FACTORS INFLUENCING END USERS ACCEPTANCE OF ENTERPRISE RESOURCE PLANNING SYSTEMS: A CASE OF INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI)

BY

PAULINE GIKEMI

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

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BY

PAULINE GIKEMI

A Project Report Submitted to the Chandaria School Of Business in Partial Fulfillment of the Requirement for the Executive Master of Science in Organizational Development (EMOD)

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2015
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than United States International University in Nairobi for academic credit.

Signed: ________________________  Date: ________________________

Pauline W. Gikeni (ID 644364)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ________________________  Date: ________________________

Prof. Amos Njuguna

Signed: ________________________  Date: ________________________

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ABSTRACT

This study was conducted to investigate the factors influencing end users acceptance of Enterprise Resource Planning systems. The aim of the study was to answer the following research questions: ‘what are the internal factors influencing end-users acceptance of Enterprise Resource Planning Systems?’, ‘what are the external factors influencing end-users acceptance of Enterprise Resource Planning Systems?’ and what management strategies should be implemented to enable end-users acceptance of Enterprise Planning Systems?’

The research used a descriptive research approach. Stratified random sampling design was applied as the population was not homogenous and was divided into sixteen strata/departments. Structured questionnaires were used as the data collection method. Research procedure used was self-administered questionnaires which were administered via both hard copies and online survey. The data compiled from the questionnaires from the respondents was analyzed using statistical methods using SPSS software. Frequencies and percentages were presented in graphs and tables. The Pearson correlation test was used to find the correlation between the variables. The results were interpreted and conclusions made thereafter.

The study revealed that internal organization factors influenced acceptance of ERP implementation. These factors included: top management commitment, clarity of goals, management of organization goals, reorganization of business processes, user involvement in the ERP, appropriate and timely education and training of employees, open and continuous communication, competency of the project management team and effective project planning.

The study revealed that external factors influenced acceptance of ERP implementation. These factors included competent external consultants to train users, provision of support by the vendor and accuracy of data analysis.

The study found that most of the respondents were of the opinion that staff engagement to establish their fears about the ERP system was the major factor that would enable management to overcome end users resistance to ERP implementation. Other respondents
were of the opinion that enhancing staff engagement to establish their expectations about the ERP system, provision of timely feedback from staff to the project management team, obtaining support for the project from opinion leaders and linking objectives of the ERP system to achievement of the organizations strategic goals were factors that at a great extent influence implementation of ERP.

The study recommended the need for ILRI management to capitalize on its internal organization strengths so as to be able to leverage on them in order to enhance ERP implementation, especially in cases where such internal factors relate to employees. It also recommended the need for all stakeholders to engage in consultative talks so as to have an agreement on how to deal with external factors that affect end-user acceptance of ERP implementation. The study recommends the need for additional studies to be done on factors influencing end-user acceptance when it comes to ERP implementation. Such studies should focus on other sectors in the economy. Additionally there is need to conduct longitudinal studies to see if the results were different from the findings in this study.
ACKNOWLEDGEMENT

I thank God Almighty for his provision throughout this course and enabling me to finalize this study.

I also acknowledge my supervisor for his guidance throughout my research.
DEDICATION

I dedicate this paper to my Antony Kiarie and my family for their steadfast support during my study. I am very grateful to them as without their support I would not have accomplished this task.
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<th>Abbreviation</th>
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<tr>
<td>ERP</td>
<td>Enterprise Resource Planning System</td>
</tr>
<tr>
<td>MRP</td>
<td>Material Requirements Planning System</td>
</tr>
<tr>
<td>MRPII</td>
<td>Manufacturing Resource Planning System</td>
</tr>
<tr>
<td>TAM</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td>UTAUT</td>
<td>Unified Theory of Acceptance and Use of Technology Model</td>
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CHAPTER ONE

1.0. INTRODUCTION

1.1. Background of the Problem

An ERP system automates and integrates core business processes. ERPs have evolved from earlier versions of information systems; MRPs which integrated production schedules, inventory records and purchasing processes were in use in the seventies. By the eighties, MRPII systems integrated virtually all the manufacturing resources of a company, including work orders and sales orders. In the nineties, the integration reach encompassed so many business processes in so many different types of organizations (not just manufacturing) that the term ‘Enterprise Resource Planning’ came into general usage (Pienaar, Toit, Viljoen & Wessels, 2008).

In light with the growing global competition, companies globally are moving towards implemented of ERPs so as gain corporate advantage in various markets as companies expand. In Kenya various organizations have also implemented ERPs so as to improve their strategies and reap the benefits from ERPs. Symphony Ltd has installed Sage ERP system for various leading companies in Kenya such as Kenya Seed Company, Kenya Wine Agencies Ltd, General Motors East Africa Ltd, Cadbury Kenya, and The Steadman Group amongst others (Symphony, 2014). Deacons Kenya Limited invested Kshs 36 million in a new ERP software solution (Microsoft Dynamics NAV 5) in November 2010 so as to enable management to better manage inventory levels, and financial consolidation across its various stores in East Africa. This shows the increasing importance that companies have vested in capital investment in ERP systems in the Kenyan economy.

The models that are used to explain the acceptance of ERP systems are TAM and UTAUT. Davis (1989) proposed TAM which provides a basis of how external variables influence belief, attitude, and intention to use. There are two cognitive beliefs proposed by TAM. The first cognitive belief is perceived usefulness; the other belief is the ease of use of the new system (Davis, 1989). The ease of use is perceived not actual. According to TAM, one’s actual use of a technology system is influenced directly or indirectly by the user’s behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system. TAM also proposes that external factors affect intention and actual
use through mediated effects on perceived usefulness and perceived ease of use (Park, 2009). TAM is the most predominantly cited and used model (Wang & Liu, 2005). TAM identifies the actual use of the ERP system which is used as a measure of the level of acceptance of the system by end users. This is the level of usage of an information system (Amoako-Gyampah & Salam, 2004).

**Figure 1.1: Technology Acceptance Model (TAM)**

However, TAM is unsuitable for evaluating ERP acceptance. This is because the usage of ERP systems is mandatory (Nah, Tan & Teh, 2004). TAM assumes that the use of technology by end users is on a voluntary basis. Moreover Brown, Massey, Montoya-Weiss & Burkman (2002) found that using TAM provides limited explanations of end-users' behavior, attitudes and perceptions towards the system. They found that when TAM was used to evaluate ERP acceptance, the results that were collected provided misleading recommendations to organizations.

Venkatesh & Morris (2003) proposed UTAUT model as an improvement to TAM. UTAUT is a combination of eight user acceptance models (including TAM). UTAUT takes into account the fact that some systems are mandatory and others voluntary and results obtained using this model explained end-users' acceptance of a mandatory account management and accounting system more clearly than the results obtained using TAM (Venkatesh et al., 2003). For this reason, UTAUT was used as the basis for this research.
The implementation of ERPs may lead to great benefits to the organizations such as increased information visibility, improved financial management and corporate governance, reduced business risks and improved alignment of business operations with the business strategy (Pienaar et al. 2008) if implemented properly. However when not implemented properly, the system fails to attain its intended objective and becomes a failure. Failure in the implementation of an ERP system is very costly to an organization. Uchitha & Yapa (2013) summarized the significant factors affecting the implementation of ERP systems according to various researches carried out in different countries as shown below in Table 1.1.
Table 1.1: Factors Affecting ERP Implementation

<table>
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<th>Researchers</th>
<th>Researcher Factors Affecting ERP Implementations</th>
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<td>Nah, Lau &amp; Kuang (2001)</td>
<td>ERP teamwork and composition, Top management support, Business plan and vision, Effective communication, Project management, Project champion, Appropriate business and legacy systems, Change management program and culture, Business Process Reengineering (BPR) and minimum customization, Software development, testing and troubleshooting, Monitoring and evaluation of performance.</td>
</tr>
<tr>
<td>Huang, Chag, Li, &amp; Lin (2004)</td>
<td>Lack of senior manager commitment to project, Ineffective communications with users, Insufficient training of end-user, Fail to get user support, Lack of effective project management methodology, Attempting to build bridges to legacy applications, Conflicts between user departments, The composition of project team member, Fail to redesign Business process, Unclear/Misunderstanding changing requirements.</td>
</tr>
<tr>
<td>Wong, Scarbrough, Chau, &amp; Davison (2005)</td>
<td>ERP system misfit, High turnover rate of project team members, Overreliance on heavy customization, Poor consultant effectiveness, Poor IT infrastructure, Poor knowledge transfer, Poor project management effectiveness, Poor quality of Business Process Reengineering (BPR), Poor quality of testing, Poor top management support, Too tight project schedule, Unclear concept of the nature and use of ERP system from the users’ perspective, Unrealistic expectations from top management concerning the ERP System, Users’ resistance to change.</td>
</tr>
<tr>
<td>Upadhyay, Jahanyan, &amp; Dan, (2011)</td>
<td>Top management support, Project team competence, Project management, User training and education, External consultants, Proper package selection, Vendor’s staff knowledge and support, Clear goals and objectives, User involvement and participation, Project champion, Project cost, Effective change management, Project composition and leadership, Organizational communication, Information flow management, Minimum customization.</td>
</tr>
</tbody>
</table>

Source: Uchitha and Yapa (2013)
As per the above findings from various researchers, effective change management and factors influencing end users such as involvement and participation are common factors across the board. Aldwani (2001) found that top management has to take the following change management strategies so as to overcome the end users’ resistance to change brought about by ERPs. First and foremost top management, have to evaluate the requirements of the users. The evaluation will enable them to establish the factors leading to resistance among the end users. Lastly, evaluate the status of change management efforts as summarized in Figure 1.3 below:

Source: Aldwani (2001)

**Figure 1.3: A Model of Successful ERP Adoption**

Failures of ERP system implementation projects have been known to lead to organizational bankruptcy (Davenport, 1998, Markus, Axline, Petrie & Tanis, 2000). ERP systems are complex, and implementing one can be a difficult, time-consuming and expensive project for a company. ERP adoption time typically takes from a few months for firms accepting all default settings, to years for firms needing to make major modifications. ERP implementation also has possible hidden costs that may include losing some very intelligent employees after the initial implementation is done, continual
implementation and training, waiting for return on investment (ROI) and post-ERP depression (Shehab, Sharp, Supramaniam & Spedding, 2004). In addition, even with significant investments in time and money, there is no guarantee of the outcome (Mabert, Soni & Venkataramanan, 2001).

