment, employees stated that the organization had

been through prior ERP implementations but they could not base themselves on past experiences since the existing knowledge was not adequately documented. There is not a standardized way of creating, sharing and distributing knowledge across the organization. Moreover, there is not a knowledge sharing culture between the departments which operate in silos. Business units seldom think of how to share knowledge across the organization. Furthermore, the poor training sessions and limited exposure to consultants contributed to the ineffective knowledge transfer mechanisms.

5. Discussion

Figure 1 depicts the organizational and knowledge challenges unveiled in the previous section. In this section, the findings are first summarized and then contrasted to the literature.

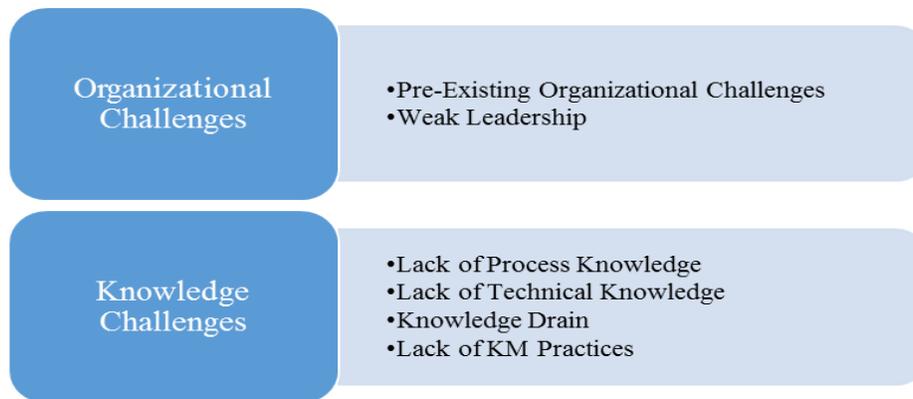


Figure 1: Organizational and Knowledge Challenges faced during an ERP implementation process

The pre-existing organizational challenges faced by the organization makes the context of this ERP implementation unique. The case organization was already facing a number of challenges prior to the initiation of the SAP implementation lifecycle. The pre-existing challenges in this context have been identified as a prevailing financial crisis, staff shortage and lack of uniform practices. Implementing an ERP solution under these existing organizational challenges proved to be detrimental to the case organization. Sammon and Adam (2010) are in agreement with the statement above as they claim that many of the implementation problems enterprises undergo result from their initial circumstances. Prior literature, however, places little emphasis on the presence of pre-existing organizational challenges which enterprises may be undergoing prior to undertaking an ERP implementation project and their impact on the resulting implementation outcomes (Sammon and Adam, 2010). Through the empirical observations of this study, the significance of these challenges and the impact they have on the ERP implementation process cannot be ignored. In this context, the implementation of the ERP solution was seen as the panacea for the severe financial crisis faced by the establishment. The decision to opt for a rushed implementation can be seen as a flawed strategic decision as implementing an ERP solution is in actual fact a considerable financial investment that may add to the financial burden of the organization (Markus and Tanis, 2002; Davenport, 2000). Referring to existing staff shortage, the transition to the new ERP solution occurred at a time where numerous business units were already operating at a sub optimal capacity. These findings are supported by Kumar et

al. (2003) who underline that organizations should not underestimate the prevailing in-house resource constraints. Moreover, an ERP implementation should be timed adequately, in conditions where there are not any prevailing constraints (Abdinnour-Helm, Lengnick-Hall, & Lengnick-Hall, 2003; Aladwani, 2001; Sammon & Adam, 2010).

The organization opted to implement a SAP vanilla solution implying that each business unit had to reassess its work practices in order to comply with a standard process. In this particular case, seeking standardization and shared understanding for the entire organization proved to be challenging due to the lack of uniform practices and cultural diversities. The fact that the case organization was a large organization which required multisite implementations coupled with the fact the organization did not have a strong corporate culture with each business unit operating as silos with its own unique set of practices and beliefs made the SAP vanilla implementation more challenging. As per the literature, a SAP vanilla solution is deemed more appropriate for one site implementations involving fewer users (Parr et al., 2000). Moreover, the literature acknowledges that the lack of coordination amongst different units and cutting across cultural diversity is seen as a major barrier to ERP implementation success (Ke & Wei, 2008; Kim et al., 2005).

