

AMERICAN UNIVERSITY OF BEIRUT

A HANDBOOK ON BEST HUMAN RESOURCES
PRACTICES AND GUIDELINES FOR THE
IMPLEMENTATION OF ENTERPRISE RESOURCE
PLANNING APPLICATIONS IN THE LEBANESE CONTEXT

by
REINE JOSEPH SARKIS

A project
submitted in partial fulfillment of the requirements
for the degree of Master in Human Resources Management
to the Suliman S. Olayan School Of Business
at the American University of Beirut

Beirut, Lebanon
April 2014

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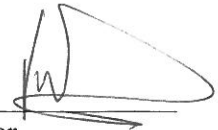
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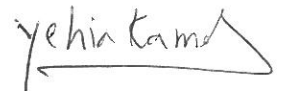
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ACKNOWLEDGMENTS

Wholehearted thanks are for my husband, Mr. Challita Romanos and my three kids, Ithamar, Mathieu Maria and Chimene for their incomparable patience and unfailing support.

My recognition and gratitude are addressed to my mother, Ms. Najla Sarkis and my father, Mr. Joseph Sarkis for their encouragement and prayers.

AN ABSTRACT OF THE PROJECT OF

Reine Joseph Sarkis for Master in Human Resources Management
Major: Human Resources Management

Title: A handbook on best human resources practices and guidelines for the implementation of Enterprise Resource Planning applications in the Lebanese context

The objective of this study was to develop a handbook for HR practices and guidelines to help achieve the successful implementation of Enterprise Resource Planning in the Lebanese context. Based on a qualitative research methodology that relied on semi-structured interviews with ten ERP experts to collect data, the study found that the involvement of HR in ERP implementation in Lebanon needs to be perceived as critically important. The study recommends the involvement and empowerment of the HR function at the strategic level in the planning, design, and implementation process, specifically in identifying, mapping, and managing the substantial change and transition process that accompanies ERP implementation.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	v
ABSTRACT	vi
LIST OF TABLES	xi
Chapter	Page
I. INTRODUCTION	1
A. Background	1
B. Justification	4
C. Research Objective and Questions	6
1. Research Objective	6
2. Research Questions	6
II. LITERATURE REVIEW	8
A. Introduction	8
B. Definition.....	9
C. Theoretical Foundations	10
D. ERP Components	12
E. HR-Related Factors	14
F. Role of HR in Transition	16
G. Conclusion.....	18
III. METHODOLOGY	19
A. Introduction	19

B. Research Approach.....	19
C. Research Design	20
D. Research Strategy	21
E. Data Collecting Instruments	22
1. Primary Data	23
2. Secondary Data	25
F. Sampling and Procedures.....	25
G. Data Analysis	26
H. Ethical Considerations	28
IV. FINDINGS	30
A. Introduction	30
B. Main Benefits Expected	33
1. Integration and Synchronization of Operations	34
2. Timely and Immediate Decisions	34
3. Efficient Use of Resources.....	34
4. Operational Control.....	34
5. Profitability	35
C. Realistic and Unrealistic Client Expectations	35
D. Types of Costs Expected	37
1. Acquisition Cost.....	37
2. Training costs.....	37
3. Restructuring costs.....	38
4. Opportunity costs	38
E. Realistic and Unrealistic Costs	38

F. Critical Success Factors for ERP Implementation.....	40
1. Top Management Support.....	40
2. Communication of Goals and Processes.....	41
3. Involvement of Managers and Employees.....	41
G. Main Causes of ERP Failures	42
1. Poor Readiness of Workforce	42
2. Resistance to Change	43
3. Poor Teamwork.....	44
4. Knowledge Gap.....	45
H. Major Issues and Problems	46
1. Information Technology Infrastructure.....	46
2. Human Resource Management	46
3. Management of Change	47
I. Best Practices.....	48
1. Information Technology Infrastructure.....	48
2. Human Resources Management.....	49
3. Change Management.....	49
V. DISCUSSION.....	51
A. Introduction	51
B. Perceptions of ERP.....	52
C. Identification of Components	52
D. Assessment of Benefits and Costs.....	53
E. Critical Success and Failure Factors.....	55
F. General Assessment.....	57

G. Recommendations	59
1. Involving the HR Function at the Strategic Level	59
2. Mapping Change	61
3. Communication Strategy.....	61
4. Integration of Processes	62
H. Limitations	63
I. Conclusion	63
BIBLIOGRAPHY	66

LIST OF TABLES

Table	Page
Table 1: Sample Characteristics	26
Table 2: Thematic Template	30

*To My Beloved Challita, and Three Angels
Ithamar, Mathieu Maria and Chimene*

CHAPTER I

INTRODUCTION

“The number one benefit of information technology is that it empowers people to do what they want to do. It lets people be creative. It lets people be productive. It lets people learn things they didn’t think they could learn before, and so in a sense it is all about potential.”

- Steve Ballmer (Former CEO at Microsoft 2000-2014)

A. Background

Technology has been gaining substantial ground in business management since the 1980s when computers became available and affordable on the mass level. Revolutionary developments in the 1990s did not only strengthen the position and status of technology in business, but they also transformed the way in which business was done, whether through the use of email and the internet, the rise of e-commerce or the emergence of sophisticated intranets and networks. In general, such technologies and technological advancements were seen as resources with added value. For example, emails facilitated internal and external communications whereas the internet enabled businesses to maintain constant presence in a virtual space and to expand their communicative capabilities beyond the limitations of space and time. More recently, however, new information systems have added a new dimension to the relationship between technology and business, a relationship that is oriented toward garnering the

capabilities of businesses through integration and harmonization (Sharma, Daniel & Gray, 2012).

In many of the early information technology models, new capabilities were developed in a linear manner, but with limited emphasis on integration and synchronization. In the new era, however, information systems have been more strategically-focused, with the objective of enabling decision makers to make full use of integrated, real-time and relevant data in making their strategic decisions (Wang et.al., 2007). In many of the early models of information system models, the emphasis was on supporting business functions and adding new capabilities that served specific functions such as accounting, finance, marketing or human resources. In the new model, best represented by Enterprise Resource Planning (ERP), the purpose of information systems is to empower decision makers at the strategic level by empowering their decision-making capabilities at the decision-making level. Whereas most information systems have typically given decision makers new arms, the purpose of advanced systems such as ERP has been to provide strategic decision makers with arms that are connected to a centralized brain; a system that enables every arm to know what the other arms in the organization are doing, and at the same time, empower decision makers to reach decisions both at the functional and strategic levels.

Despite the popularity of integrated information systems all over the world and in almost all industries and sectors, this popularity has not necessarily transformed into successful implementation. On the technical level, these systems seem to offer the majority of the needs and demands of businesses and decision makers on strategic as well as on the functional levels. However, despite the technical advancement and the promising nature of these systems, implementation failures are quite common,

reportedly reaching 70% of all ERP projects (Amid, Moalagh & Ravasan, 2012, p.227). Such failures include exceeding budgets, missing deadlines, failing to integrate different functions, and more critically, failing to support effective and efficient decision-making (Poba-Nzaou, Raymond, and Fabi, 2008). Failures have been attributed to various factors including inadequate infrastructure, inconsistent design, poor organizational readiness, and the lack of top management support and commitment (Ravnikar, 2010). Recently, however, researchers have been specifically highlighting the extent to which human resources and human resource management may be critical factors for the success or failure of ERP implementation (Cotran et.al., 2005; Dery & Weiles, 2005; Benders, Schoutenen & El-Kadi, 2009).

The potentially significant role of the human factor and human resources in the success or failure of ERP implementation may not be surprising (Dery & Weiles, 2005). To start with, unlike the case of most information systems, ERP implementation is not limited to technical or functional aspects of the organization. Rather, ERP applications are recognized as information systems which implementation imposes radical transformations at the levels of organizational structure and culture. Secondly, ERP implementation does not only affect data and information, but also the manner in which data and information are collected, processed and used. Thirdly, ERP implementation involves significant changes at the relational level within and between departments and divisions. In addition to this, ERP implementation is known for transforming the requisites of job requirements within organizations, hence imposing significant impacts on managers as well as workers.

Evidently, with such complex involvement of the human factor, it is not surprising that the latter should be associated with many failures of ERP

implementation. Hence, it is not surprising that the literature has been highlighting the importance and responsibility of human resource management as a critical factor for the successful implementation of ERP systems (Cotran et.al, 2005; Dery & Weiles, 2005).

B. Justification

ERP-related literature is not scarce, and thousands of studies have been published in relation to almost every facet of this subject. However, while many studies have highlighted the critical role of the human factor and human resource management for successful ERP implementation, the HR angle does not seem to have attracted much attention. In addition to this, the majority of published work on this subject has been concerned with ERP implementation and success factors from the perspective of large global organizations and multinationals. On the other hand, few are the studies that have addressed the perspective of small and medium-sized organizations (Sharma, Daniel & Gray, 2012; Malhorta & Temponi, 2010).

In Lebanon, the adoption of information systems has been rapid since the 1990s (Hitti, 2013). Despite the lack of data on the investment made by Lebanese businesses in information systems, general observations reveal a significant degree of awareness about existing information systems. This observation is also supported by the increasing number of listed local experts and consultancy firms in various online directories, as vendors of various information systems as well as consultants for implementation and maintenance. However, several important observations are also relevant. First, the vast majority of Lebanese firms are characterized as either micro, small or medium-sized, representing over 90% of all enterprises in Lebanon (IFAD, 2011). This is not to mention that family-owned enterprises are also very common.

Secondly, Lebanese businesses of all sizes seem to be highly computerized and dependent on information technology, but very little is known on the more advanced information systems used by Lebanese firms (Hitti, 2013). In addition to this, is a shortage in the publications that track the use of information systems by Lebanese firms, the extent to which implementation is successful or not, and the return on investment. Still, it seems that advanced information systems such as ERP have already been implemented by a growing number of Lebanese firms over the past few years, and this seems to be the case in industry and services alike. At the same time, however, very little is known about the practices associated with planning and implementation of ERP, let alone the factors that contribute to the success or implementation of ERP systems.

In the past few years, researchers have been increasingly interested in studying the issues associated with ERP implementation in small and medium-sized businesses, especially in the US and Europe (Malhotra & Temponi, 2010). In Lebanon, knowledge related to this area remains non-existent. More importantly, there has been a growing interest in the role and impact of Human Resources Management (HRM) in ERP implementation, specifically since it seems that the human factor is significantly related to high failure rates. Given the scarce knowledge in relation to ERP implementation in Lebanese small and medium-sized businesses, particularly with respect to the involvement of the Human Resources(HR) function in implementation, shedding light on this issue is highly justified. In fact, highlighting the aspects related to the role and relevance of the HR function in ERP implementation may be highly beneficial for the growing number of Lebanese businesses that are interested in implementing ERP systems and harnessing the benefits offered by such advanced systems. This research

could also be beneficial to the general research community from the SME and ERP perspective as it sheds light on the different benefits and constraints specific to SMEs and Lebanon.