1.2. Statement of the Problem

The implementation of ERP leads to great benefits to the organizations such as increased information visibility, improved financial management and corporate governance, reduced business risks and improved alignment of business operations with the business strategy (Pienaar et al. 2008) if implemented properly. Companies globally are moving towards implemented of ERPs so as gain corporate advantage in various markets as companies expand. In Kenya various organizations have also implemented ERPs so as to improve their strategies and reap the benefits from ERPs. Symphony Ltd has installed Sage ERP system for various leading companies in Kenya such as Kenya Seed Company, Kenya Wine Agencies Ltd, General Motors East Africa Ltd, Cadbury Kenya, and The Steadman Group amongst others (Symphony, 2014). Deacons Kenya Limited invested Kshs 36 million in a new ERP software solution (Microsoft Dynamics NAV 5) in November 2010 so as to enable management to better manage inventory levels, and financial consolidation across its various stores in East Africa. This shows the increasing importance that companies have vested in capital investment in ERP systems in the Kenyan economy.

Gupta, Aye, Balakrishnan, Rajagopal & Nguwi (2014) found that companies in developed countries apply and implement ERP system to regularize and improve their business stream in order to be competitive. During the implementation, they face substantial difficulties and barriers like capital limitations, resources, poor management etc. ERP implementation for companies in developing countries is still at its infancy stage as compared to the developed countries. There is therefore an upcoming area of further research for developing countries.

Panorama Consulting Solutions 2013 ERP report found that about 40% to 60% of ERP projects failed and it was concluded that ERP projects are considered high risk. One of the main reasons ERP implementation fail to achieve their predicted benefits is because the system is not completely accepted by end-users. Seymour & Berrangé (2007) found that end-users are often using only a fraction of the available features in the ERP system.
This is even after ERP implementation has been declared a success project in the organization.

Previous studies done in Kenya have not focused on study the factors affecting ERP implementation in an NGO. Kimani (2013) studied the factors that influence implementation ERP systems in State Corporations. Mwenje (2013) studied ERP implementation strategies in commercial banks in Kenya. This study therefore intends to fill this gap by seeking to determine the key factors that would influence end users acceptance of the ERP system and the management strategies that should be implemented to curb resistance.

1.3. Purpose of the Study

The purpose of the study is to investigate the factors that influence end-users acceptance of Enterprise Resource Planning Systems.

1.4. Research Questions

1.4.1 What are the internal factors influencing end-users acceptance of Enterprise Resource Planning Systems?
1.4.2 What are the external factors influencing end-users acceptance of Enterprise Resource Planning Systems?
1.4.3 What management strategies should be implemented to enable end-users acceptance of Enterprise Planning Systems?

1.5. Significance of the Study

1.5.1 Management of not for profit organizations

The study provides management with the critical success factors both internal and external that influence end users acceptance of an ERP system hence enable management to strategize how to incorporate these factors in their change management strategy for the implementation an ERP system.

1.5.2 Staff at not for profit organization

The study provides information to non-management staff of not for profit organizations on the factors that may pose challenges at the implementation stage of an ERP. This will
encourage more pro-active involvement by staff at the pre-implementation stage of the life cycle of the ERP system to ensure end user acceptance of the ERP system.

1.5.3. Researchers

The research provides future researchers and scholars with a reference to come up with strategies for management to successfully implement change management in organizations with a focus on ERP systems. The study recommends the need for additional studies to be done on factors influencing end-user acceptance when it comes to ERP implementation. Such studies should focus on other sectors in the economy other than not for profit sector.

1.6. Scope of the Study

The target population for this study was the total number of employees at International Livestock Research Institute (ILRI), Nairobi office. The study was limited in terms of coverage as it only covered one geographical location that is the ILRI Kenya Head office. The total number of employees at Nairobi head office is 432. The study was conducted in May 2015.

1.7. Definition of Terms

1.7.1. Enterprise Resource Planning (ERP) System

An enterprise resource planning system is business software that integrates an organization’s information processing needs by effective management of resources (Nah, et al., 2001).

1.7.2. End User

An end user of a product is the individual who uses the product after it has been fully developed and marketed. The end user is the ultimate user of the computer system (www.webopedia.com).
1.7.3. Perceived Usefulness of an Information System

Davis (1989) defined the usefulness of an information system as the extent to which an end user perceives that using an information system would improve job delivery and performance. This was under the Technology Acceptance Model.

1.7.4. Perceived Ease of Use of an Information System

This was defined as the extent to which an end user perceives that using an information system would be with very little difficulties encountered (Davis, 1989).

1.7.5. Performance Expectancy

Performance expectancy is described as the belief upheld by end users that the information system will facilitate their achievement of work related objectives and set targets (Venkatesh et al., 2003).

1.7.6. Effort Expectancy

Effort expectancy is the degree of ease associated with the use of the system (Venkatesh et al., 2003).

1.7.7. Social Influence

Venkatesh & Morris (2003) established this as the extent to which end users believe that they need to use the information system.

1.7.8. Facilitating Conditions

These are referred to as the extent to which end users believe there is adequate infrastructure in the organization which will enable the information system to be utilized by end users (Venkatesh et al., 2003).

1.7.9. Training

According to Ackon (2014) training refers to learning experiences designed to enhance the short-term and/or long-term job performance of individual employees.
**1.8. Chapter Summary**

Chapter one presented the background information to the research problem, identified the problem statement, stated the purpose of the study and listed the research questions addressed in the research project. The chapter also elaborates the scope of the study and the definition of terms referred to in the study.

Chapter two presented the theoretical background information to the research problem. The literature addressed the research questions. The literature described the factors that influence successful implementation of ERP systems from the previous research done. It also provided various management strategies that management may implement proactively so as to ensure the implementation is successful.

Chapter three presented the research methodology that was used in this study which entails the research design, details of the population, sampling design and technique, methods used in data collection, the methods used to conduct the study and the data analysis methods that were applied to analyze data of the study.

Chapter four presented the findings of this study which was done using SPSS software; whereas chapter five presented the discussion, conclusion, and suggestions for action and further research.
CHAPTER TWO

2.0. LITERATURE REVIEW

2.1. Introduction

This chapter covers literature review of existing research literature on internal and external factors influencing end-users acceptance of Enterprise Resource Planning Systems. In addition, it covers management strategies that should be implemented to enable end-users acceptance of Enterprise Planning Systems.

The theoretical background for this study is the Unified Theory of Acceptance and Use of Technology Model (UTAUT) model proposed by Venkatesh & Morris (2003). This model is used to explain the acceptance of ERP systems by end users. UTAUT model relates how performance expectancy, effort, social influence and facilitating conditions influence users’ behavior. These are moderated by factors such as gender, age, experience and the voluntariness of users to use the ERP system. UTAUT takes into account the fact that some systems are mandatory and others voluntary and results obtained using this model explained end-users' acceptance of a mandatory account management and accounting system more clearly than the results obtained using TAM (Venkatesh et al., 2003). This model was therefore appropriate for this study as implementation of the system in ILRI is mandatory.

2.2. Internal Factors Influencing Acceptance of ERP Implementation

2.2.1. Top Management Commitment and Support

The most important factor when adopting and implementing ERPs is the top level management’s commitment to the strategic direction itself. Hammer (2008) believes that reengineering must be driven from the topmost level. The primary ingredient for project success is top leadership, either the CEO or someone in a position to compel the compliance of all parties involved in reengineering. Line responsibility is said to be the key, and reengineering is top-down, autocratic rather than through a democratic process. This is undoubtedly a prerequisite for strategy implementation. Therefore, top managers must demonstrate their willingness to give energy and loyalty to the performance management implementation process (Grint, 2011).
Some key constructs in managements are employee involvement, communication, and leadership nature management should provide employees with channels of communication and improve their ability of understanding each other (Motwani, Subramanian & Gopalakrishna, 2008). Top managers should drive the changes by providing vision (shared vision). Employees should become more responsive. Other members in the ERPs team should understand the process. Top effective communication is vital to organizational decision making (Grint, 2011). To empower employee and cooperate in a new system, top management should establish inter- and intra-organizational confidence and trust. The chains’ interactions reflect the organizational ability in adapting changes. In addition, groupware techniques significantly decrease the time required for performing the analysis phases of ERPs (Crowe, Fong & Zayas-Castro, 2010).

2.2.2. Change Management

Hammer and Champy (2009) argue that managing people is a major contributing factor to the success of ERPs related organizational change. In a discussion of the causes of re-engineering failure, Albano, Pino & Borges (2009) refer to the inadequate treatment of the human aspect when implementing ERPs-related change.

