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Untold Stories of ERP Systems Implementation: Role of Ownership and Governance, Scope Management, and Employee Empowerment

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Abstract

Much prior research on enterprise resource planning (ERP) systems implementation has been conducted in western countries that have different social and organizational cultures from countries in the other parts of the world, such as the Arab World. In this paper, we examine ERP systems implementations in Saudi Arabia which is an important economic frontier in the world. Our key focus was to understand the role of three important aspects of ERP systems implementations—i.e., ownership and governance, scope management, and employee empowerment. We conducted six case studies and found that the nature of ownership and governance played a significant hindering role during implementation. We further found that Saudi organizations faced major challenges during implementation with respect to managing the scope of implementation. Finally, we found that owners and top management were deeply concerned about losing their control over employees following ERP systems implementations. We offer theoretical and practical implications.

Keywords

ERP systems, ownership, governance, scope management, employee empowerment

INTRODUCTION

Enterprise resource planning (ERP) systems have been embraced by organizations of all sizes across the world to improve operational efficiency and gain strategic advantages (Liang et al. 2007). These systems facilitate the flow of information across all business processes in organizations. Organizations depend on these systems to meet the information needs as well as to improve the degree of integration of data and business processes across the organizational chain (Venkatesh et al. 2010). The ERP industry, which has a current size $47.7 billion, is expected to cross the $50 billion mark by the end of 2011 (Jacobson et al. 2007). On an average, an ERP system implementation project costs $5.48 million (Panorama Consulting Group 2011).

Although most of the revenue for the ERP industry comes from implementations in western and developing countries (e.g., North America, Europe, and Australia), around 15% of the revenue is attributed to implementations in Asia and the Arab World (Jacobson et al. 2007; Panorama Consulting Group 2011). The ERP market in these nations has been rapidly increasing (Kamhawi 2007). For example, organizations in Saudi Arabia, an important country in the Arab World and an economic powerhouse, have recently started implementing ERP systems. In fact, more than seven hundred Saudi organizations have implemented ERP solutions and this number is expected to grow exponentially in the coming years (Kristine 2011).

While countries like Saudi Arabia represent a potentially profitable market for ERP systems' vendors and consultants, the unique culture of these countries represents a challenge during implementations. Previous research has identified a lack of technical workers as a key deterrent to information technology (IT) infrastructure development in Saudi organizations (Idris 2007). One of the reasons for this situation is the lack of interest among young Saudis, who come from affluent families, to develop technical skills and to accept jobs that are considered low status jobs (Bell 2005). Apart from the cultural and language differences from the western world, some other challenges in Saudi Arabia are: ownership structure, organizational hierarchy, and management style

of Saudi organizations (Idris 2010; Kristine 2011). Many organizations are family-owned and managed by the family members and friends (Idris 2007). The management practices in Saudi organizations are strongly influenced by tribal traditions where the manager is the father figure for the organization (Pillai et al. 1999). This has shaped an organizational culture where employees expect to be guided and told what to do by their managers (Bhuian et al. 2001). Further, this has led to a working culture where owners and top management makes all the decisions in an organization (Yavas 1997). In addition, the decisions made by owners and top management are seldom challenged by the middle management or low-level employees (Yavas 1997). With such a working culture in place, activities like ERP systems implementations that require organization wide changes pose a formidable challenge in terms of convincing the owners and top management for a change and getting these systems implemented successfully.

While there is a rich literature of ERP systems implementation and success in developed countries, there is a paucity of research on ERP systems implementations in developing nations (Idris 2007; Kamhawi 2007). Prior research has questioned the generalizability of traditional theories and models developed based on empirical data gathered in developed nations to developing countries because of the unique socioeconomic, cultural, and regulatory conditions in the latter (see Venkatesh et al. 2010). Although prior research offers rich insights related to factors of ERP system success in western environments, it is not fully known what factors will determine ERP systems success in countries such as Saudi Arabia (Kamhawi 2007). In addition to the traditional challenges of ERP systems implementation, organizations in these countries may face a new set of challenges during ERP systems implementations because of the unique work culture, governing policies, and management structures.

Against this backdrop, we seek to study ERP systems implementations in Saudi Arabia. We conducted in-depth case studies in six small and medium organizations to understand the unique challenges that these organizations face. We particularly focus on three key areas while analyzing these cases: (a) ownership and governance structure, (b) scope of implementation, and (c) employee empowerment because these factors are likely to offer insights on unique implementation challenges in Saudi organizations. We examine how these factors play differential roles in different phases of ERP systems implementations.