C. Research Objective and Questions

Given the significant gaps in knowledge in relation to ERP implementation in Lebanon along with the importance of the HR function in the success or failure of such implementation, it is the objective of this study to address this knowledge gap from a practical perspective that is oriented at problem-avoidance and assisting Lebanese small and medium-sized businesses in achieving successful ERP implementation.

1. Research Objective

The general objective of this project is to develop a handbook on best human resource practices and guidelines for the implementation of ERP applications in Lebanese firms.

2. Research Questions

More specifically, the study aims at answering the following research questions:

- What country-specific attributes and issues constitute opportunities and challenge for HR management in implementing ERP applications in Lebanon?
- What critical success factors should the HR management focus on before, during and after ERP implementation?
- What critical failure factors should HR managers address and rectify before the firm initiates ERP implementation?

- What lessons have been learned from successes and failures in the Lebanese context?

CHAPTER II

LITERATURE REVIEW

A. Introduction

The objective of the literature review is to collect and present relevant secondary data on the literature, theories and empirical studies relevant to the subject of study. The literature review is significant because it provides the background of the subject of study as well as the theoretical foundations and perspectives which highlight the importance of the subject. The literature review also presents and highlights the value or implications of findings of previous studies which may explain and elaborate on certain benefits, disadvantages or developments related to the subject of study. The literature review also offers two important practical outcomes. Firstly, it provides the reader with an extensive understanding of the background and up-to-date information on the subject of study. Secondly, it enables the researcher to set the necessary foundation to identify the existing gaps in the literature. Moreover, it also enables the researcher to address the potential methodologies that can be used to address such gaps based on previously used and tested methods. In this study, the literature review is concerned with the theoretical justification of implementing ERP as well as with the findings of previous studies on ERP implementation in the context of small and medium-sized businesses in various countries since no such relevant research seems to be available in the Lebanese context.

B. Definition

Rapid advancements in computer development, network engineering and software applications have played a revolutionary role in the advent of new organization-wide applications that offer managers unprecedented power in terms of collecting, processing and using data for decision support purposes. In this respect, the rise of ERP applications can be positioned and recognized as one of the most powerful and promising applications (Ehie & Madsen, 2005).

According to one definition, ERP systems are “organization-wide information systems designed to integrate information flows within the user organization in order to control business process in an integrated fashion, thus enhancing efficiency and effectiveness and/or reduce transaction costs” (Benders, Schouteten and El-Kadi, 2009, p.642). In simpler terms, ERP systems are applications which gather data from all over the organization and then channel them to end users who can make well-informed decisions to improve the performance and bottom line of the organization.

Similarly, Ravnkar (2010, p.186) defines ERP as a solution that “facilitates the manufacturing of the right product, at the right place, at the right time, and for the right price.” Furthermore, ERP provides “a platform that enables effective real-time production planning and customer responses that integrate the function-based processes across all functional areas of the organization” (Ravnkar, 2010, p. 186). Although this definition is narrower than the previous definition provided by Benders, Schouteten and El-Kadi (2009), it highlights a critical characteristic of ERP, namely its ability to provide real-time data and information for decision makers. In addition to this, this definition also refers to the fact that ERP makes both current and historical data accessible for supporting current or future decision making.

Hence, addressing the various functional capabilities and outcomes of ERP, another focused definition perceives ERP as “a packaged business software system that lets an organization automate and integrate the majority of its business processes, share common data and practices across the enterprise and produce and access information in a real-time environment. The ultimate goal of an ERP system is that information must only be entered once” (Marnewick & Labuschagne, 2005, p. 145). In line with this definition, Avram (2010) considers ERP as the complex integrated system that enables the decision makers within an organization to have full and immediate access to data pertaining to the main relevant operations and functions within the organization such that the brain of the organization is aware of what the key functions of the organization are doing simultaneously and in real time.

C. Theoretical Foundations

Several theories have been used to explain and support the planning, evaluation and implementation of ERP in organizations. Given the complexity of ERP systems and the vast implications for the organization, many theories have focused on specific aspects or outcomes of implementation. On the other hand, three major theories that have focused on the overall impact of ERP implementation are complexity theory, neo-institutional theory and diffusion of innovation theory.

According to Poba-Nzaou, Raymond, and Fabi (2008, p. 536), complexity theory is widely used to address ERP implementation and its issues because this theory is primarily interested with how organizations adapt to and cope with the risks and uncertainties inherent to their internal and external environments. Under this theoretical perspective, organizations constitute numerous complex relationships among individual

and collective players whose behaviors are dynamic and continuously evolving in response to internal and external events and changes (Aladwani, 2001, p. 266). ERP implementation fits into this theory because it is perceived as a set of systems and processes that enable decision makers to address the dynamic changes in risks and uncertainties while at the same time providing actors in the organization with the ability to exercise behaviors in response to these dynamic changes. In accordance with complexity theory, ERP represents a powerful tool that recognizes the complexity of organizations and which attempts to support decision-makers in reaching informed decisions while responding to dynamic changes.

The second relevant major theory according to Poba-Nzaou, Raymond, and Fabi, (2008) is the neo-institutional theory which stipulates that organizational change is an event that occurs at all times as a result of numerous interactions within the organization and between the organization and its external environment. This theory highlights the view that although organizations engage in activities to change their environments, their internal change is also driven by changes in the business environment. The relevance of this theoretical foundation to ERP implementation is based on the fact that ERP as a system reflects the reality of the interactions taking place within the organization and between the organization and its various external environments, all in real time. This in turn provides decision makers with an effective tool to understand internal and external environments of the organization as the neo-institutional theory defines it (Wood & Caldas, 2001).

Unlike complexity and neo-institutional theories, the diffusion of innovation theory is more focused on the internal environment of the organization, with emphasis on the role of human capital. According to Poba-Nzaou, Raymond, and Fabi (2008),

the diffusion of innovation theory stipulates that the structures and cultures of organizations constitute a dynamic social system of communication channels. This theory holds that innovation and creativity can be motivated in a sustainable manner if and when the communication channels within the organization create a positive environment that facilitates creativity. Such channels, however, require reliable structures, processes and attitudes that can help organizations garner the innovative thinking and behavior of employees. ERP systems are considered adequate for the creation of such channels because they are designed to collect and channel data in the most efficient and effective way, and in a timely manner (Wood & Caldas, 2001).

D. ERP Components

While ERP applications are the product of sophisticated advancements in networking and software development, it is the organizational outcomes and impacts of ERP that have attracted the attention of organizational researchers. This is not surprising since the implementation of ERP imposes substantial impacts on the organization on the functional, social and organizational levels.

In this respect, Marnewick and Labuschagne (2005, p. 146) identified four main components of ERP, namely the customer's mindset, the software dimension, change management and process flow.

To start with, the process flow refers to how information flows within the ERP modules and its effective implementation requires modeling and reengineering the business processes within the organization. This could imply substantial changes in the jobs, functions and responsibilities of employees and managers within the organization. (Marnewick & Labuschagne, 2005, p. 147).

In contrast, the software component basically consists of all the technical requirements and process changes that are required or that will result as part of introducing and implementing ERP suits with the purpose of accomplishing specific and intended goals and benefits of ERP (Marnewick & Labuschagne, 2005, p. 147).

While the software and process flow components are more technical in nature, the customer's mindset component is more concerned with the human dimension, specifically as it refers to overcoming employees' resistance to change that results from implementing ERP (Marnewick & Labuschagne, 2005, p. 148). Resistance to ERP implementation is not uncommon, especially as it involves significant changes in business processes, functions, responsibilities and demands related to employees. Uncertainty about the future is often among the main leading factors leading to negative attitudes, opinions and possibly behaviors (Allen, 2008, pp. 332-333). In addressing this component of ERP implementation, it is relevant to perceive resistance to change at three levels, namely user influence, team influence and organizational influence.

In terms of user influence, ERP is not just a new software, but also a new culture. It is essential to ensure that users understand its importance as well as the impact that it will have on their jobs, functions and responsibilities. Technical training is an important aspect but the technical dimension must be accompanied by ensuring that employees are ready to accept the new culture that results from implementation (Marnewick & Labuschagne, 2005, p. 150).

With respect to team influence, ERP requires strong relationships based on partnership and collaboration. This requires strong teamwork involving upper management and the ERP project team, as well as all those involved in implementation within the organization to ensure that the system works adequately to

achieve its effectiveness. However, this aspect is often ignored, resulting in implementation failure (Marnewick & Labuschagne, 2005, p. 151).

Likewise, radical implications are seen with respect to organizational influence because ERP systems result in breaking down organizational barriers and require that users be multi-skilled. Effective implementation requires moving away from hierarchical structures (Marnewick & Labuschagne, 2005, p. 151).

On the other hand, perhaps the most challenging component of ERP which is commonly associated with significant difficulties and challenges is that related to change management. According to Marnewick and Labuschagne (2005, p. 153), change management is probably the most challenging component of ERP implementation because ERP often demands radical changes not only in the organizational structure of an organization, but also in the way of thinking and doing. Change management involves user attitude, project change, and business process changes which explains why addressing this component tends to be the most difficult although it commonly gets less attention during planning and implementation (Marnewick & Labuschagne, 2005, p. 153).

E. HR-Related Factors

From a general perspective, the literature cites a variety of critical HR-related factors required for the success of ERP implementation. These include top management support, project management competence, and change management (Ravnikar, 2010, pp. 186-187). In addition to this, other factors include the ability of the organization to engage in business processes change, the use of effective communication, meeting user expectation, and ensuring the use of high quality information system. In addition to

this, it is important to avoid the temptation to engage in the intensive customization of information technology because ERP is intended to achieve standardization rather than customization within the organization (Ravnikar, 2010, p.188).

ERP implementation does not affect a certain area or function of the organization, but rather, it is likely to impact multiple functions and areas at the same time. According to Benders, Schouteten and El-Kadi, (2009), ERP will often result in additional tasks or replaced tasks, and in either case, this will impact the perception, attitude, behavior, satisfaction and performance of employees in different areas of the organization. It is critical therefore to weigh the impact of ERP implications on the centralization or decentralization of jobs during the design process. This also implies the critical need to involve the HR function in the planning, implementation and evaluation processes related to ERP, especially since the majority of challenges associated with ERP implementation and change management are HR related and will require the intervention by the HR function. Another HR-related factor is the fact that employee behavior is critical in how ERP systems are used and how they perform. Furthermore, job content affects behavior and hence indirectly affects ERP use and performance (Benders, Schouteten and El-Kadi, 2009, p.642).