Blair (2011) discusses some elements of human change management which he describes as the more difficult challenge, and explains how ERPs represents a danger to people when it introduces new job structures and definitions, and forces employees to change their work style. Vidyaranya & Cydnee (2005) found that organizations have cultural diversity as each department has different business needs. They found that with a new system coming into place reengineering needs to be done both for people involved and for business processes. Dealing with organizational diversity is part of change management which affects successful implementation of an ERP system. This is because cultural diversity influences how problem free business process reengineering will take place in the organization during ERP implementation; if the departments are too diverse, then business process reengineering may not be as successful.
2.2.3. Business Process Reengineering

Business process re-engineering involves the redesign of existing organizational business processes so as to improve performance of the organization (Liang, Matthew, Lee, & Probir, 2003). The existing organizational business processes have to be changed during ERP implementation because the ERP systems are not customized to each organization’s unique requirements. The vendors who supply the ERP systems prepare them using the industry best practices. Therefore an organization has to be willing to change to adopt its practices to the ERP system. Business Process Engineering is thus interlinked to top management support, communication and change management factors in successful ERP implementation. Hasibuan et al. (2012) found that business process engineering has a 44.2% role in determining ERP implementation success. For business process engineering to be successful top management has to champion the change process, also staff have to be communicated to the reasons for and benefits of the change of business process.

2.2.4. User Involvement & Participation

Bhatti (2005) found that the user involvement is the importance and personal relevance of a system to an end user. Hasibuan & Dantes (2012) also identified end user involvement as user’s participation in the implementation process whereby users are involved in the definition of the organization’s ERP system needs and also in the implementation of the ERP system. In their study, Hasibuan et al. (2012) found that user involvement has a 37.3% role in determining ERP implementation success. Some other studies have suggested that employee empowerment is an effective factor leading to the success of ERPs adoption and implementation, since it promotes self-management and collaborative teamwork principles. When employees are empowered, they become more involved in deciding how work should be approached and which technologies to use, and they are given the chance to partake potentially in the redesign process (Clemons, Thatcher and Row, 2008).

2.2.5. User Education and Training

Training is viewed as part of an on-going developmental process. Training needs to be linked with the organizational mission. So, when governments plan their training activities, they need to provide the link with the organizational mission and local budget
and implementation. Understanding the phenomenon of employee training requires understanding of all the changes that take place as a result of learning. As the generator of new knowledge, employee training is placed within a broader strategic context of human resources management, i.e. global organizational management, as a planned staff education and development, both individual and group, with the goal to benefit both the organization and employees. According to Bingi, Sharma and Godla (2009) in their book Personnel and Human Resource Management, training is a learning activity directed towards the acquisition of specific knowledge and skills for the purpose of an occupation or task.

According to Armstrong (2000), training is undertaken when there exists a gap between the expected and the actual standard of work or by emergence of something new. Manpower Service Commission (2011), states that training is a planned process to modify attitude, knowledge or skilled behavior through learning experience. It aims at achieving effective performance in an activity or range of activities. It can be well defined if the learning needs of the organization and the group individuals have been systematically identified and analyzed.

Bently (2009) argues that training is a strategic activity in which it involves recruiting people capable of meaning needs and provides learning opportunities and resources. This has highlighted the need for continued training of experienced workers performs need and changing job. It ensures that people with correct work of attributes through providing appropriate learning opportunities enabling them to perform with the highest level of work and quality decision.

Amoako-Gyampah et al. (2004) identified training as one of the important factors for end-user acceptance ERP systems. He indicated the importance of organizations installing ERP systems to get the length, timing and thoroughness of end-user training right. Training gives the end-users time to adjust to the change that will occur with the implementation of an ERP system and allows them to gain firsthand experience and explore the usefulness of the system Aldwani (2001) observed how important it is to train end-users during ERP implementation because of the proven positive influence on end-users acceptance of the system. He adds that through training, end-users can appreciate the benefits offered by an ERP system.
The absence of user training and lack of understanding as to how an enterprise resource planning system is going to change an organization’s business leads to failed implementation of ERP systems. Education of employees enables them to familiarize with the logic and idea of an enterprise resource planning systems. Companies are advised to train each user to use a system by explaining how his work relates to certain business processes and how work is going to be affected by the new system (Somers & Nelson, 2001; Hawking, Stein & Foster, 2004, Zhang L., Lee, Zhang Z. & Banerjee, 2002).

2.2.6. Communication

Michlitsch (2010) asserts the need for people to know clearly what they are supposed to do if the company wants to succeed. In addition, employees have to be given clear guidance to enable them successfully execute the ERP system. Wheelen and Hunger (2010) states that lack of direction in the organization makes people to do their work according to their personal view of what tasks should be done, how, and in what order. This therefore compromises the priorities of the organization.

ERP implementation requires that the management staff involved should be of very high quality (Govindarajan & Fisher, 2009). At this juncture the quality of the executors is accredited to skills, attitudes, capabilities, experiences and other characteristics of people required by a specific task or position (Peng and Litteljohn, 2011).

Communication has been identified as an important factor in increasing end-user acceptance of the system (Nah et al., 2001). This is because communication to end users on the benefits of the system can convince end users of the benefits of the ERP system (Amoako-Gyampah & Salam, 2004 and Aldwani, 2001).

2.2.7. Competency of Project Management Team

Successful ERPs adoption and implementation is highly affected by the way team members are selected and managed. Clemons et al. (2008) recommend that they should be experienced in various techniques such as strategic visioning and change management. They also feel that including people with indirect experience is advantageous in bringing
new ideas and challenges, and they advocate considering customers in ERPs adoption efforts. Hammer et al. (2009) recommend that teams should always look for a balance between insiders and outsiders of the organization, since each view processes from different perspectives. Human resources play a crucial role in organizational process improvement. They are the primary decision makers and the essential ingredients of any human activity system.

2.2.8. Effective Project Management

According to Hasibuan et al. (2012), project management entails the clear definition of objectives, progress reports on status of implementation and preparation and execution of work plans. They found that effective project management has a 44.7% role in determining the success of ERP implementation. The work plans need to have achievable timelines. Project implementation success is influenced by management decisions to adopt the ERP system with minimal modifications or with major modifications. Fewer modifications made ensure the project work plans can be implemented with minimal complexity.

In addition, project management involves having a champion as the project leader to steer the ERP implementation to success. The team leader should be backed up by an effective team who are also project stakeholders. The project implementation plan should also be clear and realistic in the timelines set and the project scope clearly defined (Zhang et al., 2002).

2.3. External Factors Influencing Acceptance of ERP Implementation

2.3.1. Use of External Consultants

Pabedinskaitė (2010) found that the selection of the appropriate consultant greatly affects the success of ERP implementation. The use of consultants has up to 35.70% role in determining the success of ERP implementation. The consultant to be used in the ERP implementation should have proper knowledge in the industrial field and in the ERP system so that can they help the company to develop and implement a system aligning with the company business needs. Many of ERP consultants have no much experience in ERP implementation process.
The roles of ERP consultants varies in ERP system implementation. Consultants can either help staff the project team, help to back-fill positions, be charged with responsibility for project management, audit the project, serve as the prime contractor, and be the one source for everything from software to hardware and personnel for the ERP. Thus, many researchers have supported the need to include an ERP consultant as part of the implementation team (Willcocks & Stykes, 2000; Motwani, Mirchandani, Madan & Gunasekaran, 2002). However, as part of this relationship, it is imperative to arrange for knowledge transfer from the consultant to the implemented organization so as to decrease the dependency on the vendor/consultant (Al-Mashari & Al-Mudimigh, 2003).

2.3.2. Data Analysis & Conversion

The organizations have to change their business processes to fit the ERP system or make the necessary changes to the ERP system to suit the organization’s business processes (Poba-Nzaou, Raymond & Fabi, 2008). Also, there is a risk of acquiring off-the-shelf software with overlapping system modules which tend to do similar tasks. Related to business process risks are the risks of failure to redesign business processes misalignment of business processes and failure to support cross-organization design (Huang et al., 2004).

Liang, Matthew, Lee, & Probir (2003) found that ERP system modules are linked intricately to another, thus inaccurate data input into one module will affect the function of the other modules. Wrong data input leads to inaccurate or misleading results. Thus data accuracy is a major determinant of ERP success.

2.3.3. Vendor Support

ERP vendors form part of the supply chain given that they engage in the supply of ERP systems. If indeed such supplies are not availed in good time then the implementation of ERP systems will become a challenge (Powers, 2010).

There are three dimensions to vendor support. One is service response time of the software vendor. Second aspect is qualified consultants with knowledgeability in both enterprises’ business processes and information technology including vendors’ ERP systems; and lastly participation of vendor in ERP implementation. It is important for the
vendors’ staffs to be knowledgeable in both business processes and ERP system functions. Also the consultants should possess good interpersonal skills so as to be able to work with people (Liang et al., 2003).

Technical difficulties lead to the failure of implementation of ERP systems. This is because management fails to reconcile the technical needs of the system with the business needs of the organization. The implementation of an ERP software package involves a mix of business process change and software configuration to align the software with the business process (Davenport, 1998). When there is a disparity between the business needs of the organization and ERP vendors’ objectives, there is an increased likelihood of ERP implementation failure (Kimani, 2013). This is because the ERP vendors are more concerned with sales targets and a ‘fit-all-solution’ which is more marketable compared to a customized ERP system which only meets the needs of a specific company.

During the vendor selection process, past ERP system implementation experience of vendor should be considered (Roberts & Barrar, 1992). Sumner (1999) identified that the risks of ERP project failures may be contained by acquiring external expertise through vendors and consultants.