BACKGROUND

In this section, we first provide an overview of ERP systems implementation phases followed by a discussion of various challenges that organizations face while implementing ERP systems. We then discuss the key success factors that drive the success of ERP systems implementations. Finally, we present a discussion on the three factors that we focus in this research: (a) ownership and governance structure, (b) scope of implementation, and (c) employee empowerment.

ERP Systems Implementation Phases

Prior research has proposed four phases of ERP systems implementation: *chartering*, *project*, *shakedown*, and *onward and upward* (Markus and Tanis 2000). The chartering phase involves decisions leading up to the funding of an ERP system and activities, such as developing a business case for an ERP system, creating a project team, selecting a software package, and approving a budget and schedule. The project phase involves activities needed to deploy an ERP system, such as changes in business process, software configuration, integration, testing, data conversion, training and rollout. The shakedown phase is the period of time from the point the system is functional and accessible by employees (going live or rollout) to the point when normal operation or routine use has been achieved (Markus and Tanis 2000). During this phase, organizations mandate the use the new system. Finally, the onward and upward phase continues from normal operation until an ERP system is replaced with an upgrade or a different ERP system. The shakedown phase is typically the first phase in which employees start using the system. Prior research has noted numerous cases of ERP system implementation failure and project termination in which organizations failed to achieve normal operation which marks the end of the shakedown phase, indicating the critical role of this phase during an ERP system implementation (Markus and Tanis 2000)

ERP Systems Implementation Challenges

Organizations vary in their approaches to ERP systems implementation. There are typically two approaches to ERP systems implementation: (a) implementation of a standard software package with minimal customization and (b) implementation with major customization of software and business processes to fit with existing business processes (Holland and Light 1999). Although the latter approach demands for a longer implementation time and higher costs due to the inherent complexity of customizing a system to meet organizational requirements, the first approach is not easy either (Glass and Vessey 1999). For example, it is often difficult to integrate an ERP system with existing business processes and systems, if any (Davenport 1998). As a result, organizations that opt for non-customized off-the-shelf systems often end up having multiple disparate applications along with the expensive ERP packages.

Given the time and personnel requirements of an ERP system implementation project, organizations often hire consultants to help them implement ERP systems (Wong et al. 2005). These consultants are expected to bring specialized skills, prior ERP system implementation experience and know-how that an organization needs to accomplish the time-consuming and expensive task of implementing an ERP system (Gable 2003). While external consultants are expected to ease the task of ERP systems implementation, prior research has shown that conflict of opinion with the consultants is one the crucial challenges faced by organizations (Themistocleous et al. 2001). Often, the solutions, schedule, and budget recommended by the consultants are in conflict with the interests of the management or require significant reconfigurations of an organization's policies, business rules, and processes (Gable 2003; Themistocleous et al. 2001).

Prior research has indicated that about 70 percent of the ERP projects can be categorized as being over budget, late or under-performing (Panorama Consulting Group 2011). ERP projects are more complex than any other IT initiatives in the organization because of their inherent characteristic of supporting business processes across different functional units of an organization (Krigsman 2010). While such organization wide system integration is expected to reap strategic and operational benefits, the extent of changes demanded by such a project often requires approvals from multiple departments and many stakeholders (Hong and Kim 2002). This turns out to be a major challenge and one of the key reasons for the ERP system implementation failures.

ERP System Implementation Success Factors

In order to gain the intended benefits from an ERP system implementation, organizations need to make an effort to achieve certain critical success factors. Prior research has provided insights on different success factors of ERP systems implementations. For instance, the fit of an ERP system with existing business processes has been suggested to be a critical success factor (Gattiker and Goodhue 2000; Hong and Kim 2002). In addition to fit, an ERP system implementation process might require several policy changes as well as time commitment from key resources in an organization (Wood 2010). Ensuring quick approval for such changes and resource commitments require support of top management during an ERP system implementation project (Liang et al. 2007). There are several other factors that influence the success of an ERP system implementation. For example, ERP systems often require certain technical and business process skills and employees need extensive training on the new software and business processes. With the required knowledge and skills imparted through the training programs, employees may feel empowered and try to reap maximum benefits from a system (Sharma and Yetton 2007). With effective pre- or post-implementation training, it can be expected that the employees will accept the ERP solution with minimal resistance (Venkatesh 1999; Sharma and Yetton 2007).

Ownership and Governance Structure, Project Scope, and Employee Empowerment

Given the organizational ownership structure, management practices and unique culture that Saudi Arabia represents, we examine three facets of ERP systems implementations that are likely to capture the unique aspects of Saudi culture: ownership and governance structure, project scope and employee empowerment.

