

**THE INFLUENCE OF PROJECT MANAGEMENT PRACTICES ON SUCCESSFUL
IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING SYSTEMS: A CASE
OF UNIVERSITY OF NAIROBI**

KIBUTI MICHEAL KARIUKI

**A Research project Report submitted in partial fulfilment of The Requirements for the
Award of A Degree of Master of Arts In Project Planning and Management of the
University of Nairobi**

2020

DECLARATION

I declare that this research project report is my original work and has never been submitted for award of degree in this or any other institution in Kenya and World.

Signature: _____

Date: _____

Michael Kariuki Kibuti

L50/10773/2018

This research project report has been presented for examination having been approved by myself as the supervisor:

Signature: _____

Date: _____

Dr. Anne Aseeey

Senior Lecturer, Department of Open & Distance Learning.

University of Nairobi

DEDICATION

This project is devoted to my loving parents Mr. Joseph Kibuti and Mrs. Justus Kibuti who have been a source of encouragement and inspiration for always believing in me and setting a strong education foundation for my siblings and I.

ACKNOWLEDGEMENTS

I wish to offer my thanks giving to the almighty God for giving me strength, knowledge and ability to finish this project. I am significantly obliged to Dr. Anne Aseey for her positive directions as my supervisor, for her successful supervision, commitment, accessibility and professional guidance. I extend my appreciation to my lecturers who have been of assistance to me in the department of Open, Distance & e-learning (extramural) enhancing my research with their insight.

More so I wish to send thanks giving to my friends and colleagues who were always available for consultation and offering encouragement. Your time and encouraging words are highly appreciated. I pass my gratitude to all the senior managers and staff in the University of Nairobi that assisted me while sourcing for data for this project. Your timely assistance is highly appreciated. To my wife; Eunice Nungari for constantly encouraging and being my support system throughout this period.

TABLE OF CONTENTS

DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS.....	v
ABBREVIATIONS AND ACRONYMS.....	xi
ABSTRACT.....	xii
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem	3
1.3 Purpose of the Study	4
1.4 Objectives of the Study	5
1.5 Research Questions	5
1.6 Significance of the study.....	5
1.7 Assumption of the Study.....	6
1.8 Limitations of the Study.....	6
1.9 Delimitations of the Study.....	7
1.10 Definitions of Significant Terms Used in the Study.....	7
1.11 Organizational of the Study.....	8
CHAPTER TWO: LITERATURE REVIEW.....	9
2.1 Introduction.....	9
2.2 Implementation of Enterprise Resource Planning Systems Projects	9
2.3 Project Risk Management and Implementation of Enterprise Resource Planning Systems Projects.....	10
2.4 Project Monitoring and Evaluation Process and Implementation of Enterprise Resource Planning Systems Projects	11
2.5 Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects	12
2.6 Top Management Support and Implementation of Enterprise Resource Planning Systems Projects.....	13
2.7 Theoretical Framework	15
2.7.1 Theory of Agile Project Management	15
2.7.2 Information Systems Success Model.....	16
2.8. Conceptual Framework	17
2.9 Explanation of the Relationships in the Conceptual Framework.....	19
2.10 Gaps in literature reviewed	19
2.11 Summary of Literature Reviewed	22
CHAPTER THREE: RESEARCH METHODOLOGY.....	23
3.1 Introduction.....	23
3.2 Research Design.....	23