Similarly, ERP impact on employee behavior is likely to start at the planning and configuration phases. ERP often has a direct impact on employee autonomy since it is by default intended at controlling processes and resources. It may affect the degree to which employees can access the system, enjoy authorization in the system, or the extent to which they are monitored directly or indirectly by the system (Benders, Schouteten and El-Kadi, 2009, p.643).

ERP contributes to the reduction of operating costs by integrating departments and operations as well as optimizing business processes and increasing efficiency (Ravnikar, 2010, p.186). However, this may also leave some negative impact on managers and employees who may lose some of their power and authority as a result of ERP implementation. For example, tightening organizational control through ERP can be very stressful for employees because they may be authorized to access the system to monitor processes but lack the power or authority to take action. As a result, they can see problems but cannot act to solve them (Benders, Schouteten and El-Kadi, 2009, p.643).

Another HR-related issue is the potential negative impact on the workforce during the early implementation phases. Since most organizations lack in-house expertise, they tend to rely on external consultants to fully or partially implement ERP systems. However, the heavy reliance on external consultants can lead to poor user training, weak coordination across functions and departments, and the lack of team spirit. These and other human-related factors can easily lead to implementation failure (Kim, Lee & Gosain, 2005, p.159).

F. Role of HR in Transition

Although failing to take the HR factor into consideration is often one of the leading causes of ERP failures, the fact is that this factor has received significant attention for years. Cotran et.al. (2005) for example drew a roadmap for safe passage during ERP implementation.

The first step in the process is managing the transition from old to new ways of working: using the concept of key stewards who bring in both expertise and knowledge

to the various areas of the organization involved in the change process. Each transformation requires key stewards with clearly defined roles and responsibilities. The second step is defining the organization's new structure: identifying the key areas of change and mapping ERP application roles to existing jobs. Basically this is about identifying each and every change that results from the introduction of ERP in different jobs, functions and areas, and creating a roadmap of how these will be transformed and subjected to change as a result of the introduction and implementation of ERP (Cotran et.al., 2005).

A third step is caring for the ERP project teams by providing personal, emotional and work-life balance needs to those involved in the project, with specific emphasis on the need to overcome the stress resulting from change. The fourth step is helping people in the business embrace the changes: setting up guiding HR principles to help people embrace change. These principles included the management of legal and contractual issues, timely communication of the project impact to staff with respect to department or position changes, timely communication of new opportunities to staff affected by the change, and providing personal and emotional support to impacted staff. The final step is knowledge transfer and training end-users on the new system through the provision of training to all end-users in addition to applying the train-the-trainer concept to ensure the sustainability of the transfer of knowledge to staff (Cotran et.al, 2005).

A similar approach is proposed by Worsterf, Weirich and Andera (2011) with the purpose of managing change during ERP implementation. First, it is essential for the HR management team to identify areas of intended changes at all levels of the organization. The second step is to identify and map the components that will change

as a result of ERP implementation. The third step is to select the tools that will be deployed to support the implementation process as part of managing change that accompanies this process. The last step is to define the educational needs and the tools that will be used to meet those needs, and these may include orientation as well as training and development programs.

G. Conclusion

There is a growing concern with and interest in the role of HR in ERP implementation, especially with the realization that HR factors are highly relevant to ERP implementation successes or failures. Hence, identifying the role of HR and the steps that HR managers should undertake during the implementation of ERP is essential to guarantee a successful outcome.

CHAPTER III

METHODOLOGY

A. Introduction

This chapter presents and discusses the research method used to accomplish the goals and objectives of the study. This chapter will describe and justify the research approach employed, the research design used, and the data collecting instruments that were applied to attain primary data. The chapter will also discuss the limitations and ethical considerations involved in the implementation of the methodology.

B. Research Approach

The research approach pertains to the manner in which the researcher approaches the subject of a study (Bryman & Bell, 2007). Researchers often choose between two broad methods depending on the nature of the subject of study and on the research objectives. The first approach refers to the deductive method in which the researcher initiates the study by addressing the broad theoretical frameworks to draw conclusions that are then verified by the data collected during the study (Qu & Dumay, 2011). While the deductive approach involves the movement from a general point of view to the making of narrow and relevant conclusions, the inductive approach works in the opposite direction. When using the inductive approach, research is initiated by making narrow and specific assumptions about a certain subject and then the researcher collects data with the goal of expanding the scope of the study until a general theory or a general set of theories can be formulated in relation to the subject and its findings (Adams, 2010).

In the context of this study, a deductive approach is justified by two factors. Firstly, the subject of study itself is not entirely new, and several theories relevant to the various aspects of this subject have already been addressed previously. Secondly, the objective of the study itself is aimed at drawing narrow conclusions that are specific in nature and which pertain to a specific context, namely the context of human resources in small and medium sized businesses in Lebanon.

C. Research Design

The research design in a study identifies the direction that the researcher will take in achieving research objectives (Adams, 2010). As far as this study is concerned, the objectives generally aim at describing an existing situation and then drawing conclusions or proposing solutions that aim at addressing the current situation. Accordingly, the study involves three broad designs. The first is review-based design involving the development of a literature review relevant to the subject by reviewing the findings of previous empirical studies conducted on the subject. The second is a descriptive design which aims at describing the current practices and situation relevant to HR practices involved in ERP implementation in the context of Lebanese small and medium-sized businesses. The third is an exploratory design with the objective of shedding light on certain areas of the subject that have not been covered previously, specifically the issues related to HR practices in ERP implementation in the Lebanese context. The three designs go hand in hand in accomplishing the goals of the study since it is the objective of the research to review existing best practices, describe a current situation, and then explore potentials to remedy existing problems.

D. Research Strategy

The research strategy refers to how the researcher will attempt to gather data to fulfill the purpose of the study (Bryman & Bell, 2007). In this respect, three main strategies are available. The first strategy is the quantitative strategy in which the researcher collects data that is quantifiable and which is best presented in statistical forms. A quantitative method is highly relevant when researchers are attempting to survey an issue, identify patterns or draw conclusions that are supported by objective evidence. Such a strategy is also very relevant when a large body of knowledge exists about the subject as a result of previous research (Bryman & Bell, 2007). Quantitative strategies are highly useful because they can be replicated to generate objective data at different periods in time for the purpose of comparison and contrast with the findings of previous studies, allowing for an accurate assessment of changes in variables over time. Quantitative strategies are also associated with several commonly used data collecting instruments which reliability and validity have been well-established (Bryman & Bell, 2007). On the other hand, quantitative strategies may be criticized for several limitations such as failing to explore issues in depth and for being too limited when dealing with complex phenomena where the role of contextual and indirect factors may be difficult to identify (Bryman & Bell, 2007).

In contrast to quantitative strategies, qualitative strategies are more concerned with collecting subjective data or inputs such as opinions, views, reflections and subjective knowledge of subjects (Qu & Dumay, 2011). Qualitative strategies are appropriate when the researcher is more interested in exploring and probing and less concerned with measuring changes related to specific variables over time. It is also an appropriate strategy when the researcher is addressing certain issues about which no

quantitative data exist from previous studies. The main advantage of qualitative strategies is that they provide the researcher with much more freedom during data collection, especially when the population of subjects in question is small or difficult to access. It is also very useful when the researcher is probing new perspectives or angles on a subject of research (Qu & Dumay, 2011). The main disadvantage of qualitative strategies, however, is that they suffer much weaker reliability. Yet, this is not necessarily a disadvantage when the researcher is interested in exploring diverse opinions and perspectives on the same subject of study (Qu & Dumay, 2011).

A mixed strategy involving both qualitative and quantitative methods may also be used by researchers, offering the advantages of both strategies at the same time. A mixed strategy can significantly enrich a study and strengthen both reliability and validity. However, a mixed strategy can be extremely difficult to implement because it may require substantial resources, energy and time (Bryman & Bell, 2007).

In this study, the research objectives are specifically focused on exploring the subjective perspectives of experts and professionals in a certain population that is characterized by small size and significant diversity. Given these considerations, a qualitative strategy is more appropriate.

E. Data Collecting Instruments

Data collecting instruments must be selected in line with the research objectives, approach, design and strategy (Bryman & Bell, 2007). Given the descriptive and exploratory design of this study, the deductive approach, and the qualitative strategy, data collecting instruments must be used to collect data that pertain to the goals of the study. Two types of data must be collected, namely primary data and secondary data.

1. Primary Data

Primary data are data collected firsthand by the researcher for processing to accomplish research objectives. The primary data collecting instrument selected for this study is the semi-structural interview. According to Dearnly (2005), the semi-structured interview is a qualitative data collecting instrument that is characterized by an open nature, allowing the researcher to seek depth and validity, especially in areas where there is an emergence of new concepts. Whiting (2008) considers the semi-structured interview to be one of the most effective methods of data collection in areas such as humanities and social sciences because it allows for more exploration, seeking expert opinions, attaining deeper insights and accessing a variety of worldviews of individuals who have a variety of experiences and backgrounds.

Unlike many other positivist approaches that focus on facts alone, Qu and Dumay (2011) place the semi-structured interview as an approach which focuses on meanings, and this is highly relevant when the research is focused on human experiences and meanings. Thus, it is not only aimed at collecting data that reflect meaning, but more importantly, it is focused on collecting meanings associated with human behavior and experience. It is commonly used when the facts alone may not provide a complete picture of a certain human situation or process.

In addition to this, Bryman and Bell (2007) recommend the semi-structured interview over the traditional structured interview when the researcher is dealing with situations that may be ambiguous or where the interviewees may come from different backgrounds or have diverse experiences to reflect on. Hence, as an instrument, it gives the researcher more ability to focus on the social context of the situation under investigation. Furthermore, as Pathak and Intratat (2012) point out, the semi-structured

nature of the interview offers flexibility during the interview itself, enabling the researcher to expand or narrow the focus of the questions depending on the knowledge and experience of the interviewee as well as on other factors such as the willingness or unwillingness of the interviewee to expand on a certain topic.

