CHALLENGES OF ENTERPRISE RESOURCE PLANNING (ERP) STRATEGY IMPLEMENTATION BY FIRMS IN KENYA

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DECLARATION

This management research project is my original work and has not been presented for a degree in any other university.

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This project has been submitted with my approval as the university supervisor.

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DEDICATION

To my late father and mother (May Allah rest their souls in eternal peace) who always looked forward to the day they would see me graduate with a Masters Degree. To my step mother who played her role to ensure I went to school and achieve my dreams.
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To my respondents for taking time off their busy schedules to fill in the Questionnaires.
ABSTRACT

The emergent of ERPs brought many benefits to organisations in Kenya. Some of which include, improved quality and efficiency, decreased costs, decision support and enterprise agility amongst others. Going with the benefits are the risks and costs that are involved, the hardware and software cost and the risk of failure due to poor selection of vendors. The systems are difficult to implement that some are successful; many have failed, causing million dollar losses. The challenge of ERP solutions lies in implementation because they are complex, time consuming and expensive too. This study sought to find out the challenges that firms in Kenya experienced in implementing ERP strategy and how they handled those challenges. The study used primary data collected from the questionnaires distributed to the project managers, finance managers and system end users of the firms that had implemented ERP. The study found out that the challenges faced during implementation varied from one organization to the other but the most common were the length and complications of system integration and customization. Key towards resolving such challenges was top management involvement as they would be able to resolve issues at faster rate and also help provide the project with the right quantity and quality resources in good time that would lead to reduction of time for integration and customization hence making quicker buy in from the users.
# TABLE OF CONTENTS

DECLARATION .................................................................................................................. ii
DEDICATION .................................................................................................................... iii
ACKNOWLEDGEMENTS ................................................................................................... iv
ABSTRACT ......................................................................................................................... v
LIST OF TABLES .............................................................................................................. viii
LIST OF FIGURES ............................................................................................................ ix

CHAPTER ONE: INTRODUCTION .................................................................................. 1
1.1 Background of the Study ............................................................................................ 1
   1.1.1 The Concept of Enterprise Resource Planning ................................................. 2
   1.1.2 Enterprise Resource Planning Strategy Implementation .................................. 3
   1.1.3 Enterprise Resource Planning in Kenya ............................................................ 4
1.2 Research Problem ...................................................................................................... 5
1.3 Research Objective .................................................................................................... 6
1.4 Value of the Study ..................................................................................................... 6

CHAPTER TWO: LITERATURE REVIEW ....................................................................... 8
2.1 Introduction ................................................................................................................ 8
2.2 Theoretical basis of ERP ........................................................................................... 8
   2.2.1 Resourced Based View (RBV) ........................................................................... 8
   2.2.2 Institutional Theory .......................................................................................... 9
   2.2.3 Transaction Cost Theory ................................................................................... 9
   2.2.4 Systems theory ................................................................................................ 10
2.3 Strategy Implementation ............................................................................................ 11
2.4 Strategy Implementation Challenges .......................................................................... 13
2.5 Enterprise Resource Planning Systems ..................................................................... 15
2.6 Challenges of Enterprise Resource Systems ............................................................ 16
2.7 Emperical studies ..................................................................................................... 15

CHAPTER THREE: RESEARCH METHODOLOGY ...................................................... 19
3.1 Research Design ....................................................................................................... 19
3.2 Target Population .................................................................................................... 19
3.3 Respondents’ Rate .................................................................................................. 19
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction ........................................................................................................... 22

4.2 Profile of Respondents’ Firms ............................................................................... 22
   4.2.1 Number of Years in Existence ......................................................................... 22
   4.2.2 Size of Firms by Employees ............................................................................ 23
   4.2.3 Industries they Operated In ............................................................................. 24
   4.2.4 The Chronology of ERP Implementation by Year .......................................... 24
   4.2.5 The ERP Selected .......................................................................................... 25
   4.2.6 The ERP Implementation Methodology ......................................................... 26

4.3 Challenges of ERP Implementation ........................................................................ 27
   4.3.1 General Challenges of Implementing ERPs .................................................... 28
   4.3.2 External Challenges ....................................................................................... 29
   4.3.3 Internal Challenges ....................................................................................... 31
   4.3.4 Staff Issues in ERP Project Implementation ................................................... 33
   4.3.5 Top Management’s concerns in Implementation of ERPs ............................... 35

4.4 Measures to Overcome ERP Implementation Challenges .................................... 37

4.5 Reasons for Successful Implementation of ERP .................................................... 39

4.6 Discussion of the Findings .................................................................................... 41

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION .... 46

5.1 Introduction ............................................................................................................. 46

5.2 Summary ................................................................................................................. 46

5.3 Conclusion .............................................................................................................. 46

5.4 Policy Recommendation ....................................................................................... 47

5.5 Study Limitations .................................................................................................. 48

5.6 Recommendation for Further Studies .................................................................... 48

REFERENCES .................................................................................................................. 49

APPENDIX I: LETTER OF INTRODUCTION ................................................................. 53

APPENDIX II: QUESTIONNAIRE ................................................................................. 54

APPENDIX III: LIST OF ERP IMPLEMENTATION BY FIRMS IN KENYA..... 60
LIST OF TABLES

Table 3.1: Response Rate
Table 4.1: Size of firm by employees
Table 4.2: Challenges faced when Implementing ERPs
Table 4.3: Total Variance Explained for External Factors
Table 4.4: Rotated Component Matrix for External Factors
Table 4.5: Total Variance Explained for Internal Factors
Table 4.6: Rotated Component Matrix for External Factors
Table 4.7: Reasons for Successful Implementation of ERP
LIST OF FIGURES

Figure 4.1: Respondents’ by Number of Years in Existence
Figure 4.2: Industries the firms Operated In
Figure 4.3: The Chronology of ERP Implementation by Year
Figure 4.4: The ERP Selected
Figure 4.5: The ERP Implementation Methodology
Figure 4.6: The Reason for Selecting the ERP Implementation Methodology
Figure 4.7: Staff Involvement in ERP Project Implementation
Figure 4.8: Staff Concerns during ERP Implementation
Figure 4.9: Training on ERP during implementation
Figure 4.10: Commitment towards Implementation of ERPs
Figure 4.11: Reason for Delay in Uptake of Other ERP Modules
Figure 4.12: ERP Impact on the Companies Business Process and Vision
Figure 4.13: Measures used to Overcome ERP Implementation Challenges
CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Most organizations have yearned towards integrating their business processes and looked for a better way in which they can transform to effectively manage their businesses and attain World Class status. Separate systems were being maintained during 1960/70 for traditional business functions like Sales and Marketing, Finance, Human Resources, Manufacturing, and Supply Chain Management. These systems were often incongruent, hosted in different databases and required batch updates. It was difficult to manage business processes across business functions for example procurement to pay and sales to cash functions. ERP system grew to replace the islands of information by integrating these traditional business functions. The goal of integration was to use technology to develop process standardization across multiple business units in order to improve efficiency and generate greater return on capital (Bosilj and Spremic, 2004).

In Kenya, many organisations were attracted by promise to automate and integrate the core functionality of their organisations and provide timely information at the various levels of management and are increasingly adopting the system as a strategy to gain competitive advantage with employers looking for candidates who have vast knowledge in the area. The business environment is changing rapidly and in order to stay competitive in the market, organisations must adapt good strategies in order to remain relevant in the market place. Departments and functions in organisations must upgrade their capacity to record, process and communicate accurate and timely information for making economic decisions. Ansoff and McDonnell (1990) suggested the need to adapt as important otherwise the organisation will experience a misfit and success be difficult. Thus, ERP is perceived as an opportunity and amongst the good strategy that every organisation has to position itself to attain a competitive edge. However, with implementation of any strategy come challenges which have to be identified and measures formulated to deal with them accordingly.
1.1.1 The Concept of Enterprise Resource Planning

Enterprise Resource Planning (ERP) software systems are the supporting business applications for an IT (Information Technology) strategy which seeks to achieve enterprise-wide integrated business applications and a unified data repository. ERP applications were born from the prior era MRP (material requirements planning) systems with the aim of replacing multiple disparate information systems with a single enterprise-wide business software system. Today, ERP systems have transcended every major vertical market and are common place across non-manufacturing, government, not for profit, service-based and other industries (ERP Software, Accounting Software, 2012).

Enterprise Resource Planning (ERP) is a class of commercially developed software applications that integrate a vast array of activities and information to support tactical level operations and operations planning for an industrial enterprise. ERP facilitates the flow of information among the different functions of an enterprise, while also permitting information sharing across organizational units and geographical locations (Bosilj and Spremic, 2004).

Eskilsson et al. (2003) refers to ERP as software that can be used to integrate information across all functions of an organisation to automate business processes. It is a business management system that has the potential to integrate all processes and functions of a company and to present a comprehensive picture of the entire organisation. ERP promises seamless integration of all information flowing through a company by using a single database that enables the various departments within an organisation to effectively share information and communicate with each other. Esteves and Pastor (2001) defines ERP systems as software packages composed of several modules, such as human resources, sales finance and production, providing cross organisation integration of data through embedded business processes. In the light of these definitions, many organisations have chosen to transform, and Enterprise Resource Planning perceived to be promising software that can improve business practices and processes. There are over 500 vendors who are fighting for the market share but choosing one that can fully support the process of implementation calls for intense precaution.
1.1.2 Enterprise Resource Planning Strategy Implementation

According to De Sousa (2002), ERP implementation is an ongoing process of integration and transformation of the business using an ERP system. It is a socio-technical challenge that requires a fundamentally different outlook from technologically-driven innovation, and will depend on a balanced perspective where the organization as a total system is considered. ERP implementation significantly impacts company culture, organisational structure, business processes, in addition to procedures and rules. The organization should have a business vision aligned with the ERP system characteristics at the beginning of the ERP implementation in order to be successful.