As per the empirical observations, this study identifies a lack of clear and shared vision and a division in leadership as weak leadership. This grouping is supported by the literature where leadership is characterized as the ability to formulate a strategic vision whilst providing a strong advocacy of the vision and mobilizing followers to accomplish the objectives through committed and coherent directives (Jarvenpaa & Ives, 1991; Ke & Wei, 2008; Zmud, 1980). The translation of the organizational vision was perceived as flawed by the lower echelon who failed to relate to the vision. The reminiscent power struggle noted at executive level led to a disharmony of interest between different stakeholders, leading to a situation where employees questioned and mistrusted executive management's strategic objectives. The literature supports the noted findings with a number of studies attributing a lack of clear and shared vision and conflict of interests within the leadership as reasons accounting for ERP implementation failures (Dey, Clegg, & Bennett, 2010; Garg, 2010; Mapetere & Mhonde, 2012; Sarker & Lee, 2003; Umble, Haft, & Umble, 2003; Wateridge, 1995).

The knowledge challenges discussed in this study referred to lack of process and technical knowledge and ineffective KM practices. Different sets of stakeholders lacked the required process and technical knowledge resulting in a lack of shared knowledge amongst the different stakeholders. A lack of shared knowledge amongst stakeholders was noted at all levels in the organization. Consultants lacked core process knowledge while end users were only concerned with their sub processes and lacked a holistic organizational knowledge. Moreover, a lack of organizational knowledge was also exhibited by the implementer of the ERP solution who was a recently appointed CFO. The findings are supported by the ERP implementation literature. Stakeholders partaking in an implementation should have a good knowledge of the organization's processes, however, stakeholders' lack of required process and technical knowledge remains a prominent implementation challenge (Robey & Ross, 2012; Soja, 2011; Wong et al., 2005).

Moreover, adequate KM practices were not put in place. Not only did the organization not use any prior implementation knowledge, there was hardly any knowledge sharing practices between

different business units. Lack of knowledge sharing between different business, team members and employees has contributed to an ERP implementation failure (Jones et al., 2006; Pan, Newell, & Galliers, 2007; Robey & Ross, 2002). While Pisano (1994) noted the significance of using prior knowledge as a basis of new knowledge, the difficulty in accessing prior implementation knowledge has been recognized (Pan et al., 2007).

6. Conclusions & Recommendations

This paper reports on the numerous organizational and knowledge challenges that contributed to the failure of the ERP implementation failure in a large public sector organization. The unveiled organizational challenges refer to a weak leadership and pre-existing organizational challenges. The prominent knowledge challenges refer to a lack of process and technical knowledge amongst different stakeholders as well as knowledge drain and ineffective KM practices. This research should be of immediate benefit to both academics and practitioners. From an academic perspective, this study contributes to the ERP implementation literature and provides a benchmark for any further future research which might be undertaken in the context of large public organizations. This study hence adds to the existing body of knowledge. Through a practical lens, this research will be beneficial to large organizations. The results of this study are expected to provide organizations with a comprehensive understanding of the need to overcome existing organizational challenges prior to their ERP implementations and to implement effective KM practices in order to reduce the risks associated with an ERP implementation. These results can be generalized to large organizations in an emerging context.

References

- Abdinnour-Helm, S., Lengnick-Hall, M. L., & Lengnick-Hall, C. a. (2003). Pre-implementation attitudes and organizational readiness for implementing an Enterprise Resource Planning system. *European Journal of Operational Research*, 146(2), 258–273.
- Aladwani, A. M. (2001). Change management strategies for successful ERP implementation. *Business Process Management Journal*, 7(3), 266–275. Retrieved from
- Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research*, 1(3), 385–405. Retrieved from <http://qrj.sagepub.com/content/1/3/385.short>
- Chen, C. C., Law, C., & Yang, S. C. (2009). Managing ERP Implementation Failure: A Project Management Perspective. *IEEE Transactions on Engineering Management*, 56(1), 157–170. <http://doi.org/10.1109/TEM.2008.2009802>
- Dey, P. K., Clegg, B. T., & Bennett, D. J. (2010). Managing enterprise resource planning projects. *Business Process Management Journal*, 16(2), 282–296. <http://doi.org/10.1108/14637151011035606>
- Ehie, I. C., & Madsen, M. (2005). Identifying critical issues in enterprise resource planning (ERP) implementation. *Computers in Industry*, 56(6), 545–557. <http://doi.org/10.1016/j.compind.2005.02.006>
- Garg, P. (2010). Critical Failure Factors for Enterprise Resource Planning Implementations in Indian Retail Organizations: An Exploratory Study. *Journal of Information Technology Impact*, 10(1), 35–44. Retrieved from <http://www.jiti.com/v10/jiti.v10n1.035-044.pdf>
- Jarvenpaa, S., & Ives, B. (1991). Involvement and Participation in Management of Information