While the semi-structured interview may seem to be simpler than many other data-collecting instruments, it often proves to be the most challenging for researchers. Pathak and Intratat (2012) highlight critical strategies for success, starting with the need to build rapport with the interviewee and then making thought-provoking interjections in relation to specific issues and specific cases. Adams (2010) further adds that the success of the semi-structured interview requires a significant deal of careful planning and knowledge acquisition about the subject before initiating the interview. During the interview, it is the responsibility of the researcher to build rapport and trust with the interviewee and to maintain subtle control of the track of the interview without being judgmental or pushy, listening very carefully to what is being said, and paying attention to the meaning of silent intervals during the interview. Emotional control and keeping the interviewee comfortable are also issues that the interviewer must pay attention to during the interview (Whiting, 2008).

Yet, as Hesse-Biber and Leavy (2011) add, the semi-structured interview involves serious ethical considerations. They strongly recommend that the interviewer clearly discusses the issues of sensitive questions, personal information and privacy and the limits of the questions with the interviewee before initiating the interview itself.

In collecting the primary data for this study, interviewees were asked to respond to questions following the interview guide, with emphasis on four general questions: 1) the attributes and issues that represent opportunities or challenges for HR management

in implementing ERP in Lebanon; 2) the critical success factors that HR management should focus on in before, during and after implementation; 3) the critical failure factors that HR should address and rectify before ERP implementation; and finally 4) the lessons learned from ERP implementation experiences in Lebanon. Interviewees were invited to elaborate and expand in responding to these questions based on their professional and previous experiences as well as the experiences that they were familiar with.

2. Secondary Data

Secondary data was collected from previous peer-reviewed publications available in a variety of journals. The main journals from which secondary data was collected in this study were accessed through the online AUB Libraries databases such as ProQuest and others. The majority of the articles used were relatively new, mostly dating between 2005 and 2013.

F. Sampling and Procedures

In line with the Institutional Review Board (IRB) guidelines at the American University of Beirut with respect to ethical considerations in sampling, and also based on the suggestions of researchers in this area (Qu & Dumay, 2011), several criteria were set up for sampling with the purpose of recruiting participants for the study. The first concern was to ensure the full privacy for the participants as well as for any relevant third parties such as the clients of the participants. In accordance with the objectives of the study, the goal was to recruit experts in ERP implementation in the Lebanese context with primary emphasis on the human resource perspective. A sample of ten was

considered to be appropriate as it was judged sufficient to cover the diversity of backgrounds of potential participants.

Several recruiting methods were used, including Yellow Pages, LinkedIn and business directories. In total, about 36 potential participants were contacted, and only those with ERP experience were asked to participate in the study, which reduced the number to 10 who had significant expertise and exposure to ERP implementation and who were willing to participate in the study.

Table 1: Sample Characteristics

Pseudonym (Alphabetically)	Educational Level	Years of Experience	Type of Experience
Ayman	BS	11	Local
Dany	Masters	13	Local
Frederic	BS	15	Local
Hani	Masters	11	Local
Issam	Masters	18	Regional
Jamil	Masters	12	Regional
Kamal	BS	14	Local
Mohammed	BS	18	Regional
Rami	Masters	15	Regional
Selim	Masters	16	Regional

The interviews were conducted during the second half of December 2013 and the first half of January 2014. Three of the interviews had to be rescheduled as a result of the unstable security situation in Lebanon, but they were all carried out as planned in the end. Interviews generally lasted between 45 and 70 minutes.

G. Data Analysis

Since the recording of the interviews was out of question for privacy concerns, the researcher depended on note-taking during the interviews. Immediately after each interview, an extensive summation of the interview was then prepared by the researcher.

Once all interviews had been completed, the researcher then compared and contrasted the results and provided an extensive list of responses and findings relevant to each question, theme and sub-theme raised during all the interviews.

Adams (2010) identifies four appropriate methods for data analysis when employing the semi-structured interview, namely grounded theory, content analysis, narrative summary analysis and triangulation.

Triangulation, however, involves cross-analysis of data collected using both qualitative and quantitative methods, which makes it inapplicable to this study (Adams, 2010). Grounded theory, on the other hand, involves classifying responses of interviewees into codes and concepts and then reconstructing the concepts in a form of reverse engineering to reach new theoretical insights. This form of analysis, however, is more suitable when the intention of the researcher is to develop new theoretical insights (Dearnley, 2005), whereas the objectives of this study are more oriented toward exploration within the existing theoretical concepts.

Thirdly, researchers may also resort to narrative summary analysis which involves breaking down the data to basic components and then reconstructing the findings for the purpose of reaching different perspectives from participants. This method, however, is more suitable when it is the intention of the researcher to rebuild the stories told by participants in order to reach new possible insights or conclusions (Dearnley, 2005).

The fourth data analysis approach for qualitative methods such as semi-structured interviews is the content analysis method which involves categorizing and classifying data according to keywords or thematic concepts before applying critical analysis to the content and the communication. This method is also suitable when the

researcher is interested in analyzing the content provided by different participants to identify new insights (Adams, 2010). This study employed the content analysis method because it is straightforward and simpler to apply, especially since the interviews were already designed along specific themes.

In line with the methodology, interviews were conducted over six weeks from December 1st, 2013 to January 14th, 2014.

The protocol in each interview was to reiterate the objectives of the study to the interviewee, provide assurances that all ethical considerations were addressed specifically those related to privacy, and emphasize the strict academic nature and objective of the study. On average, each interview lasted between 45 and 70 minutes. During the interview, the researcher took written notes for the responses to each question. At the end of the interview, the notes related to each question were classified thematically and listed as headlines with explanations.

Once all interviews had been completed, the researcher then listed all the responses provided by each interviewee in response for each question. Categories and sub-categories were created according to the responses without imposing any thematic categories by the researcher. The statements of all interviewees were then compared and contrasted before they were all listed under the final categories and sub-categories in a thematic template table (Table 2).

H. Ethical Considerations

There were a variety of ethical considerations that had to be addressed in the course of carrying this study out. First of all, all private and personal data related to the interviewees as well to any third parties that they represented had to be concealed and

protected. In line with the IRB standards and requirements, the researcher addressed this issue proactively and provided all the necessary assurances to the interviewees.

CHAPTER IV

FINDINGS

A. Introduction

This chapter presents the findings of the study after implementing the methodology selected for data collection. The general findings for all interviews are presented below, treating each question as a separate section. . The results are also summarized in the thematic table (Table 2) below in which each of the themes and categories identified are listed, along with the pseudonym given to the interviewee. In addition to this, Table 2 includes a “source” column which presents the number of interviewees who mentioned a specific theme or category, and a “reference” column which indicates the number of times a certain theme was mentioned by the interviewees.

Table 2: Thematic Template

Name	Source	Reference	Pseudonym (Alphabetical listing)
Main Benefits Expected			
Integration & Synchronization of operations	10	12	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Timely & Immediate Decisions	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Efficient Use of Resources	10	13	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Operational Control	10	11	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Profitability	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Factors Affecting Realistic Expectations			
Education & IT Orientation	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim

Name	Source	Reference	Pseudonym (Alphabetical listing)
Previous Exposure	9	10	Ayman, Dany, Fred, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Developed Organizational Structure	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Factors Affecting Unrealistic Expectations			
Traditional Business Style	7	7	Dany, Fred, Issam, Jamil, Kamal, Rami, Selim
No Previous Exposure to Advanced IT	9	10	Ayman, Dany, Fred, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Misleading Info/Unreliable Sources	6	6	Fred, Hani, Issam, Jamil, Mohammed, Selim
Decision Maker Not Involved in Operations	7	7	Ayman, Fred, Issam, Kamal, Mohammed, Rami, Selim
Serious Organizational Weaknesses	6	7	Ayman, Dany, Hani, Jamil, Kamal, Mohammed
Demanding Immediate Results	9	9	Ayman, Dany, Fred, Hani, Issam, Kamal, Mohammed, Rami, Selim
Types of Costs Expected			
Acquisition Cost	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Training Costs	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Restructuring Costs	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Opportunity Costs	6	6	Dany, Fred, Jamil, Mohammed, Rami, Selim
Unrealistic Costs			
Implementation Costs	3	3	Issam, Kamal, Mohammed
Indirect Costs	3	3	Issam, Kamal, Mohammed
Upgrading Costs	3	5	Issam, Kamal, Mohammed
HR Costs	3	4	Issam, Kamal, Mohammed
Critical Success Factors			
Top Management Support	8	8	Dany, Fred, Hani, Issam, Kamal, Mohammed, Rami, Selim
Communication of Goals/Procedures	8	11	Dany, Fred, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Involvement of Managers/Employees	6	9	Dany, Fred, Issam, Mohammed, Rami, Selim

Name	Source	Reference	Pseudonym (Alphabetical listing)
Main Causes of ERP Failures			
Poor Readiness of Workforce	10	10	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Resistance to Change	9	11	Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Poor Teamwork	7	7	Ayman, Fred, Hani, Issam, Kamal, Rami, Selim
Knowledge Gap	7	8	Ayman, Fred, Hani, Jamil, Kamal, Mohammed, Selim
Major Issues/Problems			
<i>IT Infrastructure Issues</i>			
IT Infrastructure outdated	8	8	Ayman, Dany, Fred, Issam, Jamil, Mohammed, Rami, Selim
Upgrading IT associated with anxiety	8	9	Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami
<i>HR Management Issues</i>			
HR not involved in planning	7	9	Dany, Fred, Jamil, Kamal, Mohammed, Rami, Selim
HR lacks knowledge/skills	6	6	Ayman, Fred, Hani, Issam, Rami, Selim
HR lacks support/authorization	6	7	Dany, Fred, Issam, Jamil, Rami, Selim
HR lacks resources	5	7	Fred, Hani, Issam, Kamal, Mohammed
<i>Management of Change</i>			
Limited to good communication	7	7	Dany, Fred, Hani, Jamil, Kamal, Mohammed, Selim
Organizational/Functional change	7	7	Ayman, Fred, Hani, Issam, Kamal, Mohammed, Rami
Uncertainty	8	10	Dany, Fred, Hani, Jamil, Kamal, Mohammed, Rami, Selim
Best Practices			
<i>IT Infrastructure</i>			
Adequacy & Capacity	8	8	Ayman, Dany, Fred, Issam, Jamil, Mohammed, Rami, Selim
Integration	8	9	Ayman, Dany, Fred, Issam, Jamil, Mohammed, Rami, Selim
Extensive Pre-Assessment	7	11	Ayman, Fred, Issam, Jamil, Mohammed, Rami, Selim

Name	Source	Reference	Pseudonym (Alphabetical Listing)
<i>HR Management</i>			
Involved in Planning	7	7	Dany, Fred, Jamil, Kamal, Mohammed, Rami, Selim
Involved in Identifying Impact	7	9	Dany, Fred, Jamil, Kamal, Mohammed, Rami, Selim
Involved in Designing Change Processes	7	8	Dany, Fred, Jamil, Kamal, Mohammed, Rami, Selim
Access to Resources	5	6	Fred, Hani, Issam, Kamal, Mohammed
Involved in Communication Processes	3	7	Issam, Kamal, Selim
Access to Resources to work with IT	1	2	Mohammed
Involved in Design/Oversight of Change	8	12	Ayman, Dany, Fred, Issam, Jamil, Mohammed, Rami, Selim
<i>Change Management</i>			
Initial Plan	10	18	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Management Team	9	13	Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Critical Impact Areas Identified	9	12	Ayman, Dany, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Extensive Implementation Plan	9	16	Ayman, Dany, Fred, Hani, Issam, Jamil, Mohammed, Rami, Selim
Clear Timeframe	10	11	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim
Anticipation of Obstacles	10	12	Ayman, Dany, Fred, Hani, Issam, Jamil, Kamal, Mohammed, Rami, Selim

B. Main Benefits Expected

ERP implementation is expected to yield substantial benefits for clients, a fact that was highlighted by all the interviewees in this study:

“ERP is a huge and complicated undertaking for any business, but it is justified by the many beneficial outcomes for the business. If you implement it properly, you can expect to integrate and synchronize operations, apply stricter control to operations to achieve efficiency, and of course, increase profitability.” [Issam]

1. Integration and Synchronization of Operations

One of the primary benefits of ERP implementation is the achievement of integration and synchronization of operations, activities and functions such that all the functions and departments at the organization are up to date with one another. All interviewees without exception indicated that clients seem to be fully aware of this particular set of benefits associated with ERP, hence suggesting a high level of awareness of the operational value of ERP as a system.