3.3 Target Population	23
3.4 Sample Size and Sampling Procedure.....	24
3.4.1 Sample Size	24
3.4.2 Sampling Procedure.....	25
3.5 Data Collection Instruments.....	26
3.5.1 Pilot Testing of the Instruments.....	26
3.5.2 Validity of the Instruments	27
3.5.3 Reliability of Research Instruments	27
3.6 Data Collection Procedures	27
3.7 Data Analysis Techniques.....	28
3.8 Ethical Considerations.....	28
3.9 Operationalization of Variables	29
CHAPTER FOUR: DATA ANALYSIS, PRESENTATION, INTERPRETATION, AND	
DISCUSSION	33
4.1 Introduction	33
4.2 Questionnaire Return Rate	33
4.3 Demographic of Respondents By age group, gender, education level and length of service.	
.....	33
4.4 Project Risk Management and Implementation of Enterprise Resource Planning Systems	
Projects	36
4.5 Project Monitoring and Evaluation Process and Implementation of Enterprise Resource	
Planning Systems Projects	38
4.6 Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects	
.....	40
4.7 Top Management Support and Implementation of Enterprise Resource Planning Systems	
Projects	42
4.8 Implementation of Enterprise Resource Planning Systems Projects	44
4.9 Correlation Analysis.....	46
4.10 Discussion of Findings	48
4.10.1 Project Risk Management and Implementation of Enterprise Resource Planning	
Systems Projects	48
4.10.2 Project Monitoring and Evaluation Process and Implementation of Enterprise	
Resource Planning Systems Projects.....	49
4.10.3 Staff Commitment and Implementation of Enterprise Resource Planning Systems	
Projects	49
4.10.4 Top Management Support and Implementation of Enterprise Resource Planning	
Systems Projects	50
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	52

5.1 Introduction	52
5.2 Summary of Findings	52
5.3 Conclusion.....	53
5.4 Contribution of the Study to Knowledge in management.....	54
5.5 Recommendations	55
5.5.1 Recommendations for Policy and Practice	55
5.5.2 Recommendations for Further Research	55
REFERENCES	57
APPENDICES	60
Appendix I: Introduction Letter	60
Appendix II : Research Questionnaire For Support Staff in University of Nairobi.....	61
Appendix III: Work Plan.....	66
Appendix IV: Budget	67

LIST OF TABLES

Table 2.1: Summary Gaps in Literature	20
Table 3.1: Study Population.....	24
Table 3.2: Study Sample	26
Table 3.3: Operationalization Framework	30
Table 4.1: Distribution of Questionnaire	33
Table 4.2 : Age of the Respondents	34
Table 4. 3: Gender of the Respondent	34
Table 4.4: Respondents Academic Qualifications	35
Table 4.5: Respondent’s number of years worked.....	35
Table 4.6: Project Risk Management and Implementation of Enterprise Resource Planning Systems Projects	36
Table 4.7: Project Monitoring and Evaluation Process and Implementation of Enterprise Resource Planning Systems Projects	39
Table 4.8: Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects.....	41
Table 4.9 Top Management Support and Implementation of Enterprise Resource Planning Systems Projects	43
Table 4.10: Implementation of Enterprise Resource Planning Systems Projects	45
Table 4.11: Correlation	47

LIST OF FIGURES

Figure 2.1: Updated Information Systems Success Model	16
Figure 2.2: Conceptual Framework	18

ABBREVIATIONS AND ACRONYMS

EIS:	Enterprise Information Systems
ERP:	Enterprise Resource Planning
ES:	Enterprise Systems
EWS:	Enterprise Wide Systems
CSFs:	Critical Success Factors
ICT:	Information Communication Technology
IS:	Information System