As noted earlier, the ownership and governance structure of Saudi organizations is different from that of many western countries. Many organizations are family-owned and managed by either the members of the family or close friends (Idris 2007). Organizational culture in the Arab World is known for their high power distance index (Hofstede 1983). Power distance index is a measure to capture the extent of inequality among levels in the organization or society (ITIM International 2007). Saudi Arabia has a power distance index of 80 (out of 120) and is among the top 15 nations in the world on this index (Hofstede 1983). Given such high power distance, the management and owners of the organizations want to avoid any practices that would empower their employees. This implies that employees typically have little say about how an organization is governed and how the policies are framed (Bochner and Hesketh 1994). Such governance structure imposes limitations on the capabilities of consultants and vendors, making it difficult for them to get approvals on different aspects of an ERP system implementation project. This results into delays, cost overruns and inadequate change management practices which could be fatal to the implementation process.

The ERP implementation process impacts the governance practices in organizations implementing these systems (Teltumbde 2000; Wang and Chen 2006). Implementation of these systems requires substantial reengineering or complete reconfiguration of existing business processes. While such changes are expected to be beneficial to an organization, convincing the top management to approve such changes is challenging. In western and developed countries where ERP implementations is a common phenomenon, these changes might get easily approved by top management because managers may perceived that consultants and vendors are well aware of the typical organizational practices and embed them into an ERP system (Davison 2002). However, for organizations in the other parts of the world, embedding organizational practices into an ERP system is a major challenge. In countries like Saudi Arabia, this task becomes even more complex because of the way the governance practices are structured and managed.

Further, given the limited understanding of IT, Saudi organizations may not know the scope of an ERP system implementation. The owners and top management may not be aware of what kind of modules would be required to run their business processes effectively. This results into uncertain project scope at the initiation of the project. The later expansion or reduction in project scope is often fatal to the project. For example, owners and top management may decide to discard certain modules of an ERP system realizing the amount of business process reconfiguration these modules demand. In some cases, owners and top management may decide to add certain modules which they might not have thought about when the project was initiated. Whichever the case is, the result of this rethinking process is the change in scope of an ERP system implementation. Prior research has noted that ERP project that suffers scope creep end up facing time delays and cost overruns (Davenport 1998). This, in turn, results into tensions and dissatisfaction between organizations and consultants that may have negative impacts on the success of an ERP project (Banga 2010).

Finally, ERP systems are designed to facilitate the flow of information across different functional areas of an organization. Authorized employees are able to access information that they need to execute business processes. In western and developed countries where such open access is acceptable, this is not a major issue. However, in countries such as Saudi Arabia, a much stricter control over access to information is enforced by owners and top management (Davison 2002). Because of high power distance between employees and owners and top management in Saudi Arabia, such open access to information might not be desirable and acceptable. This might lead to strong oppositions from owners and top management during an ERP systems implementation.

RESEARCH METHODOLOGY

Given the novelty of our context (i.e., the Arab World), we employed a qualitative approach to understand ERP systems implementations. We used a multiple case study methodology to examine how organizations in Saudi Arabia implement ERP systems. We followed the guidelines by Dubé and Paré (2003) and exemplars from IS research (e.g., Bala and Venkatesh 2007), and undertook a positivist perspective in our data collection and analysis. Given that our focus was on three specific facets of ERP system implementations, we restricted our data analysis to a priori set of conceptual ideas (Yin 1994). We conducted organizational level of analysis. These organizations were represented by key informants (e.g., owners, top management, employees, and consultants) who were involved in the process of ERP system implementations in their respective organizations.

Research Sites

We collected data from the clients of an IT consultant who was involved in ERP systems implementations in different organizations in Saudi Arabia between 2006 and 2011. Following the guidelines of multiple case study research (Dubé and Paré 2003; Eisenhardt 1989) and exemplars (e.g., Sambamurthy and Zmud 1999), we attempted to select case sites to allow variations in our core interests—i.e., ownership and governance, scope of implementation, and employee empowerment. In particular, we identified organizations that provided variability across these different concepts. Further, we selected organizations from different industries. The IT consultant helped us identify these cases and provided details of each of these cases. Table 1 summarizes organizational profile and ERP systems implementation details from these organizations. We also provide additional details of each organization following the table.