Implementing the ERP system involves a process that begins with planning for the system. After planning is completed, a project team embarks on and then moves through a number of distinct project phases. After the system is up and running, there may be a post-implementation review and later a stabilization phase. The implementation process of an ERP system is best conceptualized as a business project rather than the installation of a new software technology (Parr and Shanks, 2000). Building an implementation strategy for an ERP system project needs to be strongly based on both the business case developed and the results of the series benchmarking test. It should also ensure a full alignment with overall business strategy (Al-Mashari and Zairi, 2000).

There are several approaches to ERP strategy implementation depending on aspects, such as organisational structure, resources, attitude toward change, or distance between the various production facilities amongst others. This approaches includes strategies such as: enterprise suite vs. best of breed, configuration vs. customisation, and Big-bang vs. phased approach. Enterprise Suite involves purchasing all the ERP modules from a single vendor while best breed involves selection of ERP modules from different vendors based on organisation particular needs. Configuration involves adopting business processes embedded in ERP and conscious redesigning of organisational processes and structures to accommodate the functionality of the ERP system whilst customising entails making it fit with the existing business processes (Otieno, 2010). Finally, the big-bang implementation approach refers to a scenario where the old system is discarded and all modules of the
new system are introduced into each business unit over a weekend. The phased implementation approach on the other hand refers to a scenario where one module is implemented, and then it is run in parallel with the legacy system until the output results are satisfactory (Shehab et al., 2004).

Different scholars have developed different models for ERP implementations. For instance Parr and Shanks (2000) developed a Process Phase Model (PPM) for ERP implementation. In the PPM, an ERP project is divided into three continuous phases: planning, project and enhancement. ERP implementation models can help to improve understanding of enterprise systems, and also can be a good guide for successful ERP implementation.

1.1.3 Enterprise Resource Planning in Kenya

Many developed countries like North America and Europe have widely adopted ERP software whilst in Kenya it is still in its infancy stage of adoption. Many large and mid-sized organisations in Kenya have adopted the ERP software and more are expected to copy with the presumption that they can benefit from the alleged benefits that are embedded in the software. The different ERP systems which have been implemented in Kenya include; SAP/R3, Oracle financials, Baan, Sage Line, Ebizframe, ACCPAC, Sun systems, JD Edward. SAP/R3, Oracle financials and Baan target large enterprises and governments while the rest target small and medium enterprises (Otieno, 2010).

In her study, Wanjiku (2011) found that in the recent past, ERP would be seen to be something for really large companies but more recently some providers have much scaled down versions with even six to 10 user licenses. Thus, even a local spare part shop with four to five branches can use an ERP; this is where the recent growth is. The benefits of the adoption are evidenced by BIDCO which has won prestigious “Gold” award for SAP ERP implementation. Bidco has implemented SAP ERP system in record time of 90 days which is the fastest implementation in Africa for such integrated ERP implementation (Bidco oil, 2012). With the rise in adoption of the software challenges are also there depending on the sophistication and the version adopted.
1.2 Research Problem

Many organizations have shifted to this system because of numerous reasons including; ineffective communication channels, improper systems, indefinite structures and bizarre organizational cultures amongst others. A number of organizations have reaped the benefits of ERP while others are still on their way to cope. Adopting a new system has its perceived benefits expected and what it actually delivers. Challenges are many, including resistance by the employees and the cost of undertaking the initiative. The cost is not limited to purchase of the software from the vendors but the overall cost of managing change and adopting new hardware and employees to support the system, the training cost can also be a challenge. Otieno (2010) cited out ERP as beginning to appear in organisations of developing countries. Little research has been conducted to compare the implementation practices of ERP in developed versus developing countries. Implementation is likely to be more problematic in less developed country like Kenya. ERP technology faces additional challenges in developing countries related to economic, cultural, and basic infrastructure issues.

The last two decades has heard a lot of changes in Kenyan economy mainly due to liberalization, globalization and technological advancement. Many organisations in Kenya are increasingly adopting ERP software due to the benefits which the software is promising and to eliminate weaknesses associated with the legacy systems. These companies are adopting the systems without assessing the experiences of organisations in similar environment (Kenya). So as to help other organisations seeking to implement the software to avoid making similar mistakes which other organisations have made this research seeked to determine the challenges in the ERP implementation and ways to eliminate them.

There are several studies that have been done so far on Enterprise Resource Planning this would include works of Christopher (2011) whose focus was on challenges of implementing enterprise resource planning strategy at the Kenya Electricity Generating Company. Christopher found out that there was incompatibility of structure and the ERP modules, ineffective training due to time constraint and lack of training feedback amongst others. Victor (2011) who looked into the impact of Enterprise Resource
planning system implementation in KEMRI found out that most of the challenges were related to people and process factors, lack of proper change management, lack of proper training to the employees, poor vendor support and lack of user involvement. Gatimu (2009) who studied the implementation of Enterprise Resource Planning in education sector in Kenya identified the major challenges as lack of consensus between senior managers, lack of alignment between software and business processes and inadequate training. These works looked at the ERP in different perspectives and context. None of them however, captures the challenges of ERP implementation using a survey of organisations in Kenya. Most of them focused on individual companies and within a specified region in the country. The motive for undertaking this research was to add to the known literature on the ERP implementation challenges in organisations in Kenya.

There are several reasons of success and failure of ERP implementations. Some of the reasons cited in the literature are lack of support of top management support, resistance from employees, poor selection of ERP systems and vendor amongst others (Otieno, 2010). This research sought to explore the challenges that face organisations today by answering the following questions; what are the challenges of ERP implementation facing the organisations in Kenya? What are the measures undertaken by these organisations to deal with the challenges?

1.3 Research Objective

This study had two objectives

i. To determine the challenges of ERP implementation by firms in Kenya

ii. To establish measures undertaken by organisations in Kenya to deal with the challenges.

1.4 Value of the Study

This research would benefit the various stakeholders in the area. First, this research would aid the managers of the surveyed organisations to understand the specific challenges that are faced in the ERP implementation process and how to handle them so that they can meet their objectives.
The other caliber of beneficiary of this research would be the potential investors in the software but who are reluctant due to the fact that they have not heard of an exhaustive research in the area and fear the loss and challenges associated with adoption of the software which they have little knowledge.

The study could also be used for future reference for academicians who would undertake further research studies on the area. Furthermore, these practical outcomes would build and contribute to the current literature on the research topic since very few have researched widely on this topic. It would aid in investigating the influence of context, validating previous research, facilitating theory building and contributing to the existing body of knowledge in the area of ERP implementation.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature relevant to the subject under study. The focus of this chapter will be on the strategy implementation and the theories relevant to ERP systems and its implementation challenges.

2.2 Theoretical basis of ERP

The research has drawn material from several sources which are closely related to the theme and objective of the study. Many scholars have discussed various theories that has found the basis of ERP amongst which include; resource based view theory, institutional theory, transaction cost theory and the systems theory.

2.2.1 Resourced Based View (RBV)

Resource Based View is an approach to achieving competitive advantage that emerged in 1980s and 1990s. The supporters of this view argue that organizations should look inside the company to find the sources of competitive advantage instead of looking at competitive environment for it. The resource-based view of the firm describes an organisation as a collection of productive resources with the central assumption that organisations gain competitive advantage through their internal resource. The resource-based view says that a resource has to be rare if it is able to provide competitive advantage. In the case of ERPs, it could be said that this kind of resource is not rare. There are a lot of different possibilities for organisations to implement ERPs, and the evolution of ICT has made it more feasible for more organisations to implement ERPs, that is, by decreasing the costs of usage of ERPs. However, as described by Barney (2002) and Shehab et al. (2004), not implementing an ERP can also lead to an organisation suffering competitive disadvantages.
2.2.2 Institutional Theory

Institutional theory attempts to describe the deeper and more resilient aspects of how institutions are created, maintained, changed and dissolved (Scott 2004), and deals with the pervasive influence of institutions on human behavior including the processes by which structures as e.g. rules, routines and norms guide social behavior. Institutions are multi-faceted, robust, flexible social structures, made up of symbolic elements, social activities, and material resources. Examples of institutions are societies, enterprise systems and beliefs. Institutions are the rules of the game, and organisations are the players. We talk about institutionalization when actions are repeated and given shared meanings by actors (Berger and Luckmann 1966; Scott 2008b), whereby the institution becomes stable and durable.

According to institutional theory, failing to be equipped to respond to new challenges will lead to legitimacy problems. Institutional theory (Oliver, 1991) offers a suitable base to analyse the misalignment between the institutional logics and the strategic responses to the institutional pressures. Companies have a number of potential strategies in responding to the new institutional logics. Liang et al. (2007) argue that cognitive, coercive and normative institutional pressures impact the assimilation of enterprise systems, for instance the normative pressure in an organizational field, where suppliers, customers, consultants, and professional associations collectively assess and endorse IS innovations, shaping the implementation and assimilation of enterprise systems by providing institutional norms that guide top managers (Liang et al. 2007).

2.2.3 Transaction Cost Theory

Transaction cost theory tries to explain why companies exist, and why companies expand or source out activities to the external environment. The transaction cost theory supposes that companies try to minimize the costs of exchanging resources with the environment, and that companies try to minimize the bureaucratic costs of exchanges within the
Companies are therefore weighing the costs of exchanging resources with the environment, against the costs of performing activities in-house.

The theory sees institutions and market as different possible forms of organizing and coordinating economic transactions. A firm has two choices for any economic activity: performing the activity in-house or going to market. In either case, the cost of the activity can be decomposed into production costs, which are direct and indirect costs of producing the good or service, and transaction costs, which are other (indirect) costs incurred in performing the economic activity.

In the case of in-house application development like ERP, production costs include developer time, software tools etc whereas transaction costs include costs relating to building an internal team with the right skills, attitude and knowledge and managing uncertainty. On the other hand, in outsourced application development, production costs include all costs that the vendor incurs in producing the application whereas transaction costs, incurred by the client include; searching for a vendor, selection, bargaining, enforcement amongst other costs. According to Williamson (2005), the decision as to whether or not an economic activity should be outsourced depends critically on transaction costs. Every company will expand as long as the company's activities can be performed cheaper within the company, than by e.g. outsourcing the activities to external providers in the market.