ABSTRACT

In Today's world, Enterprise Resource Planning (ERP) systems have emerged as a prevalent software that integrates the functional areas of a company or organization into a single system providing real time solutions and seamless communication in business processes. Despite the competitive advantage that the ERP system provides to an institution, the implementation of such projects remains incomplete and may take several years to complete despite having clear requirements and specifications. Studies done on ERPs successes have acknowledged that Vendor Support is a Critical Factor for the success of an ERP Project. The study was guided by four objectives; to examine the influence of project risk management on implementation of ERP Systems in University of Nairobi, to determine the influence of Project monitoring and Evaluation Process on implementation of ERP Systems in University of Nairobi, to establish the influence of staff commitment on implementation of ERP Systems in University of Nairobi and to examine the effect of top management support on implementation of ERP Systems in University of Nairobi. The study was grounded on theory of Agile Project Management and Information Systems Success Model. The study population was support staff working in the twelve various service departments of University of Nairobi in which the population will be 869. The sample size was 274 respondents. The study used Stratified simple random sampling. The research instruments comprised of structured questions whereby the respondents were expected to choose the most appropriate answer. Pilot test was actual study. Any ambiguous, sensitive, complex or biased items in the instruments will be identified and modified or omitted in the research instruments that were used for the final study. The researcher scrutinized all questionnaires for completeness, accuracy as well as the conformity. The data used purely quantitative and therefore descriptive and inferential. The inferential statistics included pearson correlation analysis. The study found that project risk management influence implementation of ERP Systems. In addition project monitoring and evaluation process influence implementation of ERP Systems. The study revealed that staff commitment influence implementation of ERP Systems. Lastly, top management support influence implementation of ERP Systems. Therefore the study recommends that universities that have implemented the ERP projects should do a post-implementation analysis of systems. This will enable organizations review the areas that need to be worked on and to know how to improve the process in the future. Areas will include maintenance of the system, budget allocation and upgrades to newer versions.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Global changes brought about by technology and globalization has brought numerous changes to organizations and other institutions, which they must amend to succeed. A myriad of organizations have been forced to design, adopt and implement unique business ideas and strategies of implementing them in order to remain relevant (PMI, (2004). According to Jing and Qiu (2007), the fourth industrial revolution will have verified a comprehending and profound influence in its size and peculiarity and the expected transformation is something that humanity has not experienced before. Robots will perform 10% of the jobs, labour markets will be disrupted thus reducing labour costs will be apriority. Organizations must therefore adopt ways of ensuring efficiency and creativity to ensure delivery is within schedule, scope and cost.

ERP processes are joined IS planned to generate a one unified output application with the ability to link all the various functions and processes within an organization. The admiration of ERP software commenced in the early 1990s and has grown up to become one of the greatest extensive software applications used in dealing with enterprise widespread commercial progressions (Holland, Kawalek & Light, 1999). The term Enterprise Resource Planning (ERP) was devised by Gartner Group in 1990s, with a view to describe a set of interconnected computer systems that can help in organizing the different functions and activities of an organization. Overtime, researchers and practitioners have continued to define ERP Systems in different ways. O’Leary (2000), defined an ERP system as “computer-based solution intended to process business transactions in real-time arrangement while providing feedback”.

Project management as a discipline focuses on three key result knowledge areas, namely; general management, project management and IT management, which complement each other. While general management focuses on ensuring proper management policies and practices, project management ensures quality project process and results. On the other hand, IT management involves creating and maintaining quality IT product. Generally, ERP System project success is depended on the opinion from which you measure it, though the suitability set of events hinge on the entity overall plan, IT and the specific sector in which they compete (Davenport, 2000; Kimet al., 2005).

In developed countries like United Kingdom and United States of America, there has been an increase in integration of enterprise resource planning by various large organizations and government corporations with their business processes (Davenport 1998). The growing number of corporations using enterprise resource planning systems developed by organizations such as Oracle, Baan, People Soft and SAP, as business information platform systems, has increased the level of productivity, efficiency and cost saving in these organizations. Countries in Africa which are developing are branded by low economic abilities, limited human resource, inadequate infrastructure and specific values which in turn might affect the implementation of ERP's (Al-Debei and Al-Lozi, 2012). A study done by (Tobie, Etoundi, and Zoa, 2016) on the implementation of ERP in African countries shows that SAP, Oracle and Microsoft have dominated the market in providing the software. The ERP software has been adopted mostly in the Manufacturing and oil companies in Egypt and Libya while in Nigeria, Zimbabwe and Ethiopia the system is found in large and private companies. The large and private sectors together with the large and public Universities have adopted the use of ERP in South Africa. The findings showed that in Kenya, the ERP system is mostly in the government office.