Table 1: Organizational Profile and ERP Implementation Details

Name	Industry	Revenue	ERP type	Modules
EnergyOrg	Sales and distribution of petroleum and automotive products	Total Asset: $45 million (approx.); Net revenue: $1.75 million (approx.)	Oracle E-Business Suite	Finance, supply chain and human resource (HR) management
PackOrg	Packaging and distribution company	Total Asset: $75.6 million (approx.); Net revenue: $1.86 million (approx.)	Microsoft Dynamics ERP and CRM 3.0	Finance, production, sales, warehouse, distribution and HR automation
FoodOrg	Production of food and distribution of dry food within Saudi Arabia	Total Asset: $87 million (approx.); Net revenue: $2.4 million (approx.)	Gillani i-Distribute ERP and Distribution Management System	Finance, HR and payroll, production warehouse, and distribution management, and sales
MetalOrg	Production and distribution of aluminum and related products	Total asset: $119.5 million (approx.); Net revenue: $7.1 million (approx.)	Epicor ERP solutions	Manufacturing and production automation; project management facilities and distribution automation

ServiceOrg	Provides industrial services, maintenance services for roads and highways, flyovers and bridges	Total asset: $91 million (approx.); Net revenue: $3.2 million (approx.)	Oracle E-business Suite	Financial, supply chain management, customer relationship management, operations & maintenance and HR
EngiOrg	Pipeline construction, civil and electrical works, and instrumentations and fabrications.	Total asset: $44 million (approx.); Net revenue: $4.3 Million (approx.)	Oracle E-Business Suite	Finance, project management, supply chain management, customer relationship management, maintenance and HR

Case 1: *EnergyOrg* is a petrochemical company established in 1995 and owned by a family in Saudi Arabia. The company has close to 200 petrol stations around Saudi Arabia and has its offices located in four cities in the country. The main services of the company include distribution of petrol, diesel and automotive products. Prior to the ERP system implementation, the IT infrastructure of the company consisted of 15 desktop computers, 5 printers and Microsoft Office Suite as the installed software. The company had an IT administrator whose primary job was to manage IT infrastructure at the headquarters.

Case 2: *PackOrg* is a leading packaging and distribution company employing more than 300 employees. The company was established in 1975 and is owned by a family in Saudi Arabia. The company has six small offices in the country and a central warehouse located in Dammam. The main products of the company include paints, mental containers for milk products and aerosol cans. Prior to the ERP system implementation, the IT infrastructure of the company included 35 desktop computers, 15 printers and a LAN at the headquarters. The company had an IT manager and an IT support personnel at the headquarters and at each of the branch offices.

Case 3: *FoodOrg* is one the leading producers of food products and distributors of dry foods in the country employing 170 employees. The company is owned by an individual who is the Chairman of the company. Due to a busy schedule, the involvement of the Chairman is limited to major decision making like major investments, expansions, major cut downs and so on. The Chairman depends on an Executive Director and a General Manager for all other decisions. The company has a factory and a warehouse located in a major industrial area and three offices located elsewhere in the country. Prior to the ERP system implementation, the IT infrastructure of the company included 12 desktop computers, 3 printers and a LAN at the headquarters. The company had one IT administrator taking care of the IT infrastructure at the headquarters.

Case 4: *MetalOrg* is a leading aluminium-based products manufacturing company employing 180 people. The company was established in 2005 by two families and has offices located in Kuwait and Saudi Arabia. The main products of the company include aluminium sheets, window and door frames and aluminium cladding. The company has it's headquarter in Dammam and three other offices located in Kuwait and Saudi Arabia. Prior to the ERP system implementation, the IT infrastructure of the company included 26 desktop computers, 15 printers, 5 plotters and a LAN at the headquarters. The company also had an IT administrator at the headquarters.

Case 5: *ServiceOrg* provides industrial services and maintenance services for roads, highways and bridges. The company was established in 1970 by a family in Saudi Arabia and has its branches located in United Arab Emirates (UAE), Bahrain and Saudi Arabia. The company employs 152 employees. The headquarters of the company is located near Dammam in Saudi Arabia. Prior to the ERP system implementation, the IT infrastructure of the company included 28 desktop computers, 25 printers, and a LAN at the headquarters. The company also had an IT administrator and an IT support personnel at the headquarters.

Case 6: *EngiOrg* is a civil and mechanical engineering company employing 262 employees. The company was established in 1970 and is owned by a Saudi family. The company has its headquarters located in a major industrial area and does not have any other branch offices. The main services of the company include pipeline construction, civil works, electrical works and fabrications. Prior to the ERP system implementation, the IT infrastructure of the company included 25 desktop computers, 15 printers, and a 100 Mbps Ethernet LAN at the headquarters. The company had an IT administrator and an IT support personnel at the headquarters.