2. Timely and Immediate Decisions

This benefit relates to the ability of decision makers to make timely and immediate decisions on the operational and strategic levels based on current data. This is particularly relevant to firms that manage inventories or which operations are process-based. Similarly, this benefit is also enjoyed at the level of making strategic decisions.

3. Efficient Use of Resources

Better organization and more efficient use of resources, especially time, human resources, production process times, equipment availability, overall productivity and performance etc.

4. Operational Control

Better operational control in terms of scheduling, processes, costing and finances. Every single cost can be tracked to its source, allowing management to conduct effective cost analysis and improve operational efficiency.

5. Profitability

Improved profitability as a result of attained benefits such as reduced waste and the improved and increased efficiency in the management of resources.

C. Realistic and Unrealistic Client Expectations

Seven out of the ten interviewees acknowledged that clients tend to have unrealistic expectations with respect to the benefits and outcomes of ERP. The extent to which client expectations are realistic or unrealistic depends on a number of factors, especially the customer's mindset:

“The business mentality and management style is the main cause of unrealistic expectations, especially if the business owner is very traditional in his thinking and expects to get immediate results” [Mohammed]

In this respect, the interviewees identified a number of factors that may be responsible for developing unrealistic expectations:

- More educated and IT-oriented clients tend to have the most realistic expectations. They know exactly what they want and generally have a good idea about the capabilities of ERP with respect to benefiting their businesses.
- Clients who have had previous experience with or exposure to the implementation of IT systems tend to have more realistic expectations, especially with respect to the demands of ERP on their resources (e.g. expenses, change management, time, investment, direct/indirect costs, etc.).
- Clients whose firms have an IT department, a team or manager dedicated for IT tend to be quite realistic in their expectations of what ERP can deliver for their firms.

- Firms that have well-developed organizational structures, functional or departmental divisions and processes tend to have more realistic expectations, mainly because they tend to do more research on IT functions and applications to consider the impacts of these applications on organizational operations.

On the other hand, the profile of the client who has unrealistic expectations seems to include the following characteristics:

- The decision maker comes from a very traditional business background in terms of centralized decision making, operational control and market orientation.
- The decision maker has no previous experience with or exposure to integrated or advanced IT suites or applications.
- The decision maker has been exposed to misleading information or unrealistic expectations from unreliable sources.
- The decision maker is not directly involved in operations and in organizational aspects of the business, but has control over financial resources of the firm.
- The organization suffers serious organizational issues and the decision maker is desperate to the point of believing that implementing advanced IT applications will provide magical solutions to the structural and other problems of the firm.
- The most common unrealistic expectation among Lebanese decision makers is that implementing integrated applications will immediately result in achieving competitive advantages and will enable the firm to automatically achieve significant gains in the market vis-à-vis competitors.

D. Types of Costs Expected

Generally, all the interviewees remarked that their clients usually have a significant understanding of the costs associated with ERP implementation:

“The client may not know the exact cost that comes with a project such as this, but he usually knows what type of costs will be incurred before starting” [Rami]

Based on the interviews, the types of costs were divided into the following categories listed below:

1. Acquisition Cost

Financial cost of acquisition/ownership: All clients generally expect a financial cost that is significant proportionate to the size of the firm. Firm owners and managers know that IT applications are expensive, especially if they are advanced and integrated. However, there is always a general expectation that these costs have become increasingly affordable for firms of all types and sizes. Firms that have IT managers or experts in their workforce tend to predict the scope of financial costs and obligations more accurately than others.

2. Training costs

A training cost is also expected by the majority of clients, especially given the awareness that advanced IT applications require training and development programs for employees.

3. Restructuring costs

In general, restructuring costs are among the expected costs, especially in terms of replacing old applications, upgrading hardware and networks, among other relevant costs. To a less extent, a few clients also expect other restructuring costs that are related to business and process reengineering.

4. Opportunity costs

The majority of clients tend to expect certain opportunity costs that are likely to occur in the interval between the initiation and finalization of ERP implementation processes. Such opportunity costs generally result from expected and unexpected delays, errors committed in the process of implementation, and missed or lost business opportunities that may result from weaknesses in business processes during implementation. Overall, clients expect the implementation phase to reveal certain weaknesses and instabilities in the organization, and this is likely to result in certain opportunity costs for the firm.

E. Realistic and Unrealistic Costs

Three of the interviewees indicated that clients in Lebanon seem to develop unrealistic expectations with respect to costs associated with ERP implementation. They related such expectations to several factors:

- Even clients with the least experience in IT applications have some degree of awareness about the potential costs that are associated with IT implementation. However, there may be a big gap between what clients expect and the actual figures, and it is virtually impossible to know the exact cost before a pre-

assessment. It is the needs assessment phase that provides the client with a more or less realistic prediction of the overall costs.

- While the cost of ownership is the easiest to estimate with a significant degree of accuracy, accurate estimates for other costs are quite difficult, and the degree of difficulty varies with many factors such as the current situation of the organization, the business processes at the firm, organizational structure and complexity, the quality of human capital, the responsiveness of functional departments, the readiness and willingness to accept change, and various others. However, many Lebanese clients tend to make unrealistic estimates with respect to certain costs which include:

- Upgrading costs for hardware and networks: implementing new applications requires advanced infrastructure and supportive technologies. Many of these infrastructures and supportive technologies are already in place but require substantial investment for upgrading or replacing, and these are generally underestimated by clients who still struggle with the rapid pace at which IT technology is evolving.
- The most commonly unexpected or unrealistically estimated cost pertains to human resources, specifically in two critical areas. The first area relates to hiring new personnel to fill in vacancies and new posts created by restructuring needs resulting from implementing ERP. The second area pertains to the cost of terminating or replacing existing personnel whose positions and skills are no longer needed by the firm as a result of implementing ERP. Most clients find it much easier to deal with the cost of filling new posts whereas the financial and

social cost of terminating certain posts is the least likely to anticipate and the most difficult to manage.

F. Critical Success Factors for ERP Implementation

Interviewees were asked to highlight the critical success factors for ERP implementation by their clients, with specific emphasis on HR-related factors. The following factors were compiled and summarized based on the interviews:

1. Top Management Support

There was a general agreement that top management support was one of the most important factors affecting successful ERP implementation. This was noted regardless of whether or not top managers had strong knowledge of ERP functionality or IT orientation. Several interviewees reported that it is the nature of employees to take matters more seriously, and to put more effort when they see and believe that those in authority are seriously supportive. Top management support is seen in two ways: firstly, it is explicit and expressed verbally by top managers, with emphasis on the critical importance of ERP implementation; secondly, it is implicitly seen in the actions and direct engagement of top managers/owners as they follow up on the details of implementation with consultants and employees. In all, without top management support, ERP implementation success potentials are severely impaired:

“If you don’t have explicit and continuous support from top management or the from the owner, in words and in actions, then you have a very serious problem” [Mohammed]

2. Communication of Goals and Processes

Most of the interviewees also emphasized the importance of explaining the goals, process, and implications of ERP implementation. Employees, supervisors and managers across all departments must have the correct knowledge and full understanding of how ERP will transform the organization and how their jobs will be influenced. This is a critical success factor for at least two reasons. Firstly, ERP by its nature as an integrated application will basically affect all departments and functions at an organization, and it is likely to affect the organizational structure, command line, reporting systems, and various other processes at the organization. This means that everyone's job will be influenced. When people are not adequately informed of how their jobs and work will be influenced, they tend to resist change, especially if the magnitude of change is significant. Secondly, even when people have the best of intentions and are willing to fully support a new process that will bring about substantial change in the organization, this support cannot be expressed or translated into actions unless people are fully informed of what they need to do, how to do it, and why they are doing it.

3. Involvement of Managers and Employees

A critical success factor related to human resources that was mentioned by several interviewees was the involvement of managers and employees in the process of planning. This involvement aims at achieving two goals. The first goal is to motivate managers and employees to generate input during the planning process that will result in owning the project rather than perceiving it as a process that is imposed onto them and against their will. The second purpose is to improve the ability of employees to adjust

to substantial changes that will be introduced as a result of ERP implementation, thus minimizing the risk of resistance to change. However, employee and manager involvement must be carefully planned and limited otherwise this process may get out of hand and become a burden as it takes on too much time and effort.

G. Main Causes of ERP Failures

The interviewees were asked to list and discuss the main causes of ERP failures from a human resources perspective. As one of the interviewees remarked, however, although ERP may be an IT project at core, its main threats are related to the human factor:

“The biggest headache usually comes from the human factor. If they don’t like the system, it will fail. If they don’t want the system, they will find ways to make it fail. They will find ways to fight it. Most of the problems come from this factor, not from the technology” [Selim]

According to the interviews the following factors are generally considered to be responsible for ERP failure:

1. Poor Readiness of Workforce

The lack of readiness of the working force was listed as a leading cause of failure by all interviewees. Lack of readiness was represented by a number of symptoms. These symptoms included the lack of knowledge of what was expected by the supervisor or employee during the implementation process. This factor was generally caused by the poor communication of the implementation plan and its purposes, and it often resulted in significant levels of chaos in the initial phase of implementation.