2.2.4 Systems theory

There are many theories rated to ERP systems but the most relevant one to this study is the systems theory. According to McAuley, Duberly and Johnson (2007) General Systems Theory was developed as an approach to understanding the fundamental nature of the 'systems'. According to this theory, systems are made up of different parts- the subsystems that depend on each other and are related to each other, sometimes in very simple ways and sometimes in complex ways. Most systems suffer disturbances from time to time, as disturbances occur the subsystems of the organisation change in order to adjust to the new circumstances. They do so in order to maintain the system as a whole. This relates to the idea that all systems want to attain a position of equilibrium; they have
a sense of natural balance. Koontz and Weihrich (2009) found that an organisation is part of larger systems such as the industry to which it belongs, the economic system and the society. Thus, the enterprise receives inputs transforms them and exports output to the environment. Some of the outputs become input again in other areas. In light with this we can say that ERP systems takes from the system theory since it has a central database which is the bigger system from which other applications such as the sales and delivery, financial, manufacturing, inventory and supply, human resource, reporting application amongst other application emerge.

2.3 Strategy Implementation

According to Pearson and Robinson (2002) the purpose of implementation is ensuring that the planned results of the strategic decisions are realized. Strategy implementation requires planning and organizing of the use of resources, the possible restructuring of the organisation and its personnel as well as the system of management of the organisation. Johnson and Scholes (1999) suggest the need for managers to consider the suitability of the strategy to the organisation’s internal and environmental situation, the feasibility of a strategy and the acceptability of the strategy to the stakeholders of the organisation and their expectations.

Successful strategy implementation requires full operationalisation and institutionalisation. Operationalisation involves developing plans and tactics while institutionalisation involves matching strategy with structure, culture, policies, support systems and processes, leadership and reward systems. According to Pearce and Robinson (1991) the firm’s primary structure, organisation culture, organisation leadership and ultimately individual organisation member particular key managers are important determinants for successful strategy implementation. Strategy implementation may be viewed as a process inducing various forms of organisational learning, because both environmental threats and strategic responses are a prime trigger for organisational learning processes (Lehner, 2004).
According to Sadler (2005), matching strategy to structure involves bestowing power, status and potentially high financial rewards on some individuals, while diminishing power, status or potential earnings of others. Different scholars explore the relationship between strategy and structure. Alfred Chandler (1962) suggested that structure follows strategy whilst Mintzberg (1990) suggests that strategy emerges from organizational structure and behavior. Thus, changes in structure may be the outcome of a strategy or the driver of a strategy.

Corporate culture is a set of common values, attitudes and beliefs that members of an organisation share in common. They are the artifacts, espoused values and basic assumptions that people hold. Culture varies from nation to nation dependant on the core values of particular sets of people and that culture is the collective programming of the mind that distinguishes the member of one group from another. Culture of the organisation cannot be separated from it—it is inextricably bound up with the organisation. Strategy emerges within a cultural context and culture emerges in a strategic context. Strategy, culture and the organisation are in fact interchangeable if not the same thing from a different angle, that is culture is strategy and strategy is culture (Rowe 2008).

Policies are directives, designed to guide the thinking, decisions, and actions of managers and their subordinates in implementing a firm’s strategy. Policies communicate guideline to decisions. They are designed to control decisions while defining allowable discretion within which the operational personnel can execute business activities. The key point is that they play an important role in strategy implementation hence communicating specific policies will help overcome resistance to change, empower people to act and foster commitment to successful strategy implementation (Pearce and Robinson, 2007).

Changes in processes and systems may involve things like, seeking accreditation for achieving international accepted standards in quality and environment. Identifying and eliminating activities that don’t add value in the value chain, introducing regular employee attitude surveys and continuous monitoring of customer satisfaction and service levels. These systems provide the information and operational procedures needed
in the organisation. It may be that a new information management system is required to monitor the progress of the strategy (Ritson, 2011).

Changing the leadership style to match the situation is key to success. It is said that position are important in implementation but also important are the people in those positions. Role modeling is essential where the leaders set examples by behaving in ways that are consistent with the changes practices. A leader should have fundamental standards that guide her sense of honesty, integrity and ethical behaviour. Thus, organisational leadership is guiding and shepherding toward a vision over time and developing that organisation’s future leadership and organisational culture (Pearce and Robinson, 2007). Understanding the theories to leadership is essential to encourage performance.

People ought to be rewarded towards implementation of the strategy. Pearce and Robinson (1991) suggest that the execution of strategy ultimately depends on individual organizational members, particularly key managers. In addition, motivating and rewarding good performance by individuals and organizational units are key ingredients in effective strategy implementation. If strategy accomplishment is a top priority, then the reward system must be clearly and tightly linked to strategic performance.

2.4 Strategy Implementation Challenges

According to Wind and Robertson (1983), various researches in strategic management greatly emphasized on strategy formulation process and generally considered strategy implementation as a by-product or invariable consequence of planning. Although most organisations have good strategies, success remains a major challenge. Thomson and Strickland (1989) points out that the main challenge in the implementation of strategy is to create a series of tight fits between strategy and organisations competences, capabilities, structure, policies, strategy, internal support systems, reward structure and the link between strategy and corporate culture. Organisations today face major changes due to the challenging environment that make strategy implementation more difficult and
complex than in the past. Studies have shown that between 70 to 90 percent of organisations that have formulated strategies fail to execute them (Parkinson, 2005).

In literature these challenges generally arise from internal and external sources. Each challenge depend on the type of strategy, some are controllable whilst others are not. Internal sources include behavioural challenges, inadequate resources and inappropriate systems. Behavioural challenges involve resistance to change by employees and management. Top management tends to see change in its strategic context. Rank-and-file employees are most likely to be aware of its impact on important aspect of their working life (Sadler, 2005). To understand these behaviours different scholars have contributed to the theories. They include Elton Mayo's, Abraham Maslow and Douglas McGregor. Mayo and F. J. Roethlisberger whose finding showed that employees are motivated by different things, understanding what motivates them is a step towards enhancing their performance.

Some resistance is almost unavoidable but its strength can be minimized by involving the employees in the process, effective communication, reward system and good leadership. According to Raps (2004) It’s essential to communicate information to all levels, and don’t forget that the way you present a change to employees greatly influences their acceptance of it. To deal with this critical situation, you must develop an integrated communications plan. Such a plan is an effective vehicle for focusing employees’ attention on the value of the selected strategy. Resources can also be inadequate in terms of human resource, finance and equipments necessary for the implementation. This can be reduced by adopting appropriate policies in implementation. Inappropriate systems like structure, culture, policies and processes, reward systems and support systems can hinder the implementation process, proper planning is important to alleviate the associated problem.

External sources are those related to macro-environment, industry forces and operating environmental forces. The macro-environment involves the political, economical, social-cultural, technological, ecological and legal factors. Economic factors have a direct impact on potential attractiveness of various strategies. For example when interest rates
raise, funds needed for capital expansion become more costly and unavailable. These forces represent both opportunity and threat to organisations. (David, 2005). This includes factors like business cycles, GNP trends, interest rates, money supply, inflation, unemployment and disposable income among others.

Industry forces comprises of competitive forces which determine profitability or attractiveness of industries. Understanding industry attractiveness or profitability is important for entry-exit and other strategic directions. Porter's five force model is one approach to understanding industry competition. Porter discusses five forces that determine the nature of competition in an industry which are bargaining power of suppliers, bargaining power of buyers, the threat of substitute products, the threat of new entrants and the rivalry among the competing firms in the industry. Competition is somewhat intense and cutthroat, many businesses use internet to obtain most information about competitors due to its speed and accuracy. Collecting and evaluating information on competitors is essential for successful strategy formulation and implementation (Porter, 1980).

According to Ritson (2011) the operating environment forces comprises of the competitors, suppliers, shareholders, distributors, government, creditors, employees, customers, the community, pressure groups and the public at large. Reducing the intensity of these forces is by understanding the stakeholders and the related forces; good planning that takes shareholders interest, effective communication and involving key stakeholders in the strategy formulation.

2.5 Enterprise Resource Planning Systems

ERP systems have been defined by many authors but the difference in these definitions is minimal. Kumar et al (2000) define Enterprise Resource Planning Systems as configurable information system packages that integrate information and information based processes within and across functional areas in an organisation. The basic architecture of an ERP system builds on one database, one application and a unified interface across the entire enterprise. Within an ERP environment, transactions are
treated as part of interlinked business processes that are integrated and automated whilst data is shared across departments and particularly, real time information. According to Victor (2011), at the heart of ERP is a single central database that collects data from and feeds into modular applications supporting virtually all the company’s activities. When the new information is entered in one place, related information is the automatically updated.

2.6 Challenges of Enterprise Resource Planning Systems

It has been found that, unique risks in ERP implementation arises due to tightly linked interdependencies of business processes, relational databases and the process reengineering. According to Gatimu (2009) three main factors can be held responsible for failure of ERP systems are: poor planning or poor management; change in business goals and lack of business management support.

Resource is another important factor in ERP implementation. Many companies attempt to save the dollar by doing everything on overtime basis, in the end people reach burn out after putting in excessive hours over a long time (Lugui 2004). Resources include human resources, financial resources, physical resources and technological resources. The human resource is by far the most expansive but at the same time has been the area given the least amount of consideration. The software and hardware costs are often quantifiable

When Information Technology conflicts with an organisational culture their implementation will be resisted in one of two ways, either the system will be rejected or it will be modified so that it matches the existing culture. Without a match between the organisational culture of an organisation and the cultural assumptions embedded within an information system, a costly implementation failure is likely to occur. Culture has an overall influence on overall ERP implementation (Gatimu, 2009).

Due to limited knowledge of formalized business processes and ERP systems, as well as work overload during the implementation process, users were resistant to change. This
contributed to user resistance to participating in BPR, a lack of use of the ERP system, and poor quality of data entered into the system. It is well known that overcoming employee resistance can be a critical factor for the successful completion of a project and top management must provide leadership for all changes, efforts, objections and disagreements that arise in the process of reengineering and ERP implementation (Bosilj and Spremic, 2004).