Data Collection

Data were collected during the ERP system implementation period at each of our case sites. We focused on the first three phases of ERP systems implementation process—chartering, project, and shakedown. Over a period of five to seven months, we collected data using multiple approaches: semi-structured interviews, documents provided by the organizations and the key informants, and other publicly available information (e.g., press

releases, financial statements, and trade press articles), if any. Top management and employees in each organization were interviewed. Extensive notes were taken during these interviews.

Data Analysis

Following the guidelines and exemplars of multiple case study methodology, we conducted both within-case and cross-case analyses. Our analysis approach was guided by the three core areas that we focus in this study.

Within-Case Analysis

We conducted within-case analysis to understand the unique patterns of ERP systems implementation in each case. The interview notes and other documents were first reviewed by one of the authors who used a data reduction and presentation technique for analysing, triangulating, and documenting the contents of the notes and documents (Krippendorff 1980; Miles and Huberman 1984) to identify relevant information representing the three core focus of this study. After this initial review was completed, the author developed summary documents for each case that were used for the cross-case analysis.

Cross-case Analysis

A cross-case analysis was performed by the other authors who were not involved in the within-case analysis. The objective of this analysis was to understand the variations and similarities across the cases and to find explanations for the findings from the within-case analysis (Eisenhardt 1989; Yin 1994). Individual cases were first compared to each other to discover similarities and variations within each focus (e.g., ownership and governance, scope, and employee empowerment). This step allowed us to develop a general pattern of findings within each focus and plausible explanations for such findings. The patterns were then compared across the focused to understand similarities and differences of findings.

FINDINGS

In this section, we discuss our findings with respect to the three areas of focus: ownership and governance, scope of implementation, and employee empowerment. We highlight the role of these three aspects during the chartering, project, and shakedown phases of ERP systems implementation.

Ownership and Governance

As noted earlier, top management support is critical for successful ERP systems implementations. Prior research has suggested that in western countries, top management typically play a supporting role during ERP systems implementations. However, our analysis revealed that the ownership and governance structure in Saudi organizations played a major hindering role in all phases of ERP systems implementations. During the chartering phase, in some organizations (e.g., EnergyOrg), top management interfered with the selection of ERP system vendors. While it is imperative that owners and top management will provide input during vendor selection, we found that in some cases they went against the recommendation of the consultants who were appointed by the organization. The consultants were responsible for analysing the current business processes and recommending the appropriate vendor for the organization. However, when owners and top management decided against a recommended vendor, it was difficult for the consultants to enforce their recommendations. This resulted in the selection of vendors whose ERP systems were not fully compatible with existing business processes and operating environment. We believe that due to cultural orientations such as a high degree of uncertainty avoidance in Saudi Arabia, owners and top management interfered with the vendor selection process because they were not fully sure about the implications of implementing the consultant-recommended systems.

During the project phase, owners and top management were reluctant to change existing business processes and rules. Given that ERP systems typically require implementation of industry standard best practice business processes, it is typically recommended that organizations change their business processes during ERP systems implementation. However, owners and top management did not want to do so in several cases fearing that they would lose their authority in the organization. We believe that in order to maintain a high power distance and to avoid uncertainty in the organization, owners and top management were reluctant to make these changes. However, this created considerable challenge for the consultants and vendors during implementation because they had to find a way to customize the system to fit with existing business processes and rules.

Finally, during the shakedown phase, owners and top management refused to delegate authorities to employees as required by the newly implemented system and business processes. For example, in PackOrg, the top management were reluctant to delegate specific authorities (e.g., approval) to middle and low level employees. As a result, the consultants and vendors had to perform extensive reconfiguration of the system and business

processes resulting in a departure from the industry best practices. We believe that this was again due to high power distance in Saudi organizations.

Scope Management during Implementation

We found that the Saudi organizations that we studied struggled significantly with respect to managing the scope of ERP systems implementations. In all cases, we found that scope management was a major issue. In some cases, owners and top management increased the scope of the system during the project phase of implementation. For example, in FoodOrg, the top management made a decision to add additional modules (i.e., human resources and sales modules) in the middle of the project phase. We observed the similar pattern in PackOrg. In some other cases, the top management decided to reduce the scope the system by eliminating modules during implementation. For example, we found that in ServiceOrg and EngiOrg, the top management decided not to implement certain modules during the project phase against the recommendation of the consultants. We believe there were three reasons for scope management challenges in the Saudi organizations. First, owners and top management did not have adequate computer skills and knowledge of ERP systems and therefore, they were not able to understand the implications of implementing (or not implementing) certain modules. They wanted to avoid uncertainty in their environment. Second, the consultants were not able to provide reasonable justifications to owners and top management about the importance of different modules. In some cases, the consultants increased the scope of implementation without proper justifications.