ERP's in the recent past have only matured in the manufacturing and retail industries. The public Universities in Kenya are quickly embracing the penetration of the software in the market. Customers adopting the ERP system are viewing it as a longstanding plan (Bala and Venkatesh, 2013). With the ERP systems, the institutions can manage all their resources and services. These are customized by the software developers or vendors to fit the needs of the institution. The percentage of ERP implementation in the Kenyan universities is which is accounted for by the successful integration and adoption of the finance, student management, human resource and procurement modules (Makokha, Musieg aand Juma, 2013). However, other modules such as catering, hostel and health modules are slowly being incorporated into the latest solutions provided by the vendors to the Institutions.

ERP system benefits University of Nairobi can be categorized into tangible and intangible (Mohammed, Al-Mudimigh and Al-Mashari, 2003). Tangible benefits include the increase of output delivery, improved information and processes, reduction in need time in completing tasks and processes through elimination of duplication of data entry, reduction of HR costs and

improved customer service delivery (Dezdar et.al,2011). Moreover, advantages of integrated systems that are intangible to University of Nairobi it encompass the access of information globally and better communication between the stakeholders. Most universities are embracing the ERP systems to allow them access accurate, efficient and timely data within the shortest time possible (Kibera, 2013).

1.2 Statement of the Problem

The motive behind adoption of Enterprise Resource Planning systems by Universities is to benefit from the best practices of the structured business processes that are entrenched within the modules integrated in the Enterprise Resource Planning. The need to improve productivity by efficiently using the available resources and effectively administering the optimum strategies in decision making has necessitated most organizations to adopt Enterprise Resource Planning systems to have a structured and integrated cross organizational departmental interactions and data sharing (Kraemers and Dissel, 2000).

Regardless of the benefits in implementing ERP system projects in organizations, there still remains a challenge in implementing the same in Kenyan public Universities. Many (70 to 90 percent) of the implementations have failed either totally or partially, or have not brought forth the expected benefits. As Al-Mashari et al (2003) state, high failure rates of implementing ERPs system by Institutions, suggest a challenge in understanding successful implementation. Studies on CSFs impacting the implementation of ERPs positive or negative way show that the main factors include Business plan and vision, Top-Management Support, Project Management, Vendor Support, Business process reengineering and User involvement (Totla, Mandot,Gaur, 2016), (Somers, 2001), (Gianopoulos, 2015) and (Shatat, 2015). Failure of Enterprise Resource planning due to poor implementation strategy will lead to insolvency of an organization and to a close down of an efficiently operating organization in a worst case scenario. However, Implementation of the ERPs projects has been given little consideration in Public universities in developing countries such as Kenya.

ERP System unifies the organizations business functions by integrating its major processes which leading to reduction in the complexity and cost of collaboration, optimizing operations

and finally successful business (She and Thuraisingham, 2007). Many of the Institutions of higher learning in Kenya today face challenges that ensure the ERP system are successfully implemented and the benefits realized. Otieno (2008) observes that ERP implementation is a major undertaking but many fail despite their benefits. He states that about 90% of the system implementation are over budgeted and take longer periods to fully function and that only 33% achieve success in implementation. A study on ERP adoption in Kenya done by Nzuki and Odongo (2015) reveals that the ERP users have poor product knowledge on the ERP software and the vendors as well.

Hurbean (2008) points out that many public institutions do not have sufficient knowledge of ERP system, while the vendors certainly aren't well acquainted with the functions of the institution leading to difficulties in implementation. This is reflected in the image of many Kenyan Public Universities who adopt the negative attitude leading to project failure. Many failed ERP implementations, affect not only the host institution but also the vendor who needs to compensate the client in terms of payment (Ali, Hussain, Takwa and Ra'ed, 2015).

Enterprise Resource Planning system may take approximately between two to three years (Akkermans and Helden 2002) with the cost involved for the implementation amounting to several hundred thousand in dollar currencies. Researchers have identified the underlying successes realized from integrating Enterprise Resource Planning systems within organizations and business processes as well as the failures that have led to adverse effects on the businesses. However, little has been documented on the causes of these failures, the determinants of success and on the mitigation processes to avoid failure in Enterprise Resource Planning system (Sia, 2002). Cultural, infrastructural and social problems in an organization are the major causes of failure-related to Enterprise Resource Planning systems (Huang and Palvia 2001).