The success of ERP implementation is pegged on support from the vendor. Support from the vendor involves the response time to enquiries from the project team and manager. Faster responses ensure the project implementation is not stalled and the project schedule remains on track. Vendor support also involves selection of vendors who are knowledgeable in information technology and in the organization’s current system and business processes. Software vendors should also possess good interpersonal skills since they will interact with the project team constantly (Zhang et al., 2002).

2.4. Strategies to Enhance Acceptance of ERP Implementation

2.4.1. Knowledge Formulation Phase Strategies

The knowledge formulation phase includes identifying and evaluating the attitudes of individual users and influential groups. This will enable management to identify the sources of employees’ resistance to the new ERP system. Examples of employees raised facts and beliefs which may be identified at this stage are: computer literacy challenges, job insecurity as a result of the new system, fear of not knowing how to do the job with
the new system and the importance of maintaining the existing power and authority structures. After management has collected this information about the users from the knowledge formulation phase, they should then formulate strategies to overcome the user resistance. To overcome the resistance management has to obtain the buy-in of the potential users of the ERP system. This is the strategy implementation phase. Resistance is overcome by changing the attitudes of potential users. This way the users will anticipate the new system as they will have knowledge of what the new system can deliver. Buy-in of potential users will also be obtained by elaborating to potential users the general inputs and outputs of the new system. This way they will be informed of how the new system will work and thus will be more receptive to the new system. Management has to communicate that the perceived cost of the new system to each employee is minimal. That is they should ensure that the employees are sensitized on the benefits of the ERP system as an opportunity for enhancing their jobs so as to enable them to adopt a positive adoption attitude. Training of users ensures should also be done to ensure they obtain hands on experience with the new system and better appreciates the attributes of the new system. Under this phase, management should also get the endorsement of group leaders and opinion leaders by involving them in the implementation stage so that they become key players who are also committed. The opinion leaders will in turn influence other employees on the benefits of the new system. Top management should also be committed and the greatest supporters of the new ERP system. This ensures that the long term success of the information system and embedment to the strategic vision of the organization. The status evaluation stage involves monitoring and evaluating the change management strategies. Large sections without references/sources must be removed. This is literature review Timely and accurate feedback should be obtained from end users so that management takes appropriate corrective action depending on the feedback obtained (Aldwani, 2001).

Bossidy, Charan & Burck (2006) believe that a clear and formal strategy formulation can take away such shortcomings to facilitate a successful execution of a business’ strategy. In the same manner, a clear and formal strategy gives room for the execution of tools which strengthen the position of employees within the organization and also makes the employees part of the execution process. As such employees can act in accordance with the strategy and thus pick up signals from the market or their work domain and add to the strategy in favor of the corporate organization (Martin, 2010).
The need to have a good strategy is essential since companies have long known that for them to be competitive they ought to develop a good strategy first before developing an appropriate realignment of structure, systems operations, leadership and people (Qi, 2010). According to Carroll (2010), most companies benefit from having a formal strategy in three ways. First of all, is the better use of time and effort, secondly is elimination of the unnecessary errors to be made and identifies problems that may arise beforehand, lastly, is the aspect of improved communication between the avoidance employee and the person creating the organizational goals. Carroll (2010) brings forward the study of Gillen et al. (2014), in which is concluded that “a quality system incorporating difficult, relevant, and participative goals, along with frequent feedback, is most likely to be related to higher performance”. Similarly, Bamberger (2014) suggests that the formal strategy formulation, or strategic plan, can reinforce the company values with attempts to create an identical vision amongst the employees (Dumppelmann, 2010). On the other hand however, a strategic plan needs not be too strict in terms of what actions need to be taken and how to undertake these actions. This is because such plans restrict innovativeness in organizations. Further Boonsta and De Caluwé (2012) believe that strategies need to bring along change that is necessary for a company to survive.

2.4.2. Strategy Implementation Phase Strategies

Successful implementation of an ERP system is also influenced by the achievement of strategic goals of the organization via the ERP system. Piotr (2008) found that during the implementation stage, the ERP should be linked to the organization’s strategy else it risks failing if after completion of implementation where there is inconsistency between the result achieved and the actual organization’s needs. Also management should define the project goals. This is achieved through the following three steps: Identification of corporate strategy and strategic goals, definition of implementation project goals and the determination of project metrics.

2.4.3. Status Evaluation Phase Strategies

ERP strategy evaluation is essential for organizations as it helps such organizations to cope with uncertainty. This is according to Mintzberg (1978) who infers to the notion of intended and realized strategies. As such the realized strategy might not be the same as
the intended strategy because of the decisions taken by such firms. This is normally the case if such organizations have anticipated changes or when they had to change their strategy to respond to competitors’ actions and behavior. Ultimately, it is important that changes in strategy are communicated to the employees.

As Kaplan and Norton (year) observe, there is a persistent failure to balance the tension between strategy and execution. This is really disappointing, bearing in mind the fact that the better matching of actions to strategy was the original reason Kaplan and Norton popularized balanced scorecards in the 1990s. With more than 60 percent of large and medium-sized organizations in North America having adopted scorecard-type frameworks, we might have expected better. Most organizations go a long way to write, making or closely missing their numbers each quarter but have never put in mind the concept of examining how to modify their strategy to generate better growth opportunities or how to break the pattern of short term financial shortfalls (Martin, 2010).

According to Rutan (2009), all strategy implementation aspects during the planning phase are fundamental for execution. This is mainly because at this stage there is no time to do that. As such it is critical for every member of the strategy development team to understand and agree upon the details of the plan. Qi (2010) reiterates the need for management to make the commitment to stay focused on the agreed upon plans and therefore only make significant changes to the strategic plan after making careful consideration on the overall implications and consequences of such change. Brenes, et al., (2014) further admits that organizations need to maintain a balance between ongoing business activities and working on new strategic initiatives. This is so because the challenges to strategy execution often results from companies dwelling on new strategy development and in the process forget their main line of business that underlie within previously formulated business strategies.

2.5. Chapter Summary

Chapter two presented the theoretical background information to the research problem. The literature addresses the research questions by describing the internal and external factors that influence end user acceptance of ERP systems from the previous research done. The internal factors are: top management commitment, change management, business processes reengineering, user education and training, continuous
communication, competency of the project management team and effective project management. The external factors are: accurate data analysis and conversion, vendor support and use of external consultants. It also provided various management strategies that management may implement proactively so as to ensure the implementation is successful.

The next chapter presents the methodology of research that was used in the study.
CHAPTER THREE

3.0. RESEARCH METHODOLOGY

3.1. Introduction

This chapter details the methodology of research that was used in this study which entails the research design, details of the population, sampling design and technique, methods used in data collection, the methods used to conduct the study, the data analysis methods that were applied to analyze data of the study and the chapter summary.

3.2. Research Design

Descriptive research design was used for this study. Descriptive research is used to describe the characteristics and/or behavior of sample population. This research approach involves observation data collection method, case studies and surveys (Dudovskiy, 2011). This design was appropriate for this research as a case of International Livestock Research Institute (ILRI) was used for the research. The descriptive survey research approach is preferred because it uses fixed response questions to reduce variability in results; it’s easy to use and allows simplicity in coding, analysis and interpretation of data. Surveys involve the systematic collecting of data, whether this is by interview, questionnaire or observation methods (Sapsford, 2007).

3.3. Population and Sampling Design

3.3.1. Population

The target population for this study was the total number of employees at International Livestock Research Institute (ILRI) Nairobi office. The population was obtained from the People & Organization Development Department records of staff list in Nairobi office. The population size comprised of 432 employees distributed across the following 16 departments: Bioscience Facilities, Bioscience Programs, Capacity Development, Communication, Directorate, Engineering, EOHS, Finance, Housing and Conferencing, ICT, Internal Audit, Integrated Science Programs, People & Organization Development (P&OD), Research Methods Group (RMG), Security and Supply Chain departments.
3.3.2 Sampling Design

3.3.2.1 Sampling Frame

Cooper & Schindler (2006) referred to sampling frame as the list of units of the population. This listing is the basis where the sample is drawn. In a sample survey, the units of the frame are the units to which the probability sampling scheme is applied. Sampling frame is also referred to as the list of elements from which the sample is drawn (Sarndal, Swensson & Wretman, 2003). The sampling elements are the entities that make up the population. The sampling units are the entities of the frame.

The sample frame for this study was the International Livestock Research Institute Nairobi office staff list which was obtained from the People & Organization Development Department records of staff list in Nairobi office. The sampling units were the sixteen departments in the organization. The sample elements were the employees of the organization who comprised of management, administrative and non-administrative staff.