According to Raps (2004) Communication is a key success factor within strategy implementation. A common source of communication problems in implementation is that divergent functional perspectives may not be aligned with the overall strategy. Unless these issues are addressed, each area may interpret the plan with a lens of "How does my area win?" rather than "How does the organization win?". Effective communication is conceived to be crucial activity for implementation of information systems. Through communication potential users are influenced about the relative advantages of new technology and are persuaded to adopt it.

To implement ERP system successfully, management should monitor the implementation progress and provide clear direction of the project. They must be willing to allow for a mindset change by accepting that a lot of learning has to be done at all levels, including themselves. Traditionally, top management support can assist organisations to overcome hurdles such as political resistance and encourage participation throughout the organisation; it has further been identified as a crucial factor related to information system effectiveness. Top managers need to publicly and explicitly identify the project as a top priority (Gatimu, 2009).

Pearce and Robinson (1991) suggest that the execution of strategy ultimately depends on individual organizational members, particularly key managers. In addition, motivating and rewarding good performance by individuals and organizational units are key ingredients in effective strategy implementation. If strategy accomplishment is a top priority, then the reward system must be clearly and tightly linked to strategic performance.
The main reason for education and training program for ERP implementation is to make the user comfortable with the system and increase the expertise and knowledge level of the people. Training is not only using the new system, but also in new processes and in understanding the integration within the system – how the work of one employee influences the work of others. In ERP implementation process many projects fail in the end due to lack of proper training. Many Researchers consider users training and education to be an important factor of the successful ERP implementation (Esteves and Pastor, 2001).

2.7 Empirical studies

The literature on ERP systems is abundant as years progress since it is still on its growth phase. According to Victor (2011) the major challenges were lack of clear goals and objectives, lack of dedicated resources, lack of proper change management, lack of training, lack of user involvement and unclear ERP project communication. Christopher (2011) identified the major factors as non supportive organisation culture, inadequate allocation of resources, resistance to change, ineffective communication, lack of top management support and commitment, high implementation cost, lack of incentive and reward system, inadequate user training and education.

Gatimu (2009) whose research was on the implementation of ERP in Education Sector in KCA University found out that the major challenges in implementation were; lack of preparedness to change by organisation; the project manager was not skillful in project management and that performance was not monitored before, during and after implementation. Further, neither a business plan, nor vision was created or followed during the implementation. Other challenges identified were that the project team was not diverse and did not present major areas of the organisation, end user training was not effective and that the scope of ERP was not well defined. Gatimu also found out that the implementation was not well staffed to meet the project deadline.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

This study was conducted using a survey. The study aimed at determining the challenges of ERP implementation and also to establish the measures undertaken to cope with the challenges. Case study research has been subject to criticism on the grounds of non-representativeness of a population and lack of statistical generalisability. The use of a survey in this research aimed at addressing this limitation. Survey is also one of the most prevalent research methodologies used in information system (IS) research (Otieno, 2010).

The benefit of using surveys is that the researcher can easily cover large populations quickly at a relatively low cost especially with the availability of modern communication technologies. It can also be completed by telephone, mail, fax, or in-person and it is quantifiable and generalisable to an entire population if the population is sampled appropriately. The use of standardized, structured questionnaire minimizes interviewer bias. This survey used structured and standardized questionnaire.

3.2 Target Population

This survey target population were the firms that had implemented ERP in Kenya. In Kenya around 59 organisations (See Appendix III) had implemented ERP according to the information gathered from accessible ERP dealers, internet and personal contacts. All the organisations were surveyed, thus a census. In each organisation 3 questionnaires were sent to be filled by the project managers, finance managers and system end users as they were the most appropriate respondents for this survey.

3.3 Respondents’ Rate

The study first looked at the response rate. Watt et al. (2002) claimed that for paper Survey 33% response rate would be considered sufficient. The study did better as it surpassed the figure.
### Table 3.1: Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Target Population</th>
<th>Response</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies</td>
<td>59</td>
<td>59</td>
<td>32</td>
<td>54%</td>
</tr>
<tr>
<td>Respondents</td>
<td>177</td>
<td>177</td>
<td>96</td>
<td>54%</td>
</tr>
</tbody>
</table>

Source: Research Primary Data (2012)

Table 3.1 shows that the study methodology was a census where the populations of companies that had implemented ERP in Kenya as at end of August 2012 were 59 out of which all the 59 were targeted. In each of the 59 companies three questionnaires were supplied that was targeting the project managers, the technical experts of the projects and the end users of the ERPs. This meant that 177 questionnaires were supplied of which 96 questionnaires from 32 companies were returned. This meant that all the companies that were able to return complied 100% by filling 3 questionnaires. The 32 companies and 96 questionnaires returned represented 54% response rate.

### 3.4 Data Collection

Primary data was collected using structured and unstructured questionnaires to discover new answers. The procedure involved sending the cover letter and the questionnaires via email and drop and pick by the researcher to the organisations which had implemented ERP in Kenya and any clarifications done via telephone. The Questionnaires were specifically sent to the finance managers who were requested to distribute them to the respondents within the organisation.

### 3.5 Data Analysis

Once data was collected, it was analysed and interpreted using descriptive statistic and factor analysis. Factor analysis is used when you have a large number of related variables and you wish to explore the underlying structure of this set of variables. It is a data reduction technique that uses correlations between data variables. The underlying
assumption of Factor Analysis is that a number of factors exist to explain the correlations or inter-relationships among observed variables (Otieno, 2010). Factor analysis will be more appropriate since the questionnaire has included factors which the respondent is supposed to state as to what extent they agree or disagree with the factors identified.
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this chapter the results from the data collected was presented. First the chapter started with the profile of the respondents firms, then it went to provide the results of the findings and finally discussion of the results in line with the objectives of the research.

4.2 Profile of Respondents’ Firms

The profile included; Number of years the respondents have been in existence, size of the firm by employees and industry the companies operated in. In profiling the respondents the study goes further to look at the chronology in which respondents had implemented ERPs, ERP selected, implementation methodology used and the underlying reasons for using the methodology.

4.2.1 Number of Years in Existence

It was important to find out how long the companies that responded to the survey had been in existence. The idea was to ensure that most of the companies that were involved in the research had considerable experience in their relevant field. The study was a census, hence every company that had implemented ERP was targeted. Data was collected using the questionnaires and the results are as shown in Figure 4.1

Figure 4.1: Respondents’ by Number of Years in Existence

<table>
<thead>
<tr>
<th>Years in Existence</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 Year</td>
<td>1</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>5</td>
</tr>
<tr>
<td>11-15 Years</td>
<td>2</td>
</tr>
<tr>
<td>16-20 Years</td>
<td>3</td>
</tr>
<tr>
<td>Over 20 Years</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Research Primary Data (2012)
Figure 4.1 shows that 21(66%) companies had existed for over 20 years while 3(9%) had done so for over 16 years, 2(6%) had existed for over 11 years, 5(16%) had existed for over 6 years and 1(3%) had existed for over a year. This gives us confidence on the result since most companies have existed long enough to give us substantial information.

4.2.2 Size of Firms by Employees

It was important to find out how many employees the company surveyed had employed. This was important since the companies had to have a significant number of employees for the results to be generisable and inclusive. Questionnaires were distributed to answer this part. In this analysis we used the descriptive statistic table to analyse the results.

Table 4.1: Size of firm by employees

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>N: Valid Respondents</td>
<td>96</td>
</tr>
<tr>
<td>N: Valid Number of Companies</td>
<td>32</td>
</tr>
<tr>
<td>Mean</td>
<td>1,041</td>
</tr>
<tr>
<td>Median</td>
<td>450</td>
</tr>
<tr>
<td>Mode</td>
<td>300</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>1,587</td>
</tr>
<tr>
<td>Sum</td>
<td>33,310</td>
</tr>
</tbody>
</table>

Source: Research Primary Data (2012)

Table 4.1 shows that the average number of employees from the respondent was 450 taken from the median, the mean was 1,041 while standard deviation was 1,587 this meant that it was verily skewed and that best central tendency would either be mode or median. Median is always superior to mode and second only to mean hence the median selected.
4.2.3 **Industries they Operated In**

The study looked at the industry the firms operated in to help show the diversity of the firms under study. The respondents filled in the questionnaires that had this included. The tabulated results gave the results shown in Figure 4.2.

Figure 4.2: Industries the firms Operated In

![Bar chart showing industries firms operated in](chart.png)

Source: Research Primary Data (2012)

Figure 4.2 shows that 11(34%) companies were from manufacturing while 6(19%) were from banking, 3(9%) were from oil and energy, 2(6%) were from assembling, another 2(6%) were from telecommunication, while 8(25%) were from other industries which included; advertising, media, cargo handling, air transport, insurance, health and agency. This tells us that majority of the firms that had implemented ERP were from the manufacturing sector.

4.2.4 **The Chronology of ERP Implementation by Year**

In evaluating the implementation process for the ERPs by Kenyan companies it was thought to be important to first check the chronology of ERP implementations by the respondents in order to understand the developments in the area of study over years. Data was collected using the questionnaires and the analysed results tabulated as per Figure 4.3.
Figure 4.3: Chronology of ERP Implementation by year.

Figure 4.3 shows that very few, 1(3%) of the ERP were done before the year 2000, however 14(44%) were implemented in the period between 2000 and 2009 and as successful implementation and lessons learnt by the pioneers then the period of 2010 and after saw many more implementations 17(53%) of new implementations.

The implementation has been growing fast over years between 2002-2006 because the economy of Kenya had started picking and the new political regime had settled in. After that the situation was slow until after 2008, a point where Kenya had passed its most violent election since its independence and implementations increased after stabilizing in 2010 and 2011.

4.2.5 The ERP Selected
There are several ERP being offered around the world. The study ventured to check which ERPs were being implemented in Kenya, so as to give an insight to those who would like to purchase but were not sure which was the mostly used ERP by firms. Data was collected using the questionnaires and the results were tabulated as seen in Figure 4.4

Figure 4.4: The ERP Selected
Source: Research Primary Data (2012)

Figure 4.4 shows that SAP was the predominant ERP being used in Kenya with 17(53%) of the respondents’ companies implementing it while 10(31%) opted for Oracle and the rest of ERPs had only been implemented in 5(16%) companies. These included Syspro, A1 Express, peoplesoft, Sirius s and E-Bizframe. This depicts SAP as the most dominating in the market and best in supporting its customers.