1.3 Purpose of the Study

The purpose of the study was to assess the influence of project management practices on successful implementation of enterprise resource planning Systems with reference to: A case of University of Nairobi.

1.4 Objectives of the Study

The objectives of this study were;

- i. To examine the influence of project risk management on implementation of ERP Systems in University of Nairobi
- ii. To determine the influence of Project monitoring and Evaluation Process on implementation of ERP Systems in University of Nairobi
- iii. To establish the influence of staff commitment on implementation of ERP Systems in University of Nairobi
- iv. To examine the effect of top management support on implementation of ERP Systems in University of Nairobi

1.5 Research Questions

- i. How does project risk management influence the implementation of ERP Systems in University of Nairobi?
- ii. To what extent does project monitoring and evaluation process influence the implementation of ERP Systems in University of Nairobi?
- iii. How does staff commitment influence the implementation of ERP Systems in University of Nairobi?
- iv. How does top management support influence the implementation of ERP Systems in University of Nairobi?

1.6 Significance of the study

University of Nairobi and other Universities in the entire nation may benefit from this study. It may be of great value to the institutions of higher learning in the ERP system implementation and know how to incorporate the vendors in terms of their support in all the stages of implementation. This study may be helpful as in understanding how the vendor factors and the customer factors add value to the success of implementation of the ERP projects.

University of Nairobi could obtain information from this research and help them come up with policies that will incorporate the vendor support to avoid failing of projects. The vendors could also be informed as key players in the process of implementation to improve the relationship

with the customers for successful implementation. The top management in the organization may be well informed on how to create strong project management teams together with the vendors.

The research study may also assist future researchers by enriching existing body of knowledge and therefore be a vital source of reference in literature review for their research studies as well as a source of secondary data reference. Future researchers may use their research to compare their findings undertaken in the same field of study over some time.

1.7 Assumption of the Study

According to Kothari (2012), assumptions could be beliefs or ideas that one holds to be true without any evidence. In order to collect the study data, analyze and present the findings, the researcher made the assumption that the respondents provided truthful and honest response to the information in the questionnaire and that the respondents had enough time for answering the questionnaire items.

This research was based on hypothesis: respondents will understand and answer the questions in the questionnaire correctly, truthfully and willingly return the filled questionnaires within the stipulated timeframe without any external negative influence.

1.8 Limitations of the Study

The study may be limited by inaccuracy of data and provided information by the respondents. It is expected that the respondents did not provide open information during the collection of data, and they may give information they think the researcher will be pleased to hear as opposed to the real information relating to implementation of ERP systems. To counter this, the investigator shall guarantee the respondents of confidentiality and anonymity, as well as re-assure them that the data and any other information obtained during the study will only be used for purpose of the survey.

Challenges are anticipated by the researcher in reaching out to some of key partners of the University because of their committed schedules. The researcher was however overcome this

limitation by trying to reach them through emails and phone calls where physical contact may not be possible.

Time and financial constraints may also limit the study in the process of data collection. The investigator will also schedule appointments before administering the study data collection tools on each and every respondent. This is due to fact that the timeline required for the completion of the study is minimal and requires sufficient funds to cover the scope. To mitigate this, the investigator will work with research assistants to aid in the administration of the research instruments.

1.9 Delimitations of the Study

There was a varying conceptual and operational definitions of implementation among professionals in practice and academia, with limited consensus. This made it difficult to comprehensively study all project management practices that influence implementation of ERP systems given the scope of this study. This study focused on four project management practices and the scope of implementation of ERP to be done only in University of Nairobi.

1.10 Definitions of Significant Terms Used in the Study

Enterprise Resource Planning (ERP) system: -It is a software application that assimilates the different segments of organizational functions onto one consolidated system within a central database. Examples of ERP systems include; SAP, Oracle and Microsoft dynamics.

ERP system project: An ERP system implementation, undertaken to achieve certain business objectives, it is defined in terms of outputs, outcomes or benefits, within specified timelines and resources.

Project Risk Management: Refers to proper utilization of funds within a given time frame for a particular project.