3.3.2.2 Sampling Technique

The sampling technique that was used to select the sample was stratified random sampling. This type of sampling is probability sampling method which relies on data collection from population members who have a nonzero chance of selection. Here the first available data was used for the research without additional requirements. According to Kothari (2006), stratified random sampling technique produces estimates of the overall population parameters with better accuracy. This sampling method ensures that the selected sample will be representative of the population. Stratified random sampling technique was used since population of interest was not homogeneous and could be subdivided into groups or strata to obtain a representative sample. The population was divided into sixteen strata i.e. departments as summarized in Table 3.1 below:
Table 3.1: List of Departments

<table>
<thead>
<tr>
<th>Department</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioscience Facilities</td>
<td>12</td>
</tr>
<tr>
<td>Biosciences Programs</td>
<td>128</td>
</tr>
<tr>
<td>Capacity Development</td>
<td>5</td>
</tr>
<tr>
<td>Communication</td>
<td>9</td>
</tr>
<tr>
<td>Directorate</td>
<td>15</td>
</tr>
<tr>
<td>Engineering</td>
<td>22</td>
</tr>
<tr>
<td>EOHS</td>
<td>6</td>
</tr>
<tr>
<td>Finance</td>
<td>20</td>
</tr>
<tr>
<td>Housing and Conferencing</td>
<td>7</td>
</tr>
<tr>
<td>ICT</td>
<td>20</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>4</td>
</tr>
<tr>
<td>Integrated Sciences Programs</td>
<td>127</td>
</tr>
<tr>
<td>P&amp;OD</td>
<td>18</td>
</tr>
<tr>
<td>RMG</td>
<td>10</td>
</tr>
<tr>
<td>Security</td>
<td>4</td>
</tr>
<tr>
<td>Supply Chain</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>432</strong></td>
</tr>
</tbody>
</table>

3.3.2.3 Sample Size

According to Kothari (2006) an optimum sample is one that fulfills the requirements of efficiency, representativeness, reliability and flexibility. The sample should range from 10% to 30%. The study used a sample size of 20% of the above target population from within each department. The sample was appropriate because the population which is the staff at ILRI were not homogeneous. The units were also not uniformly distributed. In addition, Mugenda & Mugenda (1999) recommends a sample of at least 30 elements where the population is large and there are time and resource constraints. Thus a sample of 86 respondents was generated for the study which made it easier to get adequate and accurate information necessary for the study. The technique used to select the sample is summarized in the distribution Table 3.2 below:
Table 3.2: Technique for Sampling

<table>
<thead>
<tr>
<th>Department Name</th>
<th>Population</th>
<th>Sample Ratio</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioscience Facilities</td>
<td>12</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>Biosciences Programs</td>
<td>128</td>
<td>0.2</td>
<td>26</td>
</tr>
<tr>
<td>Capacity Development</td>
<td>5</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>Communication</td>
<td>9</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>Directorate</td>
<td>15</td>
<td>0.2</td>
<td>3</td>
</tr>
<tr>
<td>Engineering</td>
<td>22</td>
<td>0.2</td>
<td>4</td>
</tr>
<tr>
<td>EOHS</td>
<td>6</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>Finance</td>
<td>20</td>
<td>0.2</td>
<td>4</td>
</tr>
<tr>
<td>Housing and Conferencing</td>
<td>7</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>ICT</td>
<td>20</td>
<td>0.2</td>
<td>4</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>4</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>Integrated Sciences Programs</td>
<td>127</td>
<td>0.2</td>
<td>25</td>
</tr>
<tr>
<td>P&amp;OD</td>
<td>18</td>
<td>0.2</td>
<td>4</td>
</tr>
<tr>
<td>RMG</td>
<td>10</td>
<td>0.2</td>
<td>2</td>
</tr>
<tr>
<td>Security</td>
<td>4</td>
<td>0.2</td>
<td>1</td>
</tr>
<tr>
<td>Supply Chain</td>
<td>25</td>
<td>0.2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>432</strong></td>
<td></td>
<td><strong>86</strong></td>
</tr>
</tbody>
</table>

3.4. Data Collection Methods

Structured questionnaires were used as the data collection tools. The structured questionnaires addressed the research questions by establishing the internal and external factors influencing end-users acceptance of Enterprise Resource Planning Systems. They also established the management strategies that influence successful ERP adoption of the Enterprise Planning System. The questionnaires were composed of closed-ended questions which included a list of pre-determined answers from which participants choose whereas open-ended questions allowed the participants to answer the questions in their own words. The participants were asked to indicate the extent of impact the questionnaire items had on their acceptance of the ERP system during implementation. The extent of impact was on a five-point Likert–type scale ranging from 1 (no extent at all), 2 (small extent), 3 (moderate extent), 4 (large extent) and 5 (very large extent).
Questionnaires were chosen as they are easier for the researcher to collect a lot of information over a short period of time. The advantage of open-ended questions is that they enable the researcher to obtain information about unexpected information. However, they are more difficult to analyze and time-consuming as the researcher has to categorize and summarize the answers. Closed ended questions enable the research questions to be easily compared and analyzed (Taylor-Powell and Hermann, 2000).

3.5. Research Procedure

The questionnaire was pre-tested to five respondents who were not part of the study sample. The aim of conducting a pilot study before actual data collection was to make final modifications if any to the questionnaire before administration to the respondents of the study. It is important to conduct a pilot test(s) as it enables the researcher to determine how easily both respondents and the data collector can follow the procedures and the questionnaire (Centers for Disease Control and Prevention, 2008). The pilot test conducted enabled the researcher to detect weaknesses in design and instrumentation.

The questionnaire provided to respondents was self-administered. The respondents were the staff sampled from the various departments. Feedback from the pilot survey enabled the researcher to change the method of administration of the questionnaires from hard copies only to hard copies and online survey. The hard copy questionnaires were distributed by the researcher to the sampled staff. The respondents were provided two weeks to complete the questionnaires thereafter the researcher collected them and also closed the online survey. The questionnaire introduced the research topic and indicated that the responses provided would be treated in the strictest confidence. No particular reference was made to the respondents in the outcomes and report of this study. Thus the provision of job title was optional.

3.6. Data Analysis

The data from the questionnaires was analyzed using statistical methods using the Statistical Package for Social Sciences (SPSS) software. SPSS was used to analyze data for the study as the software is useful in descriptive statistics. All the data collected was entered into the statistical package and data cleaned for missing values and data entry
errors. This applied to closed-ended questions where analysis such as frequency and percentages was made and presented in graphs and tables. The Pearson correlation test was used to find the correlation between the variables. Descriptive statistics included frequency, percentages, mode, mean among others which were used to describe the sample. The SPSS outputs were interpreted and presented in chapter four which details the results and findings.

3.7. Chapter Summary

Chapter three presented the research methodology that was used in this study. Descriptive research design was used in this study. The population was 432 ILRI staff obtained from the institute records. Stratified random sampling design was applied as the population was not homogenous and was divided into 16 strata/departments. Structured questionnaires were used to collect data from respondents. Research procedure used was self-administered questionnaires which were administered via both hard copies and online survey. Data analysis was conducted via use of SPSS software. Chapter four presents the findings of this study which was presented using SPSS software outputs.
CHAPTER FOUR

4.0. RESULTS AND FINDINGS

4.1. Introduction

This chapter presents the results and findings of the study on the research questions with regards to the data collected from the respondents involved in the study. A total of 53 questionnaires were returned which represented a 62% response rate. The study sought to answer the following research questions: What are the internal factors influencing end-users acceptance of Enterprise Resource Planning Systems? What are the external factors influencing end-users acceptance of Enterprise Resource Planning Systems? and Which management strategies should be implemented to enable end-users acceptance of Enterprise Planning Systems?

4.2. Background Information

The following subsection presents the respondents’ background information. The study captures elements such as the department of the respondent, age range, level of education, and the period of time they have worked in the organization.

4.2.1 Department

Figure 4.1 presents findings regarding the various department in which the respondents belong to. As seen in the figure, 15% of the respondents were in the ICT department, 11% were in finance department, 15% supply chain department, 15% research integrated sciences, 8%, research biosciences, 10% internal audit, 15% security and finally 11% were in the communication department.
4.2.2 Age Range

Figure 4.2 presents findings regarding the age of the respondents who were involved in the study. As seen in figure 4.2, 10% of the respondents were of the age of 18-25 years, 30% 26-35 years, 50% 36-45 years, 8% 46-55 years and finally 2% above 55 years. The majority of the respondents were below the age of 50 years.
4.2.3 Level of Education

Figure 4.3 reveals that 65% of the respondents had post graduate degrees, followed by 30% who had bachelor’s degree qualifications and finally 5% of the respondents were diploma holders. This findings imply that majority of the respondents were well educated to fully comprehend issues regarding ERP implementation.

![Figure 4.3: Level of Education](image)

4.2.4 Number of Years in the Organization

Figure 4.4 reveals that majority (33%) of the respondents have worked between 4-7 years, 21% 8-11 years, 16% have worked for 12-15 years, 12% have worked more than 15 years and finally 8% have worked for ILRI for 0-3 years. 10% of respondents did not indicate the number of years worked at ILRI.

![Figure 4.4: Number of Working Years](image)
Respondents were asked to state if they understood ERP implementation. Figure 4.5 reveals that majority (71%) of the respondents agree that they understood the process of ERP implementation.

**Figure 4.5: Understanding ERP Implementation**

4.3. **Internal Factors Influencing Acceptance of ERP Implementation**

The first objective of the study was to examine internal factors influencing ERP acceptance of ERP implementation. The following subsection presents the results of how the respondents regarded the influence of internal factors on ERP implementation.

4.3.1 **Commitment of Top Management**

Figure 4.6 shows that a majority of the respondents (50%) to a larger extent believe that top management is committed to ERP implementation, 20% believe to a very large extent while 10% each believe that it influences performance fairly, slightly, and not at all respectively. These findings reveal that indeed that top management at ILRI is committed to ERP implementation.
Figure 4.6: Top Management Commitment

4.3.2 Clarity of Goals and Objectives

As shown in Figure 4.7, a substantial majority (40%) of the respondents to a very large extent believe that clarity of goals and objectives influence acceptance of ERP implementation. This is similar to 30% of the respondents who believe that to a large extent that clarity of goals and objectives influence acceptance of ERP implementation. The last 30% believe it influences slightly, fairly and not at all, respectively. These findings therefore show clearly that the clarity of goals and objectives at ILRI influence acceptance of ERP implementation.