There are several methodologies that a company could use when implementing the ERPs. The study ventured to study out which of the methodologies was mostly used in the implementation of ERPs and the reasons behind the selection of different ERP implementation methodology, so as assist those aiming to adopt the system to make an informed decision. Data was collected using questionnaires and the results tabulated as shown in Figure 4.5.

4.2.6 The ERP Implementation Methodology

Figure 4.5: The ERP Implementation Methodology

Source: Research Primary Data (2012)

Figure 4.5 shows that phased approach was slightly preferred with 18(56%) preferring it to 14(44%) preferring the big –bang approach.
Figure 4.6: The Reason for Selecting the ERP Implementation Methodology

Source: Research Primary Data (2012)

Figure 4.6 shows that the main reasons for using either big bang or phase approach was down to company policy with 14(44%) citing it as the main reason, while 5(16%) associated their approach as based on fear of failure or avoiding past failures,4(13%) claimed that not all modules were required at the onset of implementation, while the rest had resource constraints, multi integration requirements complexities and size and multiple locations of the company as the major reasons for selecting their methodology.

4.3 Challenges of ERP Implementation

The study delved to understand the challenges faced when implementing ERPs. There were numerous challenges expected in the implementation of ERPs. The approach was first to look at the general challenges where identification of both internal and external challenges was imminent, then we went further to check on the challenges emanating from the implementation methodology before finally looking at the staff issues. It was important to look at the implementation methodology challenges as well as the staff issues as the two specific areas of any projects are crucial in unlocking any problems faced. The two areas however would not suffice in unlocking all issues as ERP projects are wide and could create problems beyond the two specific areas and therefore it was vital to look at the general challenges of implementing ERPs.

The data was sourced from the questionnaires provided by different companies in Kenya who had implemented ERP by the year 2012. The main reason for digging the data was
to understand the challenges in order to come up with possible solutions to the problem that was being faced by those who have implemented ERP systems.

4.3.1 General Challenges of Implementing ERPs

The research was set to find out the level of agreement by respondents from different companies that had implemented the ERP were on those challenges.

Table 4.2: Challenges faced when Implementing ERPs

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long customization period</td>
<td>0%</td>
<td>6%</td>
<td>9%</td>
<td>47%</td>
<td>38%</td>
</tr>
<tr>
<td>Integration problems</td>
<td>9%</td>
<td>6%</td>
<td>9%</td>
<td>66%</td>
<td>9%</td>
</tr>
<tr>
<td>Inadequate preparation by employees to the new system</td>
<td>0%</td>
<td>28%</td>
<td>0%</td>
<td>56%</td>
<td>16%</td>
</tr>
<tr>
<td>System led to major organizational changes</td>
<td>6%</td>
<td>16%</td>
<td>13%</td>
<td>66%</td>
<td>0%</td>
</tr>
<tr>
<td>Many problems during file conversion</td>
<td>0%</td>
<td>38%</td>
<td>9%</td>
<td>44%</td>
<td>9%</td>
</tr>
<tr>
<td>High user resistance</td>
<td>13%</td>
<td>28%</td>
<td>9%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Integration of different types of data was a big problem</td>
<td>0%</td>
<td>31%</td>
<td>22%</td>
<td>22%</td>
<td>25%</td>
</tr>
<tr>
<td>Challenges in implementation: lack of skills for implementing and using ERP</td>
<td>9%</td>
<td>22%</td>
<td>25%</td>
<td>28%</td>
<td>16%</td>
</tr>
<tr>
<td>High system cost</td>
<td>9%</td>
<td>28%</td>
<td>22%</td>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>Insufficient training to users</td>
<td>6%</td>
<td>50%</td>
<td>9%</td>
<td>34%</td>
<td>0%</td>
</tr>
<tr>
<td>Not enough time to implement the system</td>
<td>34%</td>
<td>19%</td>
<td>16%</td>
<td>31%</td>
<td>0%</td>
</tr>
<tr>
<td>High staff turnover after implementation</td>
<td>44%</td>
<td>16%</td>
<td>16%</td>
<td>25%</td>
<td>0%</td>
</tr>
<tr>
<td>ERP systems too complex</td>
<td>41%</td>
<td>31%</td>
<td>9%</td>
<td>19%</td>
<td>0%</td>
</tr>
<tr>
<td>Security of the systems easily compromised</td>
<td>44%</td>
<td>38%</td>
<td>0%</td>
<td>3%</td>
<td>16%</td>
</tr>
<tr>
<td>Systems led to many staff layoff</td>
<td>50%</td>
<td>28%</td>
<td>3%</td>
<td>19%</td>
<td>0%</td>
</tr>
<tr>
<td>Vendors unreliability</td>
<td>34%</td>
<td>19%</td>
<td>28%</td>
<td>19%</td>
<td>0%</td>
</tr>
<tr>
<td>Incompatibility of work</td>
<td>13%</td>
<td>69%</td>
<td>3%</td>
<td>16%</td>
<td>0%</td>
</tr>
<tr>
<td>Quality of ERP not standard</td>
<td>19%</td>
<td>44%</td>
<td>25%</td>
<td>13%</td>
<td>0%</td>
</tr>
<tr>
<td>Benefits of the system not recognizable</td>
<td>38%</td>
<td>44%</td>
<td>16%</td>
<td>0%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Research Primary Data (2012)
Table 4.2 shows that long customization was the main challenge with 82(85%) of the respondents claiming agreeing that as being the issue while 74(77%) felt that integration problems as the main concern, 69(72%) claimed that it was inadequate preparation by employees to the new system that created the challenges while 63(66%) agreed that system had led to major organizational changes. Other major issues were many problems during conversion 51(53%) and 48(50%) cited high user resistance as a high concern.

The other issues included integration of different types of data, lack of skills on ERP implementation, high system costs, insufficient training to users, not enough time to implement the system, high staff turnover after implementation, security of the systems easily compromised, vendors unreliability, systems led to many staff layoff, ERP systems too complex, incompatibility of work, quality of ERP not standards, benefits of the system not recognizable.

4.3.2 External Challenges

External challenges were assumed to be those challenges that were not within the control of the companies implementing the ERPs. The challenges were; business process extensively changed, integration of different types of data was a big problem, incompatibility of work, high system cost, long customization period, integration problems and security of the systems easily compromised. Factor analysis was done and the following results were obtained.

Table 4.3 Total Variance Explained for External Factors

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues Total</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.37</td>
<td>42.07</td>
</tr>
<tr>
<td>2</td>
<td>1.81</td>
<td>22.63</td>
</tr>
<tr>
<td>3</td>
<td>1.20</td>
<td>15.01</td>
</tr>
<tr>
<td>4</td>
<td>0.81</td>
<td>10.09</td>
</tr>
<tr>
<td>5</td>
<td>0.44</td>
<td>5.46</td>
</tr>
<tr>
<td>6</td>
<td>0.24</td>
<td>2.95</td>
</tr>
<tr>
<td>7</td>
<td>0.09</td>
<td>1.16</td>
</tr>
<tr>
<td>8</td>
<td>0.05</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Source: Primary Data (2012)
Table 4.3 explained the total variance of factor analysis and as Kaiser (1974) recommended that we consider components that have greater than 1 eigen values then in the case only 3 components were considered.

Table 4.4: Rotated Component Matrix for External Factors

<table>
<thead>
<tr>
<th>Questions</th>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERP systems too complex</td>
<td>Process and System Issues</td>
<td>0.94</td>
<td>0.13</td>
<td>-0.12</td>
</tr>
<tr>
<td>Security of the systems easily compromised</td>
<td>Process and System Issues</td>
<td>0.88</td>
<td>0.23</td>
<td>0.09</td>
</tr>
<tr>
<td>High system cost</td>
<td>Process and System Issues</td>
<td>0.87</td>
<td>0.24</td>
<td>-0.2</td>
</tr>
<tr>
<td>Business Process Extensively Changed</td>
<td>Process and System Issues</td>
<td>0.6</td>
<td>-0.17</td>
<td>-0.05</td>
</tr>
<tr>
<td>Long customization period</td>
<td>Customization and Integration Issues</td>
<td>0.28</td>
<td>0.9</td>
<td>0.28</td>
</tr>
<tr>
<td>Integration problems</td>
<td>Customization and Integration Issues</td>
<td>0.1</td>
<td>0.9</td>
<td>-0.15</td>
</tr>
<tr>
<td>Incompatibility of work</td>
<td>Customization and Integration Issues</td>
<td>-0.26</td>
<td>0.56</td>
<td>-0.56</td>
</tr>
<tr>
<td>Integration of different types of data was a big problem</td>
<td>Data Issues</td>
<td>-0.3</td>
<td>0.09</td>
<td>0.88</td>
</tr>
</tbody>
</table>

Source: Primary Data (2012)

Table 4.4 shows that the external issues could be categorized into three main areas process and system issues which included complexity, security and costs of the ERP system plus the numerous process changes that were brought by the implementation of ERP. The next category would be customization and integration issues which included; length of customization, integration and compatibility with other systems. The final category was data issues which was mainly because of lack of integration of data set up in the ERP with other systems data that existed in the organizations.
External factor can be categorized into three main categories the process and system issues, customization and compatibility issues and data issues. Factors in all these categories were serious challenges in the implementation of ERPs. There was need to look at each of the categories and find solutions that could make the implementation a success. The honors was for the business analyst who initially came up with the system requirements to ensure that complexities, process changes required, customization required, system integration and compatibility requirements and data sets requirement were well captured way in advance and were well monitored during the course of implementation.

4.3.3 Internal Challenges

Internal challenges were assumed to be those challenges that were within the control of the companies implementing the ERPs. The challenges were; lack of skills for implementing and using ERP, inadequate preparation by employees to the new system, high user resistance, high staff turnover after implementation, systems led to many staff layoff, not enough time to implement the system, benefits of the system not recognizable and system led to major organizational changes. Factor analysis was done and the following results were obtained.