Poor readiness of the workforce is manifested in two main ways. The first is the lack of or poor coordination during implementation, resulting in the loss of efficiency, delays in schedules, and unnecessary waste of effort. The second symptom is the repeated conflicts among supervisors and teams involved in the implementation as a result of poorly orchestrated implementation steps, often resulting in the exchange of blame over errors and problems that should not have happened in the first place.

Poor readiness for implementation can also result from poor planning during the execution process. For example, the poor assessment of needs before transition, inadequate training programs for employees, and insufficient coordination of efforts during implementation can all lead to failure, even if the communication of the plan had been carried out appropriately before the initiation of the implementation process.

2. Resistance to Change

Another factor was the resistance to change by employees and managers. This problem was also associated with the poor communication and briefing of the implementation plan and its purposes. Resistance to the plan, however, is expressed in a number of ways and forms. At the simplest level, it was manifested by employees expressing their frustration or anxiety about the implementation process and the future. At this level, however, supervisors and employees were still responsive by complying with the demands imposed on them by the implementation process.

At a higher level, supervisors and employees may express passive resistance as a negative response to the implementation plan. Passive negative resistance could manifest in accepting the plan but engaging halfheartedly in the implementation process, which results in delays and inefficient implementation. Among the symptoms

expressed by employees in such cases is presenting excuses for not carrying out extra tasks required by implementation, absenteeism, missing training sessions, and not showing initiative even when they can. Overall, resistance to change at this level may actually result in unexpected delays and repeated unnecessary conflicts over turf, instructions and implementation steps.

At the highest level of resistance, employees may actually engage in sabotaging the implementation process. Although this is very rare, it is likely to happen when managers and supervisors at the firm are opposed to the implementation process, perceiving it as a threat to their jobs and power positions. In such cases, supervisors or even managers may actually mobilize loyal employees to take steps to prevent and block implementation using all kinds of excuses. The main purpose of resistance is to persuade upper management that the process cannot be implemented and that management should keep the existing system as it is.

3. Poor Teamwork

Unlike many other IT applications, ERP requires a high level of cooperation and coordination among different departments and functions within the organization. In fact, this is a critical requirement since ERP is by default an application that results in substantial organizational change and in the reduction of departmental and functional barriers.

Poor teamwork in the context of ERP implementation in Lebanon may result from a number of reasons according to the interviewees. The first factor is structural, where the firm is distinctively departmentalized with clear separation of functions. In such a structure, cooperation is governed by formal communication and by the interests

and needs of each department. In such a structure, teamwork requires approval and support from department heads, but even when these conditions are available, attaining teamwork remains difficult because the tradition of inter-departmental cooperation is weak or nonexistent in the first place.

Depending on the characteristics of the organizational culture, the latter is another significant factor that may aggravate poor teamwork within organizations. In the context of ERP implementation, teamwork between departments and functions does not only involve cooperation, but it also requires sharing data and information as well as engaging in activities and practices that involve giving up turf and control. In firms where organizational culture is characterized by competition among department heads over resources and where department heads are protective about turf, achieving the cooperation and teamwork levels required for effective ERP implementation is likely to be very difficult. In fact, it is unlikely that ERP can be implemented unless the prevailing organizational culture is radically changed. Such a process, however, takes time and effort as well as substantial involvement by upper management.

4. Knowledge Gap

One of the potential problems that often face Lebanese companies planning to implement ERP is the significant gap between the existing and required levels of IT knowledge and skills among employees. In all cases, the implementation of ERP requires that employees be trained to acquire certain knowledge and skills needed to implement ERP applications. However, there are many situations where a significant number of employees lack the most basic IT skills, or where there is a significant gap between the knowledge and skill levels of employees. This problem can be avoided by

scanning and identifying the existing levels of IT knowledge and skills and identifying the significance of the gap before implementation.

H. Major Issues and Problems

According to the interviewees, multiple weaknesses and issues are identified with respect to IT infrastructure, HRM and management of change. These are summed up in the following points:

1. Information Technology Infrastructure

Issues with infrastructure from the perspective of human resources included the following:

- The IT infrastructure is too old or outdated but employees are very comfortable with and accustomed to it. A sudden and significant upgrade requires intensive training and may cause high anxiety levels among employees.
- Replacing or upgrading the existing IT infrastructure can result in heightened levels of anxiety if it is perceived as intrusive or threatening to the jobs, workload, or performance of employees.

2. Human Resource Management

The major weaknesses or problems that may face the implementation of ERP in a firm with respect to HR management include the following:

- HR department or managers are not involved in the ERP planning in the first place, or more typically, they are involved at a late stage of ERP planning. This

can create serious obstacles and may heighten chaos and setbacks during implementation.

- HR managers lack the knowledge, skills or necessary experience to be part of the ERP planning and implementation processes.
- HR managers do not enjoy sufficient support and authorization from top management to carry out the necessary assessments before and during the ERP planning process.
- The HR function lacks the sufficient human and material resources to fulfill its responsibilities, such as reclassification of positions to reflect new functions, during the ERP planning and implementation phases.

3. Management of Change

Several of the interviewees emphasized the critical importance of the effective management of change to achieve a successful ERP implementation process. One of the interviewees also indicated that the management of change is probably the weakest link with respect to ERP implementation in the Lebanese context. The following issues and problems were identified as critical or highly relevant in this respect:

- One of the biggest problems with the management of change is the assumption that it is limited to the good communication of the project objectives to employees. In reality, this is only one step in the process. Many firms, however, assume that explaining the project purposes and objectives, the processes, and the effects on work will be sufficient. This fails to take into consideration the fact that ERP inevitably leads to significant changes in organizational culture.

- The major challenge that many Lebanese firms face during the implementation process is the management of change itself. ERP implementation involves changing the requirements of numerous jobs at the firm. In addition to this, the exchange and relationship between departments and functions are changed radically.
- Management of change is typically difficult in Lebanon because of the common perception that major changes will be borne by line managers and employees. This means working many additional hours, dealing with unexpected work overloads, and facing extreme stress during the process. This is not to mention the stress associated with the uncertainty about outcomes for employees. Many employees tend to feel that they are bearing the cost of a process that will be of little benefit for them.

I. Best Practices

Several best practices were identified based on the interviews with respect to the areas of IT infrastructure, human resource management and change management:

1. Information Technology Infrastructure

- Ensuring that the IT infrastructure at the firm has the adequate specifications and capacity such that it does not hinder or disrupt ERP implementation. Typically, a firm must upgrade or replace existing IT infrastructure to ensure compatibility and capacity.
- Ensuring that IT infrastructure allows for the integration of all applications at the business.

- Conducting an extensive analysis of the existing IT infrastructure and its compatibility for ERP implementation and future needs.

2. Human Resources Management

- The HR function is fully involved and engaged in the planning process for ERP needs assessment as well as in the implementation and post-implementation stages.
- The HR function is fully involved in identifying the areas, jobs and processes that will be impacted by ERP implementation.
- The HR function is fully involved in designing and managing the change processes that result from ERP implementation.
- The HR function is allocated the necessary resources to train and develop all relevant areas of the workforce to ensure smooth ERP implementation.
- The HR function is involved in the communication process before, during and after the ERP implementation process.
- The HR function is allocated the sufficient resources to work closely with IT or with external consultants to ensure the smooth implementation of the process.
- The HR function is fully involved in designing and overseeing the organizational change process that accompanies ERP implementation at various stages.

3. Change Management

- A plan for change management is set up from the beginning, involving top management, the HR manager, as well as the heads of all functions at the firm.

- A team headed by a member of top management is formed to handle the change management process from the beginning.
- Every aspect of change resulting from ERP implementation is identified, including organizational structure, cultural changes, jobs, processes, relationships and outcomes.
- Critical areas of change are identified and a plan is set up to address each of these areas.
- An organization-wide plan is developed to handle the ERP implementation process from beginning to end, with a clear role for top management and department heads.
- A clear timeframe is established with clear roles and responsibilities identified at each phase of the process with respect to managing expected changes.
- The plan anticipates potential problems and disruptions and includes planned responses with responsibility and resources allocated to a taskforce.

CHAPTER V

DISCUSSION

A. Introduction

The purpose of this chapter is to discuss the findings of the study and to assess them vis-à-vis the research objectives and questions. It is also the purpose of this chapter to propose recommended HR practices that contribute to the successful and effective implementation of ERP in the context of small and medium-sized Lebanese businesses in accordance with the literature review and the findings of the study. However, it is important at this point to distinguish between two important dimensions related to HR involvement in ERP implementation. The first dimension pertains to the manner in which the HR function and staff are involved in ERP planning, identification of opportunities and problems, involvement in implementation processes and the management of change among other related areas. The other dimension pertains to the extent that the HR function is like the other departments and functions at the organization where it is subjected to changes and transformations, and where it may also be part of the challenges facing successful ERP implementation. The scope of this project will be limited to the first dimension, with emphasis on the role of the HR function and staff in the successful implementation of ERP.

The first section of this chapter will discuss the findings with reference to the literature review whereas the second section will present the recommendations based on the results of the analysis.

B. Perceptions of ERP

Based on the findings and the views presented by the different experts, it seems that Lebanese business owners and decision makers have a general perception of ERP that is in line with the mainstream definitions of ERP in the literature. For example, in line with the definition proposed by Bender, Schouenen and El-Kadi (2009), it is accurately perceived as a system that integrates information flow for the purpose of controlling business processes and enhancing the efficiency and effectiveness of business operations. These perceptions are also congruent with the definition proposed by Ravnikar (2010) that highlights the role of ERP in aligning resources and processes within the organization.

From the theoretical perspectives discussed by Poba-Nzaou, Raymond and Fabi (2008), the findings indicate relevance of two theoretical foundations, namely the complexity theory and the neo-institutional theory, but on the other hand, there was barely any reference to the diffusion of innovation theory. This probably reflects the concern of Lebanese experts and decision makers with the immediate and direct benefits of ERP implementation rather than with the more sophisticated and long-term benefits.

C. Identification of Components

With respect to the identification of components and the general understanding of ERP, the findings of the interviews are generally in line with the literature, especially in reference to ERP components highlighted by Marnewick and Labuschagne (2005), namely the process flow, the software dimension, the customer's mindset and the management of change. However, while the experts seem to highlight the importance of four components, it seems that decision makers show a variation in their assessment

of these components. More specifically, it seems that decision makers in small and medium-sized businesses in Lebanon reflect a satisfactory understanding of and concern with the technical dimensions, namely the process flow and the software dimension. However, the experts seem to consider the customer's mindset and the change management dimensions to be problematic. From the opinions and experiences of experts in the Lebanese context, it seems that business decision makers tend to overstate the functional and technical dimensions and capabilities of ERP and to understate the challenges expected and faced at the social and cultural levels. However, as Marnewick and Labuschagne (2005) emphasize, it is the change management component that constantly presents itself as the most challenging during planning and implementation, and this seems to be the case in the Lebanese context as well.