- Technology. *MIS Quarterly*, 23(1), 39–65.
- Jones, M. C., Cline, M., & Ryan, S. (2006). Exploring knowledge sharing in ERP implementation: an organizational culture framework. *Decision Support Systems*, 41(2), 411–434.
- Kamhawi, E. M. (2008). Enterprise resource-planning systems adoption in Bahrain: motives, benefits, and barriers. *Journal of E*, 21(3), 310–334.
- Ke, W., & Wei, K. K. (2008). Organizational culture and leadership in ERP implementation. *Decision Support Systems*, 45(2), 208–218. <http://doi.org/10.1016/j.dss.2007.02.002>
- Kim, Y., Lee, Z., & Gosain, S. (2005). Impediments to successful ERP implementation process. *Business Process Management Journal*, 11(2), 158–170.
- Kumar, V., Maheshwari, B., & Kumar, U. (2003). An investigation of critical management issues in ERP implementation: empirical evidence from Canadian organizations. *Technovation*, 23(10), 793–807. [http://doi.org/10.1016/S0166-4972\(02\)00015-9](http://doi.org/10.1016/S0166-4972(02)00015-9)
- Kwahk, K.-Y., & Lee, J.-N. (2008). The role of readiness for change in ERP implementation: Theoretical bases and empirical validation. *Information & Management*, 45(7), 474–481. <http://doi.org/10.1016/j.im.2008.07.002>
- Mapetere, D., & Mhonde, C. (2012). Strategic Role of Leadership in Strategy Implementation in Zimbabwe's State Owned Enterprises. *International Journal of Business and Social Science*, 3(16), 271–276.
- Markus, M. L., Axline, S., Petrie, D., & Tanis, C. (2000). Learning from adopters' experiences with ERP: problems encountered and success achieved. *Journal of Information Technology*, 15(4), 245–265. <http://doi.org/10.1080/02683960010008944>
- McAdam, R., & Galloway, A. (2005). Enterprise resource planning and organisational innovation: a management perspective. *Industrial Management & Data Systems*, 105(3), 280–290. <http://doi.org/10.1108/02635570510590110>
- Momoh, A., Roy, R., & Shehab, E. (2010). Challenges in enterprise resource planning implementation: state of the art. *Business Process Management Journal*, 16(4), 537–565.
- Pan, S. L., Newell, S., & Galliers, R. D. (2007). Overcoming Knowledge Management Challenges During ERP Implementation: The Need to Integrate and Share Different Types of Knowledge. *Inter Science*, 58(3), 404–419. <http://doi.org/10.1002/asi>
- Pan, S. L., Newell, S., Wan, A., & Cheung, J. (2001). Knowledge Integration as a Key Problem in an ERP Implementation KNOWLEDGE INTEGRATION AS A KEY. In *International Conference on Information Systems* (pp. 321–328).
- Pisano, G. (1994). Knowledge, Integration, and the Locus of Learning: An empirical analysis of process development. *Strategic Management Journal*, 85–100.
- Robey, D., & Ross, J. W. (2002). Journal of Management Learning to Implement Enterprise Systems: An Exploratory Study of the Dialectics of Change. *Journal of Management Information Systems*, 19(February 2015), 17–46.
- Sammon, D., & Adam, F. (2010). Project preparedness and the emergence of implementation problems in ERP projects. *Information & Management*, 47(1), 1–8. <http://doi.org/10.1016/j.im.2009.09.002>
- Sarker, S., & Lee, A. S. (2003). Using a case study to test the role of three key social enablers in ERP implementation. *Information & Management*, 40(8), 813–829.
- Soja, P. (2011). Examining Determinants of Enterprise System Adoptions in Transition

- Economies: Insights From Polish Adopters. *Information Systems Management*, 28(3), 192–210.
- Thomas, D. R. (2006). A General Inductive Approach for Analyzing Qualitative Evaluation Data. *American Journal of Evaluation*, 27(2), 237–246.
- Umble, E. J., Haft, R. R., & Umble, M. . (2003). Enterprise resource planning: Implementation procedures and critical success factors. *European Journal of Operational Research*, 146(2), 241–257.
- Venugopal, C., & Rao, K. S. (2011). Learning from a failed ERP implementation: a case study research. *International Journal of Managing Projects in Business*, 4(4), 596–615.
- Volkoff, O., Elmes, M. B., & Strong, D. M. (2004). Enterprise systems, knowledge transfer and power users. *The Journal of Strategic Information Systems*, 13(4), 279–304.
- Wang, E. T. G., Chia-Lin Lin, C., Jiang, J. J., & Klein, G. (2007). Improving enterprise resource planning (ERP) fit to organizational process through knowledge transfer. *International Journal of Information Management*, 27(3), 200–212.
- Wateridge, J. (1995). IT projects : a basis for success. *International Journal of Project Management*, 13(3), 169–172.
- Wong, A., Scarbrough, H., Chau, P., & Davison, R. (2005). Critical Failure Factors in ERP Implementation. In *Pacific Asia Conference on Information Systems(PACIS)*.
- Zmud, R. (1980). Management of large software development efforts. *MIS Quarterly*, 4(June), 45–56.