Table 4.5 Total Variance Explained for Internal Factors

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigen values: Totals</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.24</td>
<td>40.47</td>
</tr>
<tr>
<td>2</td>
<td>1.38</td>
<td>17.23</td>
</tr>
<tr>
<td>3</td>
<td>1.23</td>
<td>15.36</td>
</tr>
<tr>
<td>4</td>
<td>1.05</td>
<td>13.16</td>
</tr>
<tr>
<td>5</td>
<td>0.51</td>
<td>6.37</td>
</tr>
<tr>
<td>6</td>
<td>0.38</td>
<td>4.74</td>
</tr>
<tr>
<td>7</td>
<td>0.17</td>
<td>2.11</td>
</tr>
<tr>
<td>8</td>
<td>0.04</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Source: Primary Data (2012)
Table 4.5 explains the total variance of factor analysis and as Kaiser(1974) recommended that we consider components that have greater than 1 eigen values then in the case only 4 components were considered.

Table 4.6: Rotated Component Matrix for Internal Factors

<table>
<thead>
<tr>
<th>Questions</th>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems led to many staff layoff</td>
<td>Communication Related Issues</td>
<td>0.91</td>
<td>0.28</td>
<td>0.18</td>
<td>-0.04</td>
</tr>
<tr>
<td>Benefits of the system not recognizable</td>
<td>Communication Related Issues</td>
<td>0.87</td>
<td>0.15</td>
<td>-0.08</td>
<td>-0.03</td>
</tr>
<tr>
<td>High staff turnover after implementation</td>
<td>Communication Related Issues</td>
<td>0.85</td>
<td>-0.08</td>
<td>0.11</td>
<td>0.12</td>
</tr>
<tr>
<td>Not enough time to implement the system</td>
<td>Communication Related Issues</td>
<td>0.66</td>
<td>0.4</td>
<td>-0.53</td>
<td>-0.1</td>
</tr>
<tr>
<td>Inadequate preparation by employees to the new system</td>
<td>Employee Support Issues</td>
<td>0.2</td>
<td>0.87</td>
<td>-0.14</td>
<td>-0.18</td>
</tr>
<tr>
<td>High user resistance</td>
<td>Employee Support Issues</td>
<td>0.06</td>
<td>0.84</td>
<td>0.16</td>
<td>0.3</td>
</tr>
<tr>
<td>System led to major organizational changes</td>
<td>Change Management Issues</td>
<td>0.13</td>
<td>0.05</td>
<td>0.95</td>
<td>-0.07</td>
</tr>
<tr>
<td>Lack of skills for implementing and using ERP</td>
<td>Knowledge Issues</td>
<td>0.03</td>
<td>0.05</td>
<td>-0.05</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Table 4.6 demonstrates that the internal issues could be categorized into four main areas like communication issues which included system benefits not being recognized and the fear that ERP led to many layoffs, there was also the fear that ERP will make the organization loose on its top talents plus the fear that they may not be able to deliver on time. The other category was employee support issues where employees felt they were not adequately prepared for the new system and hence they would resist it, another area was change management as the system was not able to employees could not handle the many changes that were happening within the organization and the last category was knowledge issues where the employees felt that they did not have adequate skills to enable them run with the ERP implemented.
Internal factors spoke volume on how the employees felt about the implementation of the ERP and how they feared for their jobs, their inadequacies, and the inability to comprehend the many changes that were happening within their organizations. They would resist the changes mainly because there was not enough communication that was being passed to them to enable them ease through the implementation process.

4.3.4 Staff Issues in ERP Project Implementation

The study sought to find out how were the staff (respondents) involved in the ERP implementation process so as to understand which cadre of employees are very much involved in the implementation. It also went further to look at what the staff were mostly concerned about in the process so us to ascertain on their perception. Finally, the study delved to explore whether training was a necessary factor in implementation and whether staff were trained internally or by consulting firms. Data was collected using questionnaires and the results captured on Figure 4.7.

Figure 4.7: Staff Involvement in ERP Project Implementation

![Staff Involvement Chart]

Source: Research Primary Data (2012)

Figure 4.7 shows that 57(59%) were involved by being in the management team either by managing the project collectively or being project leader by virtue of being the head of the department that is highly impacted by the ERP implementation, 12 (13%) were directly project leaders, 21(22%) were partially involved either by being remaining in their department to continue with operational work but then pulled in to assist the project
in their different areas of expertise from time to time. The rest 3(3%) were functional leaders and others were not used at all.

On the staff concerns issue, the data was collected and results were tabulated as per Figure 4.8

Figure 4.8: Staff Concerns during ERP Implementation

Source: Research Primary Data (2012)

Figure 4.8 illustrates that 78(81%) of the respondents were concerned mainly by the uncertainties that came with the implementation of the ERPs while 12(13%) feared to lose their jobs because of ERP implementation.

Another staff issue was training. The study checked whether training was conducted and upto what level.

Figure 4.9: Training on ERP during implementation

Source: Primary Data (2012)
The results demonstrated that much of the training was done internally. Figure 4.9 shows that 69(72%) of the respondents were trained from internal resources, while 18(19%) were trained by specialized consulting firms. This portrays that training resources have to be availed internally for ERP implementation to be successful.

4.3.5 Top Management’s concerns in Implementation of ERPs

The study checked whether the respondents companies were committed to continue with fully implementing ERPs and the reasons behind the delays in taking other modules. Also, the study demonstrated on the impact of ERP on the companies’ business process and vision. This part was necessary to provide highlight to those willing to implement ERP to appreciate it as a long term strategy and not a one stop plan. Continuous support and monitoring as key for its absolute functioning. Data was collected using questionnaires and the results were analysed as illustrated in Figure 4.10.

Figure 4.10: Commitment towards Implementation of ERPs

![Chart showing commitment to implementation of ERPs](chart.png)

Source: Research Primary Data (2012)

Figure 4.10 confirms that 87(91%) of the respondents felt that implementation was still on course while the rest felt otherwise.

To find out the reason for the delays from taking other modules the below table was established.
Figure 4.11: Reason for Delay in Uptake of Other ERP Modules

![Waterfall Diagram]

Source: Research Primary Data (2012)

Figure 4.11 is a waterfall diagram that highlights that 54(56%) of the respondents felt that the delay was a deliberate choice where companies would be systematically phasing the implementation process and taking new modules after the initial implementations had stabilized. 18(19%) of the respondents either felt that delay was caused by lack of expertise to implement the other modules or that the current modules were so problematic that the companies were rethinking of whether to continue with the ERP or not. 6(6%) respondents claimed that they were still seeking approval for the next phase of implementation.

Last but not least, the study devoted to understand the impact of the implementation of ERPs on the business processes and vision as portrayed in Figure 4.12
Figure 4.12: ERP Impact on the Companies Business Process and vision

![Bar Chart](image)

Source: Research Primary Data (2012)

Figure 4.12 proves that 78(81%) of the respondents felt that the implementation of ERP had a great impact on the business processes and vision while 18(19%) felt that it did not. This means that management has to be prepared for the change that comes with ERP and embrace it order for the strategy to be a triumph.

### 4.4 Measures to Overcome ERP Implementation Challenges

The study then investigated steps taken by companies to overcome the ERP Implementation challenges. This was crucial to assist in overcoming any future failures by those willing to implement the system and to the vendors not to recap on the past failures and turn them in to success.
Figure 4.13 shows that 81(84%) of the respondents claimed that the strategy where the CEO committed to the project and asked for regular project updates helped to overcome implementation challenges. Other strategies included 78(81%) Project managers reporting to the board once a month, 75(78%) respondents felt that the formation of steering committee to oversee the project was important while the others felt involvement of top management was. 54(56%) of the respondents claimed the zeal of Project Managers to finish within the project time and budgets while 36 (38%) of respondents felt that transfer of employees whose jobs were falling off as crucial. 24(25%) felt that motivating staff by rewards due to participation in Projects was significant in reducing implementation challenges.
From the findings, the measures used to overcome the challenges were; Project Managers in charge report to the board once a month as a means to overcome challenges, CEO Committed to the Project and Regularly ask for Project update as a means to overcome challenges, Members of the top management were very involved in the implementation of the Project to overcome Challenges, Project Managers ensured the project was completed on time and on the budget as a means to overcome challenges, Steering Committee was formed to oversee the project as a means to overcome challenges, Staff were being motivated by rewards for participating in the project as a means to overcome challenges and Employees whose jobs were eliminated were being transferred to other departments as a means to overcome challenges.