Employee Empowerment

As noted earlier, the Arab World has a high level of power distance. These countries follow strong tribal traditions, religious rules and customs. Consequently, organizations in these countries also maintain a culture with high power distance. Given that ERP systems integrate different business processes and functional areas of an organization, it is likely that employees will have access to information that they typically cannot access in the absence of such systems. Further, these systems automate certain business processes. Therefore, employees responsible for executing these business processes need authority to make decisions as they execute these business processes. We found that top management in our case sites did not feel the need to involve employees in the ERP implementation process during the chartering and project phases. Besides, the amount and quality of training received by the employees during the project phase were not adequate for them to execute business processes effectively. For example, employees in PackOrg, MetalOrg, and ServiceOrg commented that they did not receive enough training to understand and use the ERP system. Consequently, they were reluctant to use the system to perform their tasks. Further, we found that during the shakedown phase when employees started using the system owners and top management were not willing to give employees authority to access information and execute business processes without their approval. Such a lack of willingness to delegate authority defeated the purpose of implementing ERP systems in Saudi organizations.

In sum, we found that ownership and governance, scope of implementation, and employee empowerment were major issues in Saudi organizations. Table 2 provides a summary of our key findings.

Table 2: Summary of Major Findings

Implementation Phases	Ownership and governance	Scope of implementation	Employee empowerment
Chartering	Interference during vendor selection	Lack of understanding of what modules to implement	Employees were not involved in ERP system implementation decisions
Project	Reluctant to change business processes and rules	Scope up and down in the middle of implementation	Employees did not receive adequate training
Shakedown	Reluctant to delegate authorities to middle and low level employees		Employees did not have the authority to execute business processes

DISCUSSION

Our objective was to study ERP systems implementation in a non-western country that has unique social and cultural orientations. We found that three aspects—i.e., ownership and governance, scope of implementation, and employee empowerment—played critical role in different phases of ERP systems implementations.

Theoretical Contributions

We contribute to the ERP systems implementation literature in at least three ways. First, we conducted multiple case studies in a context that is different from western and developed countries. As noted in prior research, IT

implementation process may significantly vary in different parts of the world and it is important to conduct IT implementation research in different contexts to enrich our theoretical understanding of IT implementations (e.g., Venkatesh et al. 2010). Our findings extended our current understanding of ERP systems implementation by offering a set of unique challenges that organizations in the Arab World may experience.

Second, we contribute to the literature related to ERP systems success by providing an in-depth understanding of three aspects of implementation—ownership and governance, scope of implementation, and employee empowerment. While these factors may not be as important in western countries, we found that they are critical in the Arab World. We expect them to be critical in most developing countries that have similar cultural characteristics, such as India and China. For example, Venkatesh et al. (2010) indicated that employee empowerment was a major issue in IT implementation in India. We extended their work by examining two additional factors (e.g., ownership and governance, and scope of implementation).

Finally, we contribute to the literature by highlighting factors that are important in different phases of implementation—i.e., chartering, project, and shakedown. Our findings indicate that ownership and governance structure played the most hindering role during the chartering and project phases. Scope management was a critical issue during the chartering and project phases. Employee empowerment was a major issue during the shakedown phase. Thus, our findings contribute by offering insights on factors that are critical at different phase of implementation in non-western countries.

Practical Implications

We offer two major practical implications. First, managers from organizations that develop and implement ERP systems (e.g., Oracle, SAP, and Microsoft) and consultants who help implement these systems in non-western countries need to be mindful about the unique cultural orientations of the Arab World and other countries with a similar cultural profile. Given that ERP systems are primarily developed in the western world for the organizations that operate in western settings, it is possible that the traditional implementation process will not be appropriate in other cultural contexts. Our findings suggest that while owners and top management in the Arab World recognize the need for implementing ERP systems, they may not necessarily create a conducive environment during the implementation process. Particularly, they may need the systems to be customized in certain ways and implementation process to be managed in certain ways. It is important that managers, consultants, and vendors manage the implementation process in such a way that owners and top management feel that the ERP systems will provide long-term benefits for their organizations.

Second, owners and top management from organizations in Saudi Arabia and other developing countries need to play a more supportive role during ERP systems implementation process. Prior research has found that ERP systems indeed provide operational and strategic benefits. Top management support is a critical success factor for engendering benefits from ERP systems. Therefore, owners and top management need to support ERP implementations in their respective organizations, involve employees in the implementation process, offer adequate training, and delegate proper authorities so that employees can utilize these systems effectively.