Figure 4.7: Clarity of Goals and Objectives
4.3.3 Management of Organization Changes

Figure 4.8 presents a summary of the findings with regards to the influence of management of organization changes. The majority of the respondents (40%) to a very large extent believe that the management of organization changes influences ERP implementation. Thirty per cent of the respondents to a large extent believe that the management of organization changes influences ERP implementation. Lastly, 30% believe management of organization changes influences slightly, fairly and not at all, respectively. These findings therefore show clearly that management of organization changes influences ERP.

![Figure 4.8: Management of Organization Changes](image)

4.3.4 Reorganization of Business Processes

Figure 4.9 shows that 45% of the respondents regard the reorganization of business processes influences acceptance of ERP implementation to a large extent. Other respondents found that reorganization of business processes to a very large extent (34%) influences acceptance of ERP implementation. Moreover, 6% found that reorganization of business processes fairly influences acceptance of ERP implementation, slightly (7%) and 8% not at all. This shows that reorganization of business process at ILRI influences acceptance of ERP implementation.
4.3.5 User Involvement in the ERP Implementation

As seen in the figure 4.10 it was evident that 52% of the respondents regard user involvement in the ERP influences ERP implementation to a very large extent the same as 29% who regard this to a large extent. This shows how involvement in the ERP influences ERP implementation at ILRI.

4.3.6 Appropriate and Timely Education and Training of Employees

As seen in the figure 4.11 it was revealed that 48% of the respondents are of the opinion that appropriate and timely education and training of employees to a very large extent, similarly 30% to a large extent and 7% fairly while 10% believe it influence slightly while the remaining 5% believe that appropriate and timely education and training of
employees. This shows that that appropriate and timely education and training of employees at ILRI influences acceptance of ERP implementation.

**Figure 4.11: Training of Employees**

### 4.3.7 Open and Continuous Communication

Figure 4.12 shows that 40% of respondents regard that to a large extent open and continuous communication influences user acceptance ERP implementation. Thirty eight per cent of the respondents to a very large extent regard communication as being an influence to user acceptance ERP implementation. 10% of the respondents revealed that communication fairly influences user acceptance ERP implementation whereas 4% of respondents believe communication only has a slight influence on to user acceptance ERP implementation. On the other hand 8% believe that open and continuous communication influences user acceptance ERP implementation.

**Figure 4.12: Open and Continuous Communication**
4.3.8 Project Management Team Competency

Figure 4.13 shows that a majority of the respondents (51%) to a very large extent relate competency of the project management team as an influence to acceptance of ERP implementation. Thirty two per cent of respondents to a large extent relate competency of the project management team as an influence to acceptance of ERP implementation whereas only 5% of respondents relate competency of the project management team as fairly having an influence on acceptance of ERP implementation. This is an indication that indeed that competency of the project management team influence acceptance of ERP implementation at ILRI.

Figure 4.13: Competency of the Project Management Team

4.3.9 Effective Project Planning

Figure 4.14 shows that 39% of the respondents to a very large extent believe that effective project planning of the project influences acceptance of ERP implementation, 41% to a large extent, 10% fairly, 4% slightly and 6% not at all. This shows that indeed effective project planning of the project influences acceptance of ERP implementation at ILRI.
Figure 4.14: Effective Project Planning

The responses were input into SPSS which is a comprehensive system for analyzing data. All the data collected was cleaned for missing values and data entry errors. The Pearson correlation test was used to find the correlation between the internal factors and ERP implementation. The internal factors in this study that were being investigated for influencing acceptance of ERP implementation were: top management commitment, clarity of goals, management of organization goals, reorganization of business processes, user involvement in the ERP, appropriate and timely education and training of employees, open and continuous communication, competency of the project management team, effective project planning. These factors were combined into one internal factor in SPSS and inferential tests were done at 90% level of confidence. Pearson’s correlation test was done to analyze the significance of the internal factors influence on acceptance of ERP implementation. For a 90% level of confidence test, $\alpha = .01$. The $P$ value for this test is 0.001 which is smaller than 0.01. Therefore there is a significant correlation between the internal factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system.

The strength and direction of the relationship is determined by the correlation coefficient ‘$r$’. R is positive 0.456. Thus the relationship between the internal factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system is positive. This is illustrated in table 4.1 below:
Table 4.1: Pearson Correlation for Internal Factors

<table>
<thead>
<tr>
<th>Correlations</th>
<th>understanding ERP</th>
<th>InternalFactors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.456**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.456**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>53</td>
<td>53</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

4.4. External Factors Influencing Acceptance of ERP Implementation

The second objective of the study was to examine the external factors the influence acceptance of ERP implementation. The following subsection presents the results of how the respondents regarded the influence of external factors on ERP implementation.

4.4.1 Use of Competent Consultants

Figure 4.15 reveals that 44% of the respondents to a very large extent believe that use of competent external consultants to train users influences user acceptance of ERP implementation, 33% to a large extent, 5% fairly, 7% slightly and 11% not at all. This shows that indeed use of competent external consultants to train users influences user acceptance of ERP implementation at ILRI.
4.4.2 Provision of Support by the Vendor

Figure 4.16 reveals that 54% of the respondents to a very large extent believe that provision of support by the vendor influences acceptance of ERP implementation, 31% to a large extent, 5% fairly, 5% slightly and 5% not at all. This shows that provision of support by the vendor influences acceptance of ERP implementation at ILRI.

4.4.3 Accuracy of Data Analysis

Figure 4.17 further reveals that 39% of the respondents to a very large extent believe that the accuracy of data analysis influences acceptance of ERP implementation, 41% to a large extent, 5% fairly, 8% slightly and 7% not at all. It shows accuracy of data analysis
influences acceptance of ERP implementation at ILRI.

Figure 4.17: Accuracy of Data Analysis

The responses were input into SPSS which is a comprehensive system for analyzing data. All the data collected was cleaned for missing values and data entry errors. The Pearson correlation test was used to find the correlation between the external factors and ERP implementation. The external factors in this study that were being investigated for influencing acceptance of ERP implementation were: use of competent external consultants to train users, provision of support by the vendor and accuracy of data analysis. These factors were combined into one external factor in SPSS and inferential tests were done at 90% level of confidence, $\alpha = .01$. Pearson’s correlation test was done to analyze the significance of the external factors influence on acceptance of ERP implementation. The $P$ value for this test is 0.000 which is smaller than 0.01. Therefore there is a significant correlation between the external factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system. The strength and direction of the relationship is determined by the correlation coefficient ‘r’. $R$ is positive 0.483. Thus the relationship between the external factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system is positive. This is illustrated in table 4.2 below:
Table 4.2: Pearson Correlation for External Factors

<table>
<thead>
<tr>
<th></th>
<th>understanding ERP</th>
<th>External Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>understanding ERP</td>
<td>1</td>
<td>.483**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>External Factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.483**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>53</td>
<td>53</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

4.5. Strategies to Enhance Acceptance of ERP Implementation

The third and final objective of the study was to examine the various strategies to enhance acceptance of ERP Implementation. Table 4.3 below reveals that majority of the respondents were in agreement that staff engagement to establish expectations about the ERP systems will enable management to deal with resistance. This was also the case for the following strategies: staff engagement to establish their fears, communication on the benefits, communication on the roles, obtaining support for the project from project leaders, obtaining support for the project from opinion leaders, linking objectives to achievement of strategic goals and finally provision of timely feedback.

Table 4.3 illustrates the results of the findings on the extent to which various strategies will enable management to overcome end users resistance to ERP implementation. From the findings, most of the respondents were in the opinion that staff engagement to establish their fears about the ERP system was the major factor that would enable management to overcome end users resistance to ERP implementation as indicated by a mean score of 4.45. Other respondents were in the opinion that enhancing staff engagement to establish their expectations about the ERP system, provision of timely feedback from staff to the project management team, obtaining support for the project from opinion leaders and linking objectives of the ERP system to achievement of the organizations strategic goals were factors that at a great extent influence implementation.
of ERP as indicated by mean score of 4.25, 4.23, 4.09 and 4.00 respectively. Few of the respondents were of the opinion that communication of the impact of the new system to staff current jobs enable management to overcome end users resistance to ERP implementation at moderate extent as indicated by mean score of 3.15.