D. Assessment of Benefits and Costs

One of the main objectives of this study was to identify the attributes, issues, and opportunities that may be associated with implementing ERP in the Lebanese context. In this respect, the study revealed a number of general findings. According to the interviewees, Lebanese decision makers seeking ERP implementation seem to possess a fairly good assessment and appreciation of the benefits of ERP, specifically the empowering benefits such as the integration and synchronization of processes and information flow, enabling decision makers to make timely and immediate decisions, the achievement of efficiency in the use of resources, and improved operational control. Furthermore, decision makers generally expect ERP to improve the bottom line and the profitability of the firm in the long term.

On the other hand, it is also evident on the basis of the findings that the extent to which expected benefits are realistic depends on a number of variables such as the educational background of the decision maker in IT, the previous experience and exposure of decision makers to IT applications, the presence of a professional or experienced IT department at the firm, and the existence of advanced or sophisticated organizational structures within the firms. These findings suggest that in general, Lebanese decision makers seem to be aware of the general benefits of ERP, but at the same time, many of these decision makers may have unrealistic expectations related to the promised benefits of ERP. This in turn may present a challenge during and after implementation.

Likewise, the findings suggest a general understanding and appreciation of the costs associated with ERP in terms of acquisition, training and restructuring costs as well as potential opportunity costs that may be associated with implementation. However, there is barely any reference to hidden costs associated with the management of the social and cultural challenges that face implementation, and hence the indirect costs that may result. For example, there is no reference to the cost of managing the resistance to change which can often be considerable (Benders, Schoutenen & El-Kadi, 2009; Ravnikar, 2010).

Overall, the views of the experts interviewed suggest that there seems to be quite a good level of understanding of ERP at a basic level among Lebanese decision makers, specifically in terms of the expected costs and benefits. However, there also seem to be concerns with respect to appreciating the indirect costs and benefits, especially among decision makers who have limited relevant IT knowledge, expertise and exposure.

E. Critical Success and Failure Factors

Another important objective of this study was to identify the critical success and critical failure factors related to ERP implementation in Lebanon. In this respect, several critical success factors are identified in the findings, specifically the presence of top management support, the communication of goals and processes and the involvement of management and employees. Top management support seems to be prevalent in the Lebanese context, probably because of the high cost of ERP implementation and the substantial effects that such implementation is expected to have on the firm. However, the mere presence of top management support is often insufficient as it has to be relevant, focused and productive in ways that highlight the importance of the project for top management and in ways that facilitate successful implementation.

Secondly, the findings seem to suggest certain concerns about the communication of goals and processes in the Lebanese context. For example, it is insufficient to merely communicate the objectives of ERP implementation or to simply highlight the general roadmap of implementation. Effective communication is expected to inform the stakeholders involved in the implementation process, but it is also expected to ensure their involvement and to minimize their anxiety and resistance to change. The findings suggest that in general, the communication process in the Lebanese context tends to focus on informing the stakeholders but not necessarily on assuring or involving them. Consequently, this style of communication may create problems and challenges during the implementation process, especially in the form of resistance to change. It is also possible that the prevalent style of project communication in the Lebanese context may fail to generate sufficient support among

middle managers and employees and at the same time lead to limited interest and desire in productive participation by many employees.

In assessing the findings relevant to the third success factor, namely the involvement of management and employees, a number of weaknesses seem to be present in the context of Lebanese small and medium-sized businesses. More specifically, the degree of engaging management and employees in the process of implementation seems to be based on limited participation. In other words, managers and employees seem to be expected to contribute to ERP implementation by carrying out the steps allocated to them, but there seems to be very limited contribution during planning or in developing the plan to cope with change management. In fact, as far as critical success factors are concerned, the involvement of management and employees seems to be the least prevalent in the Lebanese context.

With respect to critical failure factors, on the other hand, the knowledge gap seems to be the most widely addressed issue by businesses; but on the other hand, the main concerns of the interviewees tend to focus on the poor readiness of the workforce and the resistance to change. These critical failure factors can be linked to a number of weaknesses such as the weak organizational structures, a weak or limited role in the human resource management function, and weaknesses resulting from the communication styles related to ERP implementation.

Indeed, the concern over the abovementioned critical failure factors is supported by the issues and problems highlighted by the interviewees. Aside from the issue of IT infrastructure which many firms seem to address appropriately, the interviews highlighted two major issues as significant, namely the level of involvement by the HR function, and the management of change. In fact, it seems that these are the two leading

problem areas as far as Lebanese firms attempting to implement ERP are concerned. This is further reiterated by the fact that these two particular factors were also highlighted as best practices among firms that have successfully implemented ERP.

F. General Assessment

Although the findings of this study must not be used to make generalizations about the implementation of ERP in the context of Lebanese firms, the views presented by the interviewed experts suggest two broad categories of issues in this respect.

The first category relates to the technical dimension relevant to ERP implementation. In general, it seems that decision makers at Lebanese firms tend to have a good understanding of the benefits and opportunities associated with ERP, and the major technical requirements that must be satisfied for appropriate ERP implementation. Although certain gaps can be identified with respect to knowledge and expertise, there are no reasons to suggest that Lebanese firms are unable to address these issues. For example, it seems that when necessary, Lebanese decision makers are able to find consultants and technical experts with sufficient knowledge and expertise to help firms implement ERP on the technical level. Even the issue of upgrading or installing the appropriate IT infrastructure does not seem to be a real challenge for firms.

However, the more relevant problems may be present in relation to the second category of factors, that is, the dimension that includes the human/social factor and the management of change. This should not be surprising since the literature also highlights these factors to be the most problematic in the context of implementing ERP in other countries. Yet, in the Lebanese context, a number of serious and prevalent

limitations can be addressed. One of these limitations is the style of communication adopted at the onset of ERP projects whereby managers and employees seem to be informed of the project objectives, project scope and expected outcomes. However, even when the responsibilities and roles that managers and employees are expected to play during the implementation phase are clarified, the general style of communication seems to be one-sided. In other words, managers at the middle and lower levels and employees throughout the organization are simply informed of the intended project and the general plan. Although ERP is an application that can have substantial impacts on the roles, responsibilities, jobs and performance of managers and employees in many ways, the findings suggest that middle managers and employees are neither involved in the planning process nor invited to engage in a two-way communication process to discuss ERP implementation and issues. This style of communication can be particularly problematic when managers and employees perceive ERP implementation as a threat to their jobs or work in anyway.

Another likely limitation in this category is the management of change which seems to be a major issue for many Lebanese firms during their attempt to implement ERP. In fact, based on the manner in which several of the interviewees emphasized this factor, it seems that it is quite prevalent in the Lebanese context. The findings identify a number of contributors to this problem, namely the weak role and limited involvement of the HR function, the organizational communication style which is likely to flow in one direction from top to bottom, and possibly the failure to identify or accurately estimate the potential impact of change on the workforce in general. It is also possible that the traditional management style in Lebanon may be playing a role in contributing to this factor although the findings do not directly refer to this factor.

It may be safe to conclude, therefore, that within the context of Lebanese small and medium-sized businesses, it is the social/cultural challenges and issues rather than the technical issues that may be more critical in determining the success or failure of ERP implementation. This conclusion is supported by the fact that the interviewees were not generally very concerned about technical issues in as much as they were concerned about the human/cultural and social dimensions, as well as their contribution to success or failure of ERP implementation. This in turn corroborates the emphasis placed in the literature on the critical role of the HR function in the entire process of ERP adoption, that is, starting with the planning and design phases and all the way through to the implementation and post-implementation phases (Cotran et.al., 2005).

G. Recommendations

The ultimate goal of this study was to identify the lessons learned based on the experiences of experts and to reflect or transform these lessons learned into a roadmap for effective ERP implementation in the Lebanese context. Based on the findings of this study and the assessment of the literature, a roadmap for effective ERP implementation can be drawn. This roadmap takes into consideration the critical gaps and issues identified and emphasized by the interviewees as well as those highlighted in the literature. More specifically, the roadmap is based on the implementation models developed by Cotran et.al. (2005) and Worsterf, Weirich and Andera (2011).

1. Involving the HR Function at the Strategic Level

The first and most important relevant recommendation based on this study is the critical need to develop, empower and effectively involve the HR function at the

strategic level. Regardless of whether or not the firm maintains a fully organized HR department, judging by the magnitude and critical nature of the human-related challenges arising from ERP implementation, it would be very difficult to successfully implement ERP applications without the significant and direct involvement of HR managers. This involvement must start at the earliest phases of planning and designing, and on top of this, the HR manager or officer must be empowered and authorized to contribute to the entire plan to ensure the adoption of human-related issues throughout the process.

This critical recommendation is justified and backed by several factors: the enormous and organization-wide impact on jobs, work load, working environment, motivation and performance; the variety and complexity of training programs that will accompany the implementation process; and most importantly, ensuring the smooth management of change.

Moreover, it is the critical role of the HR manager to identify and develop the legal and contractual issues related to the substantial change that accompanies ERP implementation, assessing the impact on jobs, workloads and personnel, managing the training programs, creating a framework to deliver personal and emotional support for managers and employees, and assessing the flow of knowledge transfer throughout the process. The function of the HR manager in this respect will also involve designing the new organizational structure that will result from ERP implementation and identifying and assessing the impact that the changes will have on every department and job.

2. Mapping Change

During the planning phase, and as part of the HR manager's responsibility, it is critical to develop a fully detailed map that identifies and maps change with respect to the following areas:

- The overall impact on the organization within each phase from inception to post-implementation.
- The impact and change at the department/division level within each phase.
- The impact and change that will affect jobs and workloads for each employee as a result of implementation.
- The change in responsibilities for every manager and employee within the organization at every phase until ERP is fully operational.
- An assessment of the knowledge and training needs for every manager and employee who will be affected by the system.
- An assessment of the social and emotional impacts that will face managers and employees throughout the process with the goal of attaining a healthy work-life balance and minimizing resistance to change.

3. Communication Strategy

The communication strategy plays a critical role in minimizing resistance to change, ensuring manager/employee involvement and support, and in facilitating the effective and successful ERP implementation. An effective communication strategy should constitute of the following components:

- Communication at the Initial Stage: A communication plan must be developed at the initial stage of the project as part of the project design. The emphasis should

be on explaining the concept of ERP, the intended purposes and outcomes, the costs and benefits for the organization and the workforce, and the expected positive and negative impacts on everyone. At this stage, two-way communication is highly encouraged to induce managers and employees to discuss their concerns and put forward any issues that could at later stages become sources of resistance to change.