Limitations and Future Research

Our findings should be interpreted in light of the limitations of our research. First, we collected data only from small and medium organizations in Saudi Arabia. It is possible that our findings will be different in other organizational contexts. However, we suggest that these small and medium organizations are important part of the Arab World. In fact, it is customary in these countries to have family-owned businesses that are large in terms of total assets and revenues. Future research should incorporate organizations that are large to provide additional insights on ERP systems implementations in the Arab World. Second, we collected data from six organizations through an IT consultant. It is possible that other consultants have different experience related to ERP systems implementation. While we selected six cases to maximize variability, we believe that future research should focus on other organizations and possibly include organizations from other important Arab countries, such as UAE, Qatar, and Kuwait. Finally, we only collected data for the first three phases of ERP systems implementation. Future research could focus on collecting data beyond the shakedown phase to understand the long-term impact of ERP systems implementation in the Arab World.

CONCLUSIONS

ERP systems provide important operational and strategic benefits to organizations. While much is known about ERP systems implementation in western and developed countries, there has been limited research on ERP systems implementation in other parts of the world, particularly in the Arab World. Given the importance of the Arab World in the global economy, it is imperative to understand challenges associated with ERP systems implementation in these countries. We conducted six case studies in Saudi Arabia to understand three aspects of ERP systems implementation—ownership and governance, scope of implementation, and employee

empowerment. We found that Saudi organizations face several unique challenges during ERP systems implementation. We expect that our work will offer insights on IT implementations in different cultural contexts and engender interests in conducting IT implementation research in different parts of the world.

REFERENCES

Bala, H., and Venkatesh, V. 2007. "Assimilation of Interorganizational Business Process Standards," *Information Systems Research* (18:3), pp 340-362.

Banga, K. 2010. "Ask the Expert." Retrieved 17 July, 2011, from http://www.smeadvisor.com/2010/06/ask-the-expert/

Bell, B. 2010. "Saudi Arabia's Job Market Rethink." Retrieved 17 July, 2011, from http://news.bbc.co.uk/2/hi/middle_east/4137898.stm

Bhuian, S., Abdulmuhmin, A., and Kim, D. 2000. "Business Education and Its Influence on Attitudes to Business, Consumerism, and Government in Saudi Arabia," *Journal of Education for Business* 76(4), March/April, pp 226-230.

Bochner, S., and Hesketh, B. 1994. "Power Distance, Individualism/Collectivism, and Job-Related Attitudes in a Culturally Diverse Work Group," *Journal of Cross-Cultural Psychology* (25:2), June, pp 233-257.

Davenport, T. 1998. "Putting the Enterprise into the Enterprise System," *Harvard Business Review* (76:4), July-August, pp 121-131.

Davison, R. 2002. "Cultural Complications of ERP," *Communications of the ACM* (45:7), pp 109-111.

Davison, R.M., and Martinsons, M.G. 2002. "Empowerment or Enslavement: A Case of Process-based Organizational Change in Hong Kong," *Information Technology and People* (15:1), pp 42-59.

Dubé, L., and Paré, G. 2003. "Rigor in Information Systems Positivist Case Research: Current Practices," *MIS Quarterly* (27:4), pp 597-635.

Eisenhardt, K. M. 1989. "Building Theories from Case Study Research," *Academy of Management Review* (14:4), pp 532-550.

Gable, G. 2003. "Consultants and Knowledge Management," *Journal of Global Information Management* (11:3), July, pp. i-iv.

Gattiker, T.F., and Goodhue, D.L. 2000. "Understanding the Plant Level Cost and Benefits of ERP: Will the Ugly Duckling Always Turn into a Swan?" *Proceedings of the 33rd annual Hawaii Conference on System Sciences*.

Glass, R.L., and Vessey, I. 1999. "Enterprise Resource Planning Systems: Can They Handle the Enhancement Changes Most Enterprises Require?," *The Software Practitioner* (9:5), pp 1-12.

Hofstede, G. 1983. "The Cultural Relativity of Organizational Practices and Theories," *Journal of International Business Studies* (14:2), pp 75-89.

Holland, C.P., and Light, B. 1999. "A Critical Success Factors Model for ERP Implementation," *IEEE Software* (16:3), May-June, pp 30-36.

Hong, K., and Kim, Y. 2002. "The Critical Success Factors for ERP Implementation: An Organizational Fit Perspective," *Information and Management* (40:1), October, pp 25-40.