Table 4.3: Strategies to Enhance Acceptance of ERP Implementation

<table>
<thead>
<tr>
<th>Statement</th>
<th>Certainly Yes</th>
<th>Probably Yes</th>
<th>Cannot Judge</th>
<th>Probably No</th>
<th>Certainly No</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff engagement to establish their expectations about the ERP system establish</td>
<td>57%</td>
<td>34%</td>
<td>5%</td>
<td>2%</td>
<td>2%</td>
<td>4.25</td>
<td>1.101</td>
</tr>
<tr>
<td>Staff engagement to establish their fears about the ERP system</td>
<td>64%</td>
<td>24%</td>
<td>4%</td>
<td>9%</td>
<td>0</td>
<td>4.45</td>
<td>1.223</td>
</tr>
<tr>
<td>Communication of the benefits of the new system to staff</td>
<td>73%</td>
<td>20%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>3.91</td>
<td>1.024</td>
</tr>
<tr>
<td>Communication of the impact of the new system to staff current jobs roles</td>
<td>64%</td>
<td>28%</td>
<td>6%</td>
<td>2%</td>
<td>0</td>
<td>3.15</td>
<td>1.301</td>
</tr>
<tr>
<td>Obtaining support for the project from project leaders</td>
<td>71%</td>
<td>28%</td>
<td>2.0</td>
<td>1%</td>
<td>0</td>
<td>3.62</td>
<td>1.113</td>
</tr>
<tr>
<td>Obtaining support for the project from opinion leaders</td>
<td>65%</td>
<td>28%</td>
<td>3%</td>
<td>2%</td>
<td>7%</td>
<td>4.09</td>
<td>1.251</td>
</tr>
<tr>
<td>Linking objectives of the ERP system to achievement of the organizations strategic goals</td>
<td>70%</td>
<td>23%</td>
<td>3%</td>
<td>2%</td>
<td>7%</td>
<td>4.00</td>
<td>1.071</td>
</tr>
<tr>
<td>Provision of timely feedback from staff to the project management team on areas they have interacted with in the new system</td>
<td>57%</td>
<td>28%</td>
<td>6%</td>
<td>4%</td>
<td>8%</td>
<td>4.23</td>
<td>1.003</td>
</tr>
</tbody>
</table>

4.6. Chapter Summary

In this chapter, results and findings based on the specific objectives were presented in form of pie charts, tables and figures as well as graphs. The study found that there is a positive correlation between the internal and external factors influencing end-users
acceptance of ERP systems and end users understanding and acceptance of the ERP system. It also found that most of the respondents were in the opinion that staff engagement to establish their fears about the ERP system was the major factor that would enable management to overcome end users resistance to ERP implementation.

Chapter five provides a detailed discussion of the results and findings. The following section provides conclusions as well as recommendations. Thereafter recommendations for improvement on each specific objective will be provided followed by recommendations for further studies.
CHAPTER FIVE

5.0. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1. Introduction

This chapter focused on the summary of the study, discussions, conclusions and recommendations of the study. The first part of the chapter was focused on the summary of the findings. The subsection that followed was the discussion of the findings which was then followed by the various conclusions and finally recommendations for improvement as well as recommendations for further studies.

5.2. Summary of the Study

The purpose of the study is to investigate the factors that influence end-users acceptance of Enterprise Resource Planning Systems. The study was guided by the following research questions: How do internal factors influence end users acceptance of Enterprise Resource Planning Systems? How do external factors influence acceptance of Enterprise Resource Planning Systems? What management strategies should be implemented to enable end-users acceptance of Enterprise Planning Systems?

The target population was 432 employees of ILRI Kenya from which a sample of 86 respondents were selected through stratified sampling. The study made use of a descriptive research design to analyze the data which was collected from the respondents using structured questionnaires that were distributed through drop and pick method and online survey.

The study revealed that a number of internal organization factors influenced acceptance of ERP implementation. These factors included among others: top management commitment, clarity of goals, management of organization goals, reorganization of business processes, user involvement in the ERP, appropriate and timely education and training of employees, open and continuous communication, competency of the project management team, effective project planning.

The study revealed that the relationship between the internal factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system is positive. Pearson's correlation test was done to analyze the significance of the
internal factors influence on acceptance of ERP implementation. The inferential tests were done at 90% level of confidence. For a 90% level of confidence test, $\alpha = .01$. The $P$ value for this test is 0.001 which is smaller than 0.01. Therefore there is a significant correlation between the internal factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system. The strength and direction of the relationship was determined by the correlation coefficient ‘$r$’ which was positive 0.456.

The study further revealed that there are external factors that influenced acceptance of ERP implementation. These included competent external consultants to train users, provision of support by the vendor, accuracy of data analysis.

The study revealed that the relationship between the external factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system is positive. Pearson’s correlation test was done to analyze the significance of the internal factors influence on acceptance of ERP implementation. The inferential tests were done at 90% level of confidence. For a 90% level of confidence test, $\alpha = .01$. The $P$ value for this test is 0.001 which is smaller than 0.01. Therefore there is a significant correlation between the internal factors influencing end-users acceptance of ERP systems and end users understanding and acceptance of the ERP system. The strength and direction of the relationship was determined by the correlation coefficient ‘$r$’ which was positive 0.483.

Finally the study revealed that a majority of the respondents were in agreement that staff engagement to establish their fears about the ERP system was the major factor that would enable management to overcome end users resistance to ERP implementation as indicated by a mean score of 4.45. Other respondents were in the opinion that enhancing staff engagement to establish their expectations about the ERP system, provision of timely feedback from staff to the project management team, obtaining support for the project from opinion leaders and linking objectives of the ERP system to achievement of the organizations strategic goals were factors that at a great extent influence implementation of ERP as indicated by mean score of 4.25, 4.23, 4.09 and 4.00 respectively.
5.3. Discussion

5.3.1. Internal Factors Influencing ERP Implementation

The study revealed that a number of internal organization factors influenced acceptance of ERP implementations. These factors included among others: top management commitment, clarity of goals, management of organization goals, reorganization of business processes, user involvement in the ERP, appropriate and timely education and training of employees, open and continuous communication, competency of the project management team, effective project planning.

The findings affirm that the most important factor when adopting and implementing ERPs is the top level management’s commitment to the strategic direction itself. Hammer (2008) believes that reengineering must be driven from the topmost level. The primary ingredient for project success is top leadership, either the CEO or someone in a position to compel the compliance of all parties involved in reengineering. Line responsibility is said to be the key, and reengineering is top-down, autocratic rather than through a democratic process. This is undoubtedly a prerequisite for strategy implementation. Therefore, top managers must demonstrate their willingness to give energy and loyalty to the performance management implementation process (Grint, 2011).

Additionally the findings agree with Hammer et al. (2009) who states that to adequately prepare the human resources for ERPs, they must be involved in decision making. The findings agree with Ackon (2014) who argues that training is viewed as part of an ongoing developmental process. Training needs to be linked with the organizational mission. So, when governments plan their training activities, they need to provide the link with the organizational mission and local budget and implementation. Understanding the phenomenon of employee training requires understanding of all the changes that take place as a result of learning. As the generator of new knowledge, employee training is placed within a broader strategic context of human resources management, i.e. global organizational management, as a planned staff education and development, both individual and group, with the goal to benefit both the organization and employees.

Amoako-Gyampah et al. (2004) identified training as one of the important factors for end-user acceptance ERP systems. He indicated the importance of organizations installing ERP systems to get the length, timing and thoroughness of end-user training right.
Training gives the end-users time to adjust to the change that will occur with the implementation of an ERP system and allows them to gain firsthand experience and explore the usefulness of the system. Aldwani (2001) observed how important it is to train end-users during ERP implementation because of the proven positive influence on end-users acceptance of the system. He adds that through training, end-users can appreciate the benefits offered by an ERP system. Brown et al. (2002) also noted how training increased the self-efficacy of end-users of ERP systems because they understood better how the system could improve their job functions. The study supports findings of Aldwani (2001) above as 48% and 30% of respondents were of the opinion that to a very large extent and to a large extent respectively that appropriate and timely training of employees enhance end-users acceptance of ERP implementation.

The study findings supported the need for organizations to communicate to end users on the benefits of the system in order to convince end users of the benefits of the ERP system (Amoako-Gyampah & Salam, 2004 and Aldwani, 2001). Project management entails the clear definition of objectives, progress reports on status of implementation and preparation and execution of work plans (Hasibuan et al., 2012). The study supports the above literature review as 39% and 41% of respondents were of the opinion that to a very large extent and to a large extent respectively that effective project planning through project management enhance end-users acceptance of ERP implementation.

5.3.2. External Factors Influencing ERP Implementation

The study further revealed that there are external factors that influenced acceptance of ERP implementation. These include competent external consultants to train users, provision of support by the vendor, accuracy of data analysis. The findings affirm that indeed external consultants are key to ERP end user acceptance which is related to cumbersome input functionality; inappropriate formats for data input; inappropriate entity relationships in the data models; and undisciplined use of the ERP system at data entry point (Ojala, Viltola & Kouri, 2006) and these can result in a lack of integration.

Additionally the findings affirm that ERP vendors in this case form part of the supply chain given that they engage in the supply of ERP systems. If indeed such supplies are
not availed in good time then the implementation of ERP systems will become a challenge (Powers, 2010).

The findings also affirm that sourcing these ERP systems remains a complex issue fraught with problems. The study supports findings of Wilkocks et al., 2000 and Motwani et al., 2002 as 44% and 33% of respondents were of the opinion that to a very large extent and to a large extent respectively that use of competent consultants enhance end-users acceptance of ERP implementation. Literature review from Wilkocks et al., 2000 and Motwani et al., 2002 indicated that the many researchers have supported the need to include an ERP consultant as part of the implementation team roles of ERP consultants as the consultant roles vary in ERP system implementation. Consultants can either help staff the project team, help to back-fill positions, be charged with responsibility for project management, audit the project, serve as the prime contractor, and be the one source for everything from software to hardware and personnel for the ERP.

Liang et al. (2003) found that ERP system modules are linked intricately to another, thus inaccurate data input into one module will affect the function of the other modules. Wrong data input leads to inaccurate or misleading results. Thus the findings of this study support that; data accuracy is a major determinant of ERP success.

5.3.3 Strategies to Enhance Acceptance of ERP Implementation

The study revealed that majority of the respondents were in agreement that staff engagement with an aim of establishing expectations about the ERP systems will enable management to deal with resistance. This was also the case for the following strategies: staff engagement to establish their fears, communication on the benefits, communication on the roles, obtaining support for the project from project leaders, obtaining support for the project from opinion leaders, linking objectives to achievement of strategic goals and finally provision of timely feedback.