4.5 Reasons for Successful Implementation of ERP

Table 4.7: Reasons for Successful Implementation of ERP
Source: Research Primary Data (2012)
<table>
<thead>
<tr>
<th>Success Factors</th>
<th>Did not Answer</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective user training</td>
<td>0%</td>
<td>6%</td>
<td>19%</td>
<td>59%</td>
<td>16%</td>
</tr>
<tr>
<td>Our organization adopted best business practices during ERP implementation</td>
<td>0%</td>
<td>0%</td>
<td>25%</td>
<td>69%</td>
<td>6%</td>
</tr>
<tr>
<td>Appropriate business and it legacy systems were used</td>
<td>0%</td>
<td>0%</td>
<td>22%</td>
<td>75%</td>
<td>3%</td>
</tr>
<tr>
<td>Business plan and vision were created and followed for ERP implementation</td>
<td>0%</td>
<td>0%</td>
<td>19%</td>
<td>47%</td>
<td>34%</td>
</tr>
<tr>
<td>The ERP software selection was appropriate for the business needs</td>
<td>6%</td>
<td>0%</td>
<td>13%</td>
<td>50%</td>
<td>31%</td>
</tr>
<tr>
<td>End users were fully involved</td>
<td>0%</td>
<td>3%</td>
<td>13%</td>
<td>66%</td>
<td>19%</td>
</tr>
<tr>
<td>The project team was diverse and represented major areas of the organization</td>
<td>0%</td>
<td>6%</td>
<td>9%</td>
<td>78%</td>
<td>6%</td>
</tr>
<tr>
<td>Historical data was analyzed and converted in an efficient logical manner</td>
<td>0%</td>
<td>0%</td>
<td>16%</td>
<td>66%</td>
<td>19%</td>
</tr>
<tr>
<td>There was a clearly defined scope for implementation</td>
<td>0%</td>
<td>3%</td>
<td>9%</td>
<td>69%</td>
<td>19%</td>
</tr>
<tr>
<td>Employees were informed of the project status during and prior to implementation</td>
<td>0%</td>
<td>0%</td>
<td>9%</td>
<td>41%</td>
<td>50%</td>
</tr>
<tr>
<td>The scope of ERP project was well defined and well adhered to</td>
<td>0%</td>
<td>0%</td>
<td>9%</td>
<td>78%</td>
<td>13%</td>
</tr>
<tr>
<td>The project team was knowledgeable about ERP and business process</td>
<td>0%</td>
<td>0%</td>
<td>6%</td>
<td>47%</td>
<td>47%</td>
</tr>
<tr>
<td>Top management was kept abreast of the project status</td>
<td>0%</td>
<td>0%</td>
<td>3%</td>
<td>38%</td>
<td>59%</td>
</tr>
<tr>
<td>An aggressive schedule and timeline was used for implementation</td>
<td>3%</td>
<td>0%</td>
<td>0%</td>
<td>56%</td>
<td>41%</td>
</tr>
<tr>
<td>General measures: the implementation had top management support</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>31%</td>
<td>69%</td>
</tr>
<tr>
<td>The implementation project manager was skillful in project management</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>Resources were dedicated to the project as needed</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>63%</td>
<td>38%</td>
</tr>
</tbody>
</table>
Table 4.7 shows that 96(100%) of the respondents agreed that the key reasons for successfully implementing ERP in their companies was that resources were dedicated to the project as needed, the implementation project manager was skillful and that implementation had top management support. Others factors in the descending order of respondents agreeability to their importance were; an aggressive schedule and timeline used, top management kept abreast of the project status, project team was knowledgeable about ERP and business process, the scope of ERP was well defined and well adhered to, employees were informed of the project status during and prior to implementation, there was clearly defined scope of implementation, historical data was analyzed and converted in an efficient logical manner, the project team was diverse and represented major areas of the organization, end users were fully involved, the ERP software selection was appropriate for the business needs, business plan and vision were created and followed for ERP implementation, appropriate business and IT legacy systems were used, organizations adopted best business practices during ERP implementation and last but not least effective user training.

4.6 Discussion of the Findings

After presentation of the results the study then went into discussing the results. The main purpose for the discussion was to put the results into the perspective of the research objectives. The areas of discussion involve; ERP implementation preferences, main benefits and impact of ERP implementation, main challenges of ERP implementation, how to overcome challenges of ERP implementation and blueprint for successful implementation of ERPs.

The study showed that SAP and Oracle were the most dominant ERP providers with the former having a greater market share in terms of customer numbers. The implication may mean that the pricing of the ERPs may be higher because of few dominant players in the Kenyan market. The two companies are not local and therefore may not fully provide localized solution. ERP development in Africa is looked to be still ground for development and the potential is still high for programmers and solution providers to
look at this niche. Companies’ high affinity for SAP solutions may have been driven by the fact that SAP strengthens on service industry.

The study also shows that there were very few firms however who took the complete set of the ERP packages provided by the different vendors instead they preferred to take only few modules. Averagely the companies had implemented an average of 5 modules and the most preferred were; financial modules, management accounting modules, sales and distribution modules, production management modules and workflow management. The companies were largely indifferent on whether to go phased or big bang approach it all depended on company policy. Companies that had failed before or feared failure or had limited resources opted for phased approach. It was however noted that the phased approach also resulted to delay of implementing other modules of the ERPs. The reason for the delays were mainly due to company’s own decision to delay implementation and assess the compatibility of the initial ERP modules with other systems plus that some complications in the implementation of initial ERP modules were creating a situation where some companies had started to rethink on whether to continue or to abandon further implementation.

Kumar et al (2000) claimed that the basic architecture of an ERP system was that it was built on one database, one application and a unified interface across the entire enterprise. The unified interface was seen as the key benefit of the ERP Implementation. The study results were in congruence with Kumar et al (2000) claims. The study shows that ERP implementation had great impact in most companies as it made the companies reassess and even change their vision plus it changed their business process very much. The impacts paid dividend as most of the companies reaped the benefits of; better integration of the systems across multiple locations, standardization of global business operations and improvement of business performance through gaining competitive advantage and fending off pressures from competitors.

Gatimu (2009), Victor (2011) and Christopher (2011) claimed that the major challenges in implementation were; lack of preparedness to change by organization, lack of clear
goals and non supportive organization culture respectively. The study however did not concur with the views. The study found that long customization and complication with system integration as the main challenges. The challenges were very fundamental and crucial to any successful implementation of ERP as failure to handling such situations would lead to failure in the implementation of ERPs.

Integration of the ERP with other existing systems was crucial to creating confidence to the users especially for an organization with multiple systems. The integration is required to ensure that the user reap benefits from the ERP implementation without creating problems with other systems. The compatibility with other systems was always going to be a must tackle if a company has to get full value of the new system.

The other area that would ensure that the company got full return on their investment was customization of the new system to fit in the user requirements. The process however usually took longer than anticipated and creating worries and doubts about the new system. It was imperative therefore for the companies and vendors to ensure that customization was done within the specified project timelines to enable have a buy in from the users.

On the human capital side of the implementation the study shows that fear of job loss, uncertainties and user resistance were key challenges. The challenges would mean that the staff would not be enthused with the process of introducing an ERP and thus they would either sabotage it or not give it much support as expected. It would be difficult enough to implement an ERP with the support of the staff but lack of it would make it even harder.

Wee (2000) claimed that top managers needed to publicly and explicitly identify the project as a top priority. The study agreed with the notion. CEO, top executives and the board was seen as the most effective strategy to tackle implementation challenges. The support of top brass of any company was seen as very important. The board interest in the key project was vital. Boards were always in charge with long term strategies of any
company. They are the ones who would ensure that the company is operating as a going concern that its stability was not in doubt and that the future prosperity was highly likely. Unlike executives who are mostly judged by year on year performance and most interested in the immediate profits of the organization the board interest on the long term projects was paramount. In ERP projects the board was expected to ensure that project managers were reporting on the project progress directly to them so that if there was any delays or lack of support by the executives they would get wind of it and straighten things as fast as required to avoid wastage of resources.

Top management on the other hand was required to pull together if the ERP Projects were to be successful. The ERP projects usually would require involvement of cross functional teams. The implementation may also affect numerous departments’ operations and hence the buy in from the top executives would help them rally the different departments they lead behind the project in order to ensure its successful conclusion.

CEOs being the heartbeat of their companies needed to lead by examples. Communication about the project purpose and approach would reassure members of staff about their jobs and enable them support the project with certainty that the project success would bring more to the table than its failure for all stakeholders. CEOs involvement also ensured that decisions were made faster whenever a setback that might threaten the completion of the ERP projects in time.

Robinson (1991) opinioned that organization culture and leadership would enable them achieve success in their endeavors. The study findings were in line with the opinion. The study results shows that the key ingredients towards successful implementation of an ERP was that projects needed to have absolute support of the top management support , that resources were dedicated to the project as needed and that the implementation project manager was skillful.

Top management would always be involved in all aspects of resource allocations, communication and problem solving. Any project would require the three aspects to be
robust. Projects would always be completed on time and on the budget if the resources required were availed in time and in right quantities and qualities. Top management would have the ability to select their best performers to projects and also they would have the ability to ensure they report to the project in the required time. Quite often the top managers would not release their best staff to projects as that might dent their operation excellence and negate the achievement of the targets for the year. As such they may also have constrained in resource and as such they may delay giving resources which would ultimately lead to project failures. If the top management however were tactful they would know that implementation of the ERP Project often lead to creation of more time for their best resources that would be able to perform even better once the ERP was successfully implemented. The knowledge that the ERP implementation process was just a minor pain for a long term gain would enable support the project effectively.

Resources allocated to the project would also prove to be crucial in ensuring that the projects succeed. Projects always get myriad of challenges including lack of support from vendors, lengthy lead time for resource sourcing, customization and integration complications. The problems would easily be solved if the project team performed their duties over and above their norm. It would therefore be very important that the resources allocated are of high quality, highly motivated, resilient and verily committed to the course.

The balance of all these challenges would be none other than a very skilled project manager. A skilled project manager would know the project phases and tasks that can be crushed in order to achieve a faster and quality implementation. The project manager would have had amassed years of experience and understanding of the requirements for the project success. The skilled project manager would have gone through project drills time and time again and would therefore know how to preempt and tackle a problem before it surfaces.
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The chapter would wrap up the research. It focused on giving the summary of the findings, conclusion and policy recommendation. It also featured some study limitations and recommendation for further studies.

5.2 Summary

This study had two key objectives: The first was to determine the challenges of ERP implementation by firms in Kenya and the second one was to establish measures undertaken by organizations in Kenya to deal with the challenges. The study found out that the key challenges were longer time was taken in customization and complication brought by system integration. The study also found out that the most effective means of rebuffing such challenges was that the board and the top executives lead by the CEO to support the project and be seen supporting the project absolutely.

5.3 Conclusion

As mentioned in the summary the main objectives of the research were the determination of the challenges of ERP implementation by firms in Kenya and establishment of measures undertaken by organizations in Kenya to deal with the challenges. The research was able to meet the objectives and surpass them.

The research shows that ERP implementation was a very delicate and yet crucial matter for most organizations. It had very many important benefits for the organization and involved use of valuable resources of the organization and therefore it was essential that the return on investment is attained as was planned. The challenges faced during implementation varied from one organization to the other but the most common were the length and complications of system integration and customization. Key towards resolving such challenges was top management involvement as they would be able to resolve issues at faster rate and also help provide the project with the right quantity and quality
resources in good time that would lead to reduction of time for integration and customization hence making quicker buy in from the users.