- **Communication of Process:** In the second stage of the communication strategy, the HR and other managers at the decision-making level must be able to respond to the information needs of the workforce. This is the phase when the communication strategy must focus on addressing the cognitive and emotional needs of the workforce, providing the necessary details and at the same time, engaging members of the organization in discussion and debate to win them over and avoid resistance to change. Relevant decision makers during this phase must also be flexible to address possible changes to the implementation plan in response to unexpected needs or challenges communicated upwards from the workforce.
- **Communication of Progress:** The communication of progress is necessary throughout all the phases of ERP adoption and implementation, with emphasis on flexibility to ensure readiness to deal with any challenges and difficulties in a timely and effective manner.

4. Integration of Processes

To ensure the integration of implementation processes at each and every stage of the project, it is necessary to create a project management team that is headed by a top

manager/owner to ensure visible support and enable immediate decision making when necessary. The purpose of this team is not limited to managing the implementation and following up on progress, but also to identify obstacles and problems along the way and to immediately respond to them accordingly with the appropriate organizational tools.

H. Limitations

One of the main limitations facing this study is related to the size of the sample and the nature of information provided by interviewees. According to Qu and Dumay (2011), this is an issue that often occurs with qualitative methods such as the semi-structured interview because the main concern of the researcher is seeking insights and probing deeper, but this does not guarantee that the sample is representative. In this sense, an HR manager will most certainly provide perceptions that differ from those of an IT manager because of differences in education, experience, work, occupational culture and bias. In general, however, the interviewees were generally forthcoming about the subject of research, and this minimized the negative impact of such limitations.

I. Conclusion

The purpose of this study was to explore and identify the major issues facing small and medium-sized Lebanese businesses in implementing ERP applications, especially those related to the HR function. In addition to this, the study aimed at developing a handbook of HR guidelines and practices that are associated with high success implementation rate for ERP. A qualitative methodology based on a semi-structured interview with ERP experts in the field was employed to collect data.

According to the findings of the study, there seems to be a strong and growing awareness of the benefits that implementing ERP applications can provide to Lebanese businesses, especially in terms of improving efficiency, cost and process control, and supporting decision makers within a constantly changing environment. From a neo-institutional perspective, ERP applications seem to be promising in terms of empowering Lebanese businesses with much of the data they need from their changing internal and external environments to cope with and respond to such changes.

With emphasis on the HR angle, the study concludes that the HR function is probably the weakest link in ERP implementation within the Lebanese context. To avoid the risks of failure and to improve potential success rates when implementing ERP applications, the study suggests that the HR function be involved at the strategic decision making level, both before and during the planning and implementation phases. One of the major managerial implications of this study is that the success or failure of ERP implementation hinges on the effective management of the human dimension and of well-planned communication and management of change from inception through to post-implementation. More specifically, Lebanese business owners and top managers must consider the importance of acknowledging the central role of the HR function in addressing a major project with transformational consequences like ERP. Accordingly, they must empower HR officers and ensure that they are closely involved in the design, planning and implementation processes to maximize the potentials of success. Systems such as ERP can offer enormous benefits, but it is not uncommon for businesses to suffer heavy costs and to fail to achieve the promised benefits as a result of ignoring or mismanaging the human dimension or failing to manage the organizational change that accompanies this process.

Overall, the main contribution of this study lies in the fact that it is the first study that identifies the specific challenges, problems, issues and opportunities relevant to the HR function in the context of implementing ERP systems in small and medium Lebanese businesses. More importantly, it has provided a general roadmap that can be followed to minimize risks and improve the chances of success during ERP implementation based on the experiences and reflections of experts who have been directly involved in ERP implementation projects in Lebanon and the region. Finally, future research is required to evaluate actual HR practices as contributing factors to the success or failure of ERP implementation in Lebanese firms. In addition to this, future research is also needed to investigate the manner in which the HR function itself may require transformation or situations in which the HR function itself may be a source of resistance to change in the organization.

BIBLIOGRAPHY

- Adams, E. (2010). "The joys and challenges of semi-structured interviewing." *Community Practitioner*, v.83, pp.18-21.
- Aladwani, A.M. (2001). "Change management strategies for successful ERP implementation." *Business Process Management Journal*, v.7, pp. 266-275.
- Allen, L. (2008). "Where good ERP implementations go bad: A case for continuity." *Business Process Management Journal*, v.14, no.3., pp. 327-337.
- Al-Mashari, M. & Okazawa, M. (2006). "Enterprise resource planning (ERP) implementation: A useful roadmap." *International Journal of Management and Enterprise Development*, v. 13, pp. 169-180.
- Aloini, D., Dulmin, R. & Mininno, V. (2012). "Risk assessment in ERP projects." *Information Systems*, v.37, pp. 183-199.
- Amid, A., Moalagh, M. & Ravasan, A. (2012). "Identification and classification of ERP critical failure factors in Iranian industries." *Information Systems*, v.37, pp. 227-237.
- Avram, C. (2010). "ERP inside large organizations." *Informatica Economica*, v.14, no.4, pp. 196-208.
- Benders, J., Schouteten, R. & El Kadi, M. (2009). "ERP-systems and job content: a case study of HR assistants." *Personnel Review*, v.38, no.6, pp. 641-654.
- Botta-Genoulaz, V. & Millet, P. (2005). "A classification for better use of ERP systems." *Computers in Industry*, v.56, pp. 573-587.
- Bryman, A. & Bell, E. (2007). *Business Research Methods*. Oxford: Oxford University Press.
- Cotran, K., Buchmeiser, U., Seguin, J., & Pelser, B. (2005). "HR's role in implementing JTI's global ERP system." *Strategic HR Review*, v.4, no.5, pp. 24-27.
- Dearnley, C. (2005). "A reflection on the use of semi-structured interviews." *Nurse Researcher*, v.13, pp. 19-28.
- Dery, K. & Wailes, N. (2005). "Necessary but not sufficient: ERPs and strategic HRM." *Strategic Change*, v.14, pp. 265-272.

- Ehie, I. & Madsen, M. (2005). "Identifying critical issues in enterprise resource planning implementation." *Computers in Industry*, v.56, pp. 545-557.
- Hitti, D. (2013). "Lebanon: IT Sector Report 2013." *Lubnaneyoun Blog*, online. Retrieved from <http://lubnaneyoun.com/?p=2014>.
- Hsu, P. (2013). "Commodity or competitive advantage? Analysis of the ERP value paradox." *Electronic Commerce Research and Applications*, pp. 1-13.
- International Fund for Agriculture Development, IFAD (2011). *Lebanon Report*. Retrieved from <http://www.ifad.org/events/gc/34/nen/factsheet/lebanon.pdf>.
- Ke, W. & Wei, K. (2008). "Organizational culture and leadership in ERP implementation." *Decision Support Systems*, v.45, pp. 208-218.
- Kim, Y., Lee, Z. & Gosain, S. (2005). "Impediments to successful ERP implementation process." *Business Process Management Journal*, v.11, no.2, pp. 158-170.
- Kumar, A. & Gupta, P. (2012). "Identification and analysis of failure attributes for an ERP." *Procedia – Social and Behavioral Sciences*, v.65, pp. 986-991.
- Law, C. & Ngai, E. (2007). "ERP systems adoption: An exploratory study of the organizational factors and impacts of ERP success." *Information & Management*, v.44, pp. 418-432.
- Malhotra, R. & Temponi, C. (2010). "Critical decisions for ERP integration: Small business issues." *International Journal of Information Management*, v.30, pp. 28-37.
- Marnewick, C. & Labuschagne, L. (2005). "A conceptual model for enterprise resource planning (ERP)." *Information Management & Computer Security*, v.13, pp. 144-155.
- May, J. Dhillon, G. & Caldeira, M. (2013). "Defining value-based objectives for ERP systems planning." *Decision Support Systems*, v.55, pp.98-109.
- McGinnis, T. & Huang, Z. (2007). "Rethinking ERP success: A new perspective from knowledge management and continuous improvement." *Information & Management*, v.44, pp.636-634.
- Meiers, J.D. (2013). "Steve Balmer quotes." *J.D. Meier's Blog*. Online. Retrieved from <http://blogs.msdn.com/b/jmeier/archive/2013/10/06/steve-ballmer-quotes.aspx>
- Momoh, A. & Shehab, E. (2010). "Challenges in enterprise resource planning implementation: state-of-the-art." *Business Process Management Journal*, v.16, pp.537-565.

- Motwani, J., Mirchandani, D., Madan, M. & Gunasekaran, A. (2002). "Successful implementation of ERP projects: Evidence from two case studies." *International Journal of Production Economics*, v.75, pp. 83-96.
- Pathak, A. & Intratat, C. (2012). "Use of semi-structured interviews to investigate teacher perceptions of student collaboration." *Malaysian Journal of ELT Research*, v.8, pp.1-10.
- Poba-Nzaou, P., Raymond, L. & Fabi, B. (2008). "Adoption and risk of ERP systems in manufacturing SMEs: A positivist study." *Business Process Management Journal*, v.14, no.4, pp.530-550.
- Qu, S. & Dumay, J. (2011). "The qualitative research interview." *Qualitative Research in Accounting and Management*, v.8, pp.238-264.
- Ravnikar, F. (2010). "The impact of managers on successful ERP implementation." *Organizacija*, v.43, pp. 186-196.
- Sharma, S., Daniel, E. & Gray, C. (2012). "Absorptive capacity and ERP implementation in Indian medium-sized firms." *Journal of Global Information Management*, v.20, pp.54-79.
- Wang, E., Lin, C., Jiang, J. & Klein, G. (2007). "Improving enterprise resource planning (ERP) fit to organizational process through knowledge transfer." *International Journal of Information Management*, v.27, pp.200-212.
- Whiting, L. (2008). "Semi-structured interviews: Guidance for novice researchers." *Nursing Standard*, v.22, pp.35-40.
- Wood, T. & Caldas, M. (2001). "Reductionism and complex thinking during ERP implementation." *Business Process Management Journal*, v.7, pp.387-393.
- Worster, A., Weirich, T. & Andera, F. (2011). "Organizational change management is a two-way street." *Journal of Corporate Accounting and Finance*, v. 27, pp.69-77.
- Xu, Q. & Ma, Q. (2008). "Determinants of ERP implementation knowledge transfer." *Information & Management*, v.45, pp. 528-539.