The findings affirm that management has to communicate that the perceived cost of the new system to each employee is minimal. That is they should ensure that the employees are sensitized on the benefits of the ERP system as an opportunity for enhancing their jobs so as to enable them to adopt a positive adoption attitude. Training of users ensures
should also be done to ensure they obtain hands on experience with the new system and better appreciates the attributes of the new system. Under this phase, management should also get the endorsement of group leaders and opinion leaders by involving them in the implementation stage so that they become key players who are also committed. The opinion leaders will in turn influence other employees on the benefits of the new system. Top management should also be committed and the greatest supporters of the new ERP system. This ensures that the long term success of the information system and embedment to the strategic vision of the organization. The status evaluation stage involves monitoring and evaluating the change management strategies. Timely and accurate feedback should be obtained from end users so that management takes appropriate corrective action depending on the feedback obtained (Aldwani, 2001).

The findings also affirm that indeed successful implementation of an ERP system is also influenced by the achievement of strategic goals of the organization via the ERP system. Piotr (2008) found that during the implementation stage, the ERP should be linked to the organization’s strategy else it risks failing if after completion of implementation where there is inconsistency between the result achieved and the actual organization’s needs. Also management should define the project goals. This is achieved through the following three steps: Identification of corporate strategy and strategic goals, definition of implementation project goals and the determination of project metrics.

Finally the findings agree with Qi (2010) who reiterates the need for management to make the commitment to stay focused on the agreed upon plans and therefore only make significant changes to the strategic plan after making careful consideration on the overall implications and consequences of such change. Brenes, et al, (2014) further admits that organizations need to maintain a balance between ongoing business activities and working on new strategic initiatives. This is so because the challenges to strategy execution often results from companies dwelling on new strategy development and in the process forget their main line of business that underlie within previously formulated business strategies.
5.4. Conclusion

5.4.1. Internal Factors Influencing ERP Implementation

The study concludes that a number of internal organization factors influenced acceptance of ERP implementations. These factors included among others: top management commitment, clarity of goals, management of organization goals, reorganization of business processes, user involvement in the ERP, appropriate and timely education and training of employees, open and continuous communication, competency of the project management team, effective project planning. It was also revealed that there was positive significant relationship between end users acceptance of ERP implementation and internal factors.

5.4.2. External Factors Influencing ERP Implementation

The study further concludes that there are external factors that influenced acceptance of ERP implementations. These included competent external consultants to train users, provision of support by the vendor, accuracy of data analysis. It was also revealed that there was positive significant relationship between end users acceptance of ERP implementation and external factors.

5.4.3. Strategies to Enhance Acceptance of ERP Implementation

Finally the study concludes that majority of the respondents were in agreement that staff engagement to establish expectations about the ERP systems will enable management to deal with resistance. This was also the case for the following strategies: staff engagement to establish their fears, communication on the benefits, communication on the roles, obtaining support for the project from project leaders, obtaining support for the project from opinion leaders, linking objectives to achievement of strategic goals and finally provision of timely feedback.
5.5. Recommendations

5.5.1. Suggestions for Improvement

5.5.1.1. Internal Factors Influencing ERP Implementation

The study recommends the need for ILRI management to capitalize on its internal organization strengths so as to be able to leverage on them in order to enhance ERP implementation, especially in cases where such internal factors relate to employees.

5.5.1.2. External Factors Influencing ERP Implementation

The study recommends the need for all stakeholders to engage in consultative talks so as to have an agreement on how to deal with external factors that affect end-user acceptance when it comes to ERP implementation. The government can as well put in place measures to help organizations to easily implement ERP systems.

5.5.1.3 Strategies to Enhance Acceptance of ERP Implementation

The study recommends the need for organizations to seek other ways of enhancing end-user acceptance apart from the strategies that have been examined in this study. In this way organizations will be able to effectively implement ERP systems that will facilitate realization of organization goals.

5.5.2. Suggestions for Further Studies

The study recommends the need for additional studies to be done on factors influencing end-user acceptance when it comes to ERP implementation. Such studies should focus on other sectors in the economy. Additionally there is need to conduct longitudinal studies to see if the results were different from the findings in this study.
REFERENCES


Dudovsky J. (2011) [http://research-methodology.net/research-methodology/research-design/conclusive-research/descriptive-research](http://research-methodology.net/research-methodology/research-design/conclusive-research/descriptive-research)


The Impact of Critical Success Factors across the Stages of Enterprise Resource Planning Implementation. Proceedings of the


APPENDIX

Appendix 1: Questionnaire

QUESTIONNAIRE

Enterprise Resource Planning System (ERP) Implementation (One Corporate System)

Instructions

This objective of this questionnaire is to collect information on the factors influencing end users acceptance of an ERP system. Your valuable input will enable the following research questions to be answered: internal and external factors influencing end-users acceptance of ERPs and management strategies that should be implemented to enable acceptance of ERP systems by end users. Please kindly respond by ticking or placing an ‘x’ in the parentheses provided or writing in the space provided.

Confidentiality

The responses you provide will be treated in the strictest confidence. No particular reference will be made to you in the outcomes and report of this study.

Questionnaire Number …..
PART A: DEMOGRAPHIC DATA

1. What is your job title? (Optional) ________________________________

2. Kindly tick the department you work in from the below listing:
   a) Bioscience Facilities ( )
   b) Capacity Development ( )
   c) Communication ( )
   d) Directorate ( )
   e) Engineering ( )
   f) EOHS ( )
   g) Finance ( )
   h) Housing & Conference ( )
   i) ICT ( )
   j) Internal Audit ( )
   k) P&OD ( )
   l) Research Biosciences ( )
   m) Research Integrated Sciences ( )
   n) RMG ( )
   o) Security ( )
   p) Supply Chain ( )

3. What is your age range? Kindly tick as appropriate.
   a) 18-25 years ( )
   b) 26-35 years ( )
   c) 36-45 years ( )
   d) 46-55 years ( )
   e) Above 55 years ( )

4. What is your highest level of education? Kindly tick as appropriate.
   a) Diploma ( )
   b) Degree ( )
   c) Post Graduate ( )

5. For how long have you worked in your organization? Kindly tick as appropriate.
   a) 0-3 years ( )
   b) 4-7 years ( )
   c) 8-11 years ( )
   d) 12-15 years ( )
   e) Above 15 years ( )
PART B: FACTORS INFLUENCING ACCEPTANCE OF AN ERP SYSTEM IMPLEMENTATION

6. Do you understand how the new ERP system will work? Kindly tick as appropriate.
   a) Yes (  )
   b) No (  )
   c) Partly (  )

7. Do you understand the new ERP implementation process? Kindly tick as appropriate.
   a) Yes (  )
   b) No (  )
   c) Partly (  )
PART C: INTERNAL FACTORS INFLUENCING ACCEPTANCE OF AN ERP SYSTEM IMPLEMENTATION

In the table provided below, indicate to what extent the following factors have impacted your understanding of the ERP system being adopted. Grade 1 in the scale represents ‘no extent at all’ while grade 5 represents ‘very large extent’. Please tick as appropriate.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No extent at all</td>
<td>Small extent</td>
<td>Moderate extent</td>
<td>Large extent</td>
<td>Very large extent</td>
</tr>
<tr>
<td>8. Top management commitment and support of the ERP implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Clear goals and objectives set for the ERP project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Management of organizational changes brought about by the ERP system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Reorganization of business processes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. User involvement in the ERP project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Appropriate and timely education and training of employees</td>
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<td>14. Open and continuous communication</td>
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<td>15. Competency of the project management team</td>
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<td>16. Effective project planning of the project</td>
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<tr>
<td>17. Other internal factors not mentioned above: ___________</td>
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<tr>
<td>18. Other internal factors not mentioned above: ___________</td>
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</table>
PART D: EXTERNAL FACTORS INFLUENCING ACCEPTANCE OF AN ERP SYSTEM

In the table provided below, indicate to what extent the following factors have impacted your understanding of the ERP system being adopted. Grade 1 in the scale represents ‘no extent at all’ while grade 5 represents ‘very large extent’. Please tick as appropriate.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>No extent at all</td>
<td>Small extent</td>
<td>Moderate extent</td>
<td>Large extent</td>
<td>Very large extent</td>
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<tr>
<td>19. Use of competent external consultants to train users</td>
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<td>20. Provision of support by the vendor of the ERP package</td>
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<td>21. Accuracy of data analysis during data conversion into the new system</td>
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<tr>
<td>22. Other external factors not mentioned above</td>
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</tbody>
</table>
**PART E: MANAGEMENT STRATEGIES**

In your opinion, which of the following will enable management to overcome end users resistance to ERP implementation? Please tick one as appropriate.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Certainly No</td>
<td>Probably No</td>
<td>Probably Yes</td>
<td>Certainly Yes</td>
<td>Can't judge</td>
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<tr>
<td>24. Engagement with staff to establish their expectations about the ERP system</td>
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<td>25. Engagement with staff to establish their fears about the ERP system</td>
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<td>26. Communication of the benefits of the new system to staff</td>
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<td>27. Communication of the impact of the new system to staff current jobs roles</td>
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<td>28. Obtaining support for the new system from project leaders</td>
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<td>29. Obtaining support for the new system from staff opinion leaders eg NRS Council</td>
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<td>30. Linking the objectives of the ERP system to achievement of the organizations strategic goals</td>
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<td>31. Provision of timely feedback from staff to the project management team on areas they have interacted with in the new system</td>
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<td>32. Other factors not mentioned above</td>
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<tr>
<td>33. Other factors not mentioned above</td>
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</table>