Staff commitment: Having employees working with an organization is not enough in implementing any project but rather the key ingredient is having a firmly committed workforce that is capable of turning challenges and hardships into successes.

Top management supports: Top management support is a vital requirement that has been researched on by scholars and researchers as a basic requirement for achieving success in ERP implementation.

1.11 Organizational of the Study

This study has five chapters; Chapter one consist of introduction and background to the study purpose of the study, statement of the problem, objectives of the study, hypotheses, justification of the study, limitation of the study, delimitation of the study, definition of significant terms and the structure of the study. Chapter two focus on a review of the literature on implementation ERP system and project management practices. It also focus on theoretical framework and conceptual framework that will demonstrate the connection amongst the study variables. This chapter also highlighted the knowledge gaps and summary of the literature review. Chapter three presented information on the methods and techniques used in the study. In summary, this chapter encompasses the research design, the target population, the sample size and sampling procedures, data collection and analysis methods, pilot testing, validity and the reliability of the instrument to be used. In addition, this chapter contains the ethical issues addressed in the study and the operational definition of the study's variables

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter covered the review of relevant literature for this study. It comprises of the themes that the objectives of this study sought to achieve. They included project risk management, project monitoring and evaluation process, staff commitment and top management supports, all in relation to the implementation of ERP Systems in University of Nairobi. The chapter also presented the theoretical and conceptual framework of the study as well as explanation of variables. This chapter ends with the gaps in literature and a summary of literature review.

2.2 Implementation of Enterprise Resource Planning Systems Projects

Project Management is an organizational discipline that is becoming an integral part of the IT function. A specific person is supposed to be allocated a task to emanate progress in project management (Rosario, 2000). Implementing ERP System projects successfully calls for strong leadership with appropriate knowledge, skills and experience in project management and with the ability to organize the correct beneficial methods of the project. In general, available information propose that leadership and project coordination is crucial in ERP process in project adoption, and further indicates a correlation between leadership competencies and project implementation (Davenport, 2000; Kimet al., 2005).

Heeks (2002),describes IT systems projects performance into three categories, namely; Complete failure (aborted implementation), Partial failure (some key objectives are achieved) and Success (majority of stakeholders goals are achieved with system functioning as anticipated).Project managers and ERP System advisors frequently defined achievement in relations to finishing the project design on time and in line with the financial plan. However, individuals whose task was to accept ERP system and use them tend to underscore having a smooth operation with ERP system and attaining occupational developments (Axline, Markus, & Petrie, 2003). Al-Mashari et al., (2003), describes variations in performance levels of ERP system adoption in three classes, namely; Strategic, Managerial and Operational benefits.

However, according to (Hustad & Olsen, 2013), there is no solitary conventional measures for measuring ERP system project implementation performance that applies across all organizations.

Businesses contented with their ERP solution often list multiple benefits varying from process automation, improved efficiency, tighter integration, as well as removal of redundancies data and duplicative roles (Plotkin, 1999).

2.3 Project Risk Management and Implementation of Enterprise Resource Planning Systems Projects

Risks are potential problems that are yet to happen. Risks are inevitable and every project needs to be managed for risks irrespective of the type. Thus, risk management refers to the process and culture used in addressing the potential adverse effects and opportunities (Lugusa & Moronge, 2016). The main question that every project manager should ask themselves is what problems they may encounter in the course of the project, their effect on the projects' implementation and how they can be avoided (Cervone, 2006). Similar study by Grau (2004) argues that the global environment in which Implementation of ERP projects operate is changing quickly, as is the very nature of the risk management function and the process for making decisions about risk. Lugusa and Moronge (2016) suggests four main areas of risk management including risk identification, analysis, response and finally risk control and monitoring. In risk identification, the project manager should establish what is and what might be in an effort to find the risks that are pertinent to the project.