Idris, A.M. 2007. "Cultural Barriers to Improved Organizational Performance in Saudi Arabia." Retrieved 17 July, 2011, from http://findarticles.com/p/articles/mi_hb6698/is_2_72/ai_n29361269/

ITIM International. 2007. "Geert Hofstede: Cultural Dimensions." Retrieved 17 July, 2011, from http://www.geert-hofstede.com/hofstede_mexico.shtml

Jacobson, S., Shepherd, J., D'Aquila, M., and Carter, K. 2007. "The ERP Market Sizing Report, 2006-2011." Retrieved 17 July, 2011, from http://www.sap.com/belux/solutions/business-suite/erp/pdf/AMR_ERP_Market_Sizing_2006-2011.pdf

Kamhawi, E.M. 2007. "Critical Factors for Implementation Success of ERP Systems: An Empirical Investigation from Bahrain," *International Journal of Enterprise Information Systems* (3:2), April-June, pp 34-39.

Krigsman, M. 2010. "5 Critical Points for ERP Success." Retrieved 17 July, 2011, from http://www.focus.com/briefs/six-questions-ask-implementing-erp-software/

Krippendorff, K. 1980. *Content Analysis: An Introduction to Its Methodology.* Sage Publications, Beverly Hills, CA.

Kristine, H. 2011. "Oil and ERP Saudi Arabia." Retrieved 17 July, 2011, from http://www.erp.com/section-layout/337-erp-software/9033-enterprise-resource-planning-solutions-in-saudi-arabia.html.

Liang, H. G., Saraf, N., Hu, Q., and Xue, Y. 2007. "Assimilation of Enterprise Systems: The Effect of Institutional Pressures and the Mediating Role of Top Management," *MIS Quarterly* (31:1), March, pp 59-87.

Markus, M. L., and Tanis, C. 2000. *The Enterprise System Experience: From Adoption to Success* In *Framing the Domains of IT Management*, R. W. Zmud (Ed.), Pinnaflex Educational Resources, Cincinnati, OH.

Miles, M. B., and Huberman, A. M. 1984. *Qualitative Data Analysis: A Sourcebook of New Methods.* Sage Publications, Newbury Park, CA.

Nelson, R.R. and Chiney, P.H. "Training End Users: An Exploratory Study," *MIS Quarterly* (11:4), December, pp 547-559.

Panorama Consulting Group. 2011. "ERP Report: A Panorama Consulting Group Research Report, 2011." Retrieved 17 July, 2011, from http://panorama-consulting.com/Documents/2011-ERP-Report.pdf

Pillai, R., Scandura, T., and Williams, E. 1999. "Leadership and Organizational justice: Similarities and Differences," *Journal of International Business Studies* (30:4), pp 763-779.

Sambamurthy, V.,and Zmud, R.W. 1999. "Arrangements for Information Technology Governance: A Theory of Multiple Contingencies," *MIS Quarterly (23:2)*, June, pp 261-290.

Sharma, R., and Yetton, P. "The Contingent Effects of Training, Technical Complexity, and Task Interdependence on Successful Information Systems Implementation," *MIS Quarterly* (31:2), June, pp 219-238.

Teltumbde, A. 2000. "A Framework for Evaluating ERP Projects," *International Journal of Production Research* (38:17), pp 4507-4520.

Themistocleous, M., Irani, Z., O'keefe, R., and Paul, R. 2001. "ERP Problems and Application Integration Issues: An Empirical Survey" *Proceedings of the 34th Hawaii International Conference on System Sciences*, pp 9045-9054.

Venkatesh, V. 1999. "Creation of Favorable User Perceptions: Exploring the Role of Intrinsic Motivation," *MIS Quarterly* (23:2), June, pp 239-260.

Venkatesh, V., Bala, H., and Sykes, T.A. 2010. "Impacts of Information and Communication Technology Implementations on Employees' Jobs in India: A Multi-method Longitudinal Field Study," *Production and Operations Management* (19:5), pp 591-613.

Wang, E.T.G., and Chen, J.H.F. 2006. "The Influence of Governance Equilibrium on ERP Project Success," *Decision Support Systems* (41:4), May, pp 708-727.

Wood, B. 2010. "The Top 5 ERP Success Factors by Project Stage from 22 Critical Success Factors." Retrieved 17 July, 2011, from http://www.r3now.com/the-top-5-erp-success-factors-by-project-stage-from-22-critical-success-factors

Yavas, U. 1997. "Management Know-how Transfer to Saudi Arabia: A Survey of Saudi Managers," *Industrial Management & Data Systems* (97:7), July, pp 280-286.

Yin, R. K. 1994. *Case Study Research: Design and Methods*, 2nd ed. Sage Publications, Newbury Park, CA.

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