5.4  Policy Recommendation

Having looked literature propositions, research findings, its discussion and conclusion derived the study would make numerous policy recommendations. There was need for top management to be picked to steer the projects and that project managers reporting directly to the board should be made as a basic requirement if any project was to be successful. The project also found out that the integration and customization challenges would arise due to either vendors making or companies making. It was therefore important to provide projects with appropriate resources in a timely manner and reward those resources using the project timelines and quality of its completion. It would require metrics and benchmarks to be derived or formulated way in advance and be applied to motivate staff. It would also mean that firms must have thorough contracts signed with vendors of the solutions and those implementing the projects to ensure that the organization would not be short changed. Templates for collating and documenting both user and technical requirements would also be important to be set and staff and top management be trained on the use as it was the most crucial part of the project. If business and technical needs are well documented the business analyst may find that the problems may be resolved without uptake of new modules and that if there was any need for a new module then the exact requirement would enable pick the right solution and partners to complete the project at the shortest time and lowest cost. The research recommends further that companies should invest on in-house programmers as such would help reduce the customization time and integration complications. The programmers would also help firms to come up with their own localized and robust solutions other than be dependent on few very costly suppliers.
5.5 Study Limitations

The research objectives were a bit limiting by checking only at challenges of implementing ERPs and how to overcome them as the subject matter was richer for more valuable information. The research also was narrowed to within Kenya while most firms who have taken ERPs in Kenya are multinationals or at least operate across the East and Central African regions. It would have thus been interesting if the scope was widened to net those other areas.

5.6 Recommendation for Further Studies

The research limitation stated earlier would motivate one to study the benefits and challenges of implementing ERPs for multinationals; comparative study of companies within the East and Central Region. Another area of study would be to determine the key determinants of successful implementation of ERPs in Africa. It would also be fascinating to find research on how to properly manage ERP vendors for delivery of projects within scope, time and budgets and avoid endless costly upgrades.
REFERENCES


APPENDIX I: LETTER OF INTRODUCTION

Dear Sir/Madam,

Re: Request for conducting research in your Organisation.

I am a student at the University of Nairobi undertaking a Masters of Business Administration degree and am currently conducting a research project entitled, “Challenges of Enterprise Resource Planning (ERP) Strategy Implementation by firms in Kenya”. This research project is being carried out in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA).

I kindly request you to fill in the questionnaire attached to enable me collect the necessary data. The data gathered is purely for academic purposes and will be treated with utmost confidentiality. A copy of the result of the study shall be availed to you on request.

Thank you in advance for your cooperation.

Yours faithfully,

Maryam Mohamed Idris
MBA Student
APPENDIX II: QUESTIONNAIRE

Research Topic: Challenges of ERP Strategy Implementation by firms in Kenya

Please take a few minutes to complete this questionnaire. Your answers will be completely anonymous, but your views, in combination with those of others are extremely important in understanding the challenges in the ERP implementation process and developing modalities to tackle them.

Part A: Organisation Profile

1. Name of the Organisation

2. Years of existance

3. Nature of the business

4. What is your organisation's total number of employees

5. Who owns your firm?

Part B: General Implementation Process

1) Kindly indicate the extent to which the following aspects influence your decision of ERP implementation on a scale of 1-5

<table>
<thead>
<tr>
<th>1- No extent</th>
<th>2-Small extent</th>
<th>3- Moderate extent</th>
<th>4- Great Extent</th>
<th>5- Very great extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>To improve business performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better integration of systems across multiple locations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardization of global business operations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure to keep with competitors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gain strategic advantage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2) Which year did the organisation implement ERP? .........................................................

3) What approach did the organisation use
   a) The Big-Bang Approach (e.g. went live with all Modules & offices at one time)
   b) Phased approach by module
   Why did the organisation chose such an approach? ...................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

4) Was the implementation of your ERP system preceded by definition of an organisational vision by the senior management?
   a. Yes
   b. No

5) Which ERP system(s) is your organisation currently using? (Check all that apply)
   ( ) SAP
   ( ) J.D. Edwards
   ( ) Oracle
   ( ) PeopleSoft
   ( ) Baan
   ( ) Other, please specify: ..............................................................................................
   ........................................................................................................................................

6) i. What ERP modules/ functions are currently implemented in your organisation? (tick all that apply)
   ( ) All ERP functions
   ( ) Financial Accounting
   ( ) Management Accounting (controlling)
   ( ) Production Management
   ( ) Sales and Distribution
   ( ) Human Resource Management
   ( ) Payroll
( ) Industry Solutions
( ) Workflow
( ) Other, please specify: ____________________________________________
____________________________________________________________________

ii. If not all modules are implemented why is that so?
   a) We are following a phased implementation and haven’t reached that
      module yet
   b) We are seeking top management approval
   c) We are seeking funding for implementation
   d) Others

7) When did the first module go live? ........................................................

8) Is the implementation plan still on course?
   a) Yes
   b) No

9) How would you describe your involvement in the ERP implementation
   a) Executive sponsor
   b) Project leader
   c) Management team
   d) Functional or technical leader
   e) Partially involved
   f) Not at all

10) Were you trained in the ERP system?
    a) Yes
    b) No

11) What is the training method used?
    a) Specialised consulting firm
    b) Internal resources
    c) Not formal

12) What are your fears once the system is implemented
    a) Job loss
    b) Loss of position
c) Uncertainty

d) Others

13) To what extent do you agree or disagree with the below statements relating to the Business Process Re-engineering (BPR) in your organisation?

a) Business processes were extensively changed to align them with those offered by ERP system

b) The BPs were only not changed in cases where the processes had competitive advantage to the organisation

PART C: ERP IMPLEMENTATION CHALLENGES

1) How much do you agree or disagree with the following challenges in ERP implementation?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of skills for implementing and using ERP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insufficient training to users</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration of different types of data was a big problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incompatibility with work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High system cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long customisation period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Benefits of the system not recognizable</td>
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<td>High user resistance</td>
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<td>Inadequate preparation by employees to the new system</td>
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<td>There was high staff turnover after implementation</td>
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<td>System led to major organisational changes</td>
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<td>ERP system too complex</td>
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<td>Security of the system easily compromised</td>
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<td>System led to many staff layoff</td>
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<td>Vendors’ unreliability</td>
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<td>Quality of ERP not to standard</td>
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Not enough time to implement the system
There were many problems during file conversion

2) Kindly comment on any other challenges experienced apart from the ones mentioned above

PART D: MEASURES UNDERTAKEN TO OVERCOME THE CHALLENGES

i) Specific Measures
Kindly indicate by use of a tick on the measure which your organisation has undertaken to overcome some of the challenges.

a) The managers in charge reported once a month to the board of directors about progress made
b) The CEO was committed to the implementation project and regularly briefed managers at all levels about his vision and expectations.
c) Members of top management became very involved in the implementation project and each was asked to assume responsibility, as a top user, for implementing modules within their functional area.
d) To make sure that implementation ended on time and within budget, the project was broken up into milestones and any delay needed top management approval.
e) A steering committee was formed to set priorities, to handle conflict resolution throughout the project, and to promptly respond to problem IS professionals were constantly briefed with respect to progress as well as with respect to difficulties and ways to get around them.
f) Staff are being motivated by reward system
g) Employees whose jobs were eliminated were transferred to other departments

ii) General measures
Please indicate the extent to which you agree with the statements below
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<tr>
<th>Statement</th>
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<tr>
<td>The implementation had top management support</td>
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<td>The project team was knowledgeable about ERP and business process</td>
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<td>Top management was kept abreast of the project status</td>
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<td>The implementation project manager was skillful in project management</td>
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<td>End users were fully involved</td>
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<td>There was a clearly defined scope for implementation</td>
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<td>There was effective user training</td>
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<td>The project team was diverse and represented major areas of the organisation</td>
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<td>Our organisation adopted best business practices during ERP implementation</td>
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<td>Employees were informed of the project status during and prior to implementation</td>
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<td>Appropriate business and IT legacy systems were used</td>
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<td>Business plan and vision were created and followed for ERP implementation</td>
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<tr>
<td>The scope of ERP project was well defined and adhered to</td>
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<td>The ERP software selection was appropriate for the business needs</td>
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<td>Historical data was analysed and converted in an efficient logical manner</td>
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<td>Resources were dedicated to the project as needed</td>
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<td>An aggressive schedule and timeline was used for implementation</td>
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APPENDIX III: LIST OF ERP IMPLEMENTATION BY FIRMS IN KENYA

1. Mumias Sugar Ltd.
2. Kenya Electricity Generating Company Limited (KenGen)
3. Kenya Ports Authority
4. Kenya Pipeline Company Ltd
5. Kenya Power and Lighting Company (KPLC)
7. Kenya Commercial Bank
8. Bamburi Cement
9. The Industrial and Commercial Development Corporation (ICDC)
10. Geothermal Development Company’s
11. ESKOM Uganda Limited
12. Chevron Kenya Limited (formerly Caltex Kenya)
13. Cetco Kenya Ltd
14. Healthy U 2000 Ltd
15. Chandarana Supermarket Ltd
16. The Motor Boutique Ltd
17. EG Brand House
18. Soliton Telmec Limited
19. Equity Bank
20. Automotive Solutions Ltd
21. Tea Warehouses Ltd
22. Synovate Group
23. Zitron Limited
24. NIC Bank
25. Bowip Agencies Ltd
26. Standard Chartered Bank
27. TUK (EA) Investments
28. Unifilters Kenya
29. Sunpar Pharmaceuticals Ltd
30. National Bank of Kenya
31. Orbit Chemicals  
32. Wood Products (K) Ltd (WP)  
33. COM TWENTY ONE  
34. Co-operative Bank of Kenya  
35. Mavji Construction Company Limited  
36. Firestone  
37. Unga  
38. KWAL  
39. General Motors  
40. ACFC  
41. Kenya Tea Development Authority  
42. James Finley  
43. BASF EA  
44. Uniliver Kenya  
45. EABL  
46. Shell & BP  
47. Doshi &Co. Hardware  
48. Bideco  
49. Nation Media Group  
50. African Storage Company Ltd  
51. Mitchell Cotts  
52. Barclays Bank  
53. Ocean Freight  
54. Yana Tyre Centre  
55. KEMSA  
56. Blowplast Ltd  
57. Twiga Stationers Ltd  
58. Dodhia Packaging  
59. Kentainers Ltd