According to Shahu, Pundir, and Ganapathy (2012), project managers should develop a risk identification checklist with regards to available historical information from previous projects or other knowledge sources. Managers should also carry out a risk analysis to determine the probability of a risk occurring and its impact on the project progress. By carrying out a risk probability, they will understand how likely the risk could occur and impact details the potential effects of the risk if it actually occurred. Monitoring and control of risks involve activities like monitoring risk triggers, and review and communication of risk status. According to Zwikael and Globerson (2006), weekly project status meeting is one of the most crucial tools in monitoring projects for risk. Risk management should be part of the agenda of every periodic status meeting. They will be in a better place to identify probable risks. The last bit in the risk management process is planning for risk response. Managers need to develop actions to reduce project risks and increase opportunities. Through a proper risk response plan, managers should prioritize the

risks and adjust the budget, resources and schedule accordingly to incorporate the developed actions.

A lack of a systematic way of managing project risks on the part of both contractors and owners displayed high tendencies of project failures among the construction projects in Chile (Serpella, Ferrada, Howard, & Rubio, 2013). Lack of proper risk management led to delays in the procurement process, delays in the release of funds, and also unforeseen changes in climate that caused the projects to either halt or be postponed to a later season. The project of choice should have been very well maintained, but has experienced uncertainties that needed the attention of the project team and has time allocation to carry out a risk management process. Having a risk management plan at the planning phase makes it less trouble free and much more rewarding. Trying to develop a risk management plan before doing the project plan can be much more difficult since the project is not well defined yet (Chapman & Ward, 2003).

2.4 Project Monitoring and Evaluation Process and Implementation of Enterprise Resource Planning Systems Projects

Monitoring and evaluation can be characterized as the continuous way by method for which partners get ordinary input on the advance being made toward accomplishing their objectives and goals while assessment is a thorough and autonomous assessment of either completed or progressing exercises to choose the degree to which they are accomplishing referred to destinations and adding to basic project portfolio management implementation (UNDP, 2019). Monitoring and evaluation was among the factors resulting to rural development project success (Barker & Pistrang, 2015).

Feedback is the most important aspect of monitoring and evaluation but is also the most neglected aspect. The main purpose of feedback is to link assessment findings to decision making processes, especially their planning process. There are different ways that are used to communicate the information of evaluation and the most commonly used include; review meetings, works on rural development project seminars; newsletters; and computer networking. There are a number of activities that have been identified as key to building capacity in monitoring and evaluation. There is a growing trend toward professionalization of Monitoring

and evaluation due to an exponential demand for high quality evaluations. As indicated by Taylor-Powell and Boyd (2017), this professionalism has been seen in activities designed to build individual knowledge, beliefs and skills in assessment. This could be the motivation which should be behind trainings at all levels in monitoring and evaluation cycle.

Training of individual in these factors is key, because evaluation competence might be depending on factors like knowledge, skills and attitudes of people concerning monitoring and evaluation (Njenga, 2017). Fullan (2014) argued that Monitoring and evaluation function ought to be seen as a collective responsibility in the organization. Another important aspect of monitoring and training team capacity is the concern of internal support structures that supports monitoring and evaluation activities, some organizations may lack appropriate logistical support to empower them perform efficient monitoring and evaluation data-gathering, data-entry and analysis (Dougla et al., 2016). An evaluation may also have more than one purpose; however it is essential for stakeholders to agree on the precedence purposes. Identifying stakeholders and making sure that they agree about the major purpose of an evaluation, is integral in order to figure out on the approach and methods to be used in carrying it out.

2.5 Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects

Employees are termed as the most valuable resources that are used to achieve any goals in any organization (Miller, 2004). Having employees working with an organization is not enough in implementing any project but rather the key ingredient is having a firmly committed workforce that is capable of turning challenges and hardships into successes. Structures are supposed to be put in place in an organization implementing an ERP project that will monitor and evaluate the level of commitment both at individual level and at the team level informing decision makers on the right decisions to be made (Wilson, 2004). Without adequate commitment by the project team, a delay in the entire project is experienced and this translates into stretching the allocated resources and ultimately the entire process of ERP project implementation is jeopardized (Johnson, 1995).

Incentives are critical in any project implementation especially in the case of ERP implementation where extra effort is a necessity and at times long working hours. Employees need to feel more appreciated and their contribution appreciated and giving those incentives is just one important way of achieving this. Changing negative perception of employees towards the entire concept of implementing ERP project and clearly communicating the benefits and importance of automating organization processes and procedures is as important as having the right employees in the project team. Employee commitment is supposed to be achieved in all levels of the organization's management hierarchy as good commitment in the high levels of an organization directly decode to high levels of commitment in the lower levels of the organization(Loonam and McDonagh 2005).High levels of commitment in implementing ERP projects from both the project team and the management translates to continuous realization of project milestones and attraction of more and adequate funding at various project phases leading to successful project implementation.

Proper and sequential coordination in executing ERP project implementation and outlined action items are achieved through clear employee roles which are brought about and reinforced by employee commitment at various levels (Huse, 2004). Loyalty advanced by employees to ERP project as well as high measure of energy ensures that implementation process is well designed and actionable tasks assigned sequentially matching talent and skills of the team members. This usually maximizes the synergy much needed to attain success in implementation of ERP projects (Gabrielsson, 2004). In order for ERP project implementation process to have a higher probability of success, perception subject of the employees in a project team should be evaluated and monitored to ensure that retrogressing energy is not experienced in the team and that the right perceptions ultimately contribute to synergizing collective effort of each and every employee in the organization.

2.6 Top Management Support and Implementation of Enterprise Resource Planning Systems Projects

Top management support is a vital requirement that has been researched on by scholars and researchers as a basic requirement for achieving success in ERP implementation. According to (Bingi et al. 1999), authorization of ERP project implementation as well as continuous support is

left in the hands of top officials in an organization tasked with making key decisions on behalf of the entity. Senior managers and directors in the organization should commit their own time to be part of the project and make efforts to give advisory and consultation services to ensure that the organizations mission is kept in force by the project as well as improve the entire organizations operations and strategies on achieving intended deliverables (Holland et al., 1999). Adequate materialistic resources committed for the project by top management should be supplemented by allocation of skilled and talented personnel who are ready to commit enough time and expertise in the project implementation (Roberts and Barrar 1992).

Advocating on the prioritized initiative and importance of ERP project by top management in an organization will create a synergy effect in the entire organization leading to commitment by every team member in supporting the project. Management of information is a key benefit of implementing ERP project but with the technological advancement, efficient allocation of resources is gaining favour as this is a major role for top management. This capability help ERP projects gain popularity amongst top management officials and command support which is very essential for successful implementation (Earl and Feeny 2004). Both the functionality aspect of ERP and strategic significance to an organization can be privileged through adequate support by the top management. On the other hand, failure to acquire a best designed ERP system, systematic project planning and lack of adequate requirements can be directly linked to minimal or no support from top management (Teo and Ang 1999). Documenting effective coordination and availability of effective communication channels in an organization, top management support in ERP project implementation is regarded as the basic requirement for both. Effective communication achieved through top management support is essential in informing the employees on importance of ERP projects to strategize future expansion and effectiveness of the organization (Loonam and McDonagh 2005).

Top management playing its oversight and management role should ensure a team is formed with members having the right knowledge and skills to take up the roles of implementing the new system. The project team should have the best talent in the organization and the capability to quickly grasp the technological principles used and more so be able to disseminate the knowledge to other employees. The principle of top management support supersedes the verbal

support of top ranking staff and translates to quality time commitment by them to be part of the project and ensuring the project propels in the right direction (Chen, 2001). The project team drawn to implement ERP projects normally has diverse groups of people and this creates an avenue for conflicts escalation. Some conflicts may jeopardize the entire project and need to be addressed by top management (Myerson, 2002). There is need to maintain close ties between the project team to ensure synergy is realized and this is tasked to top management that has the capability of harmoniously solving conflict (Mousseau,1998).

2.7 Theoretical Framework

This section discusses the theoretical foundation on which the study is anchored. The study was grounded on the theory of Agile Project Management and Information Systems Success Model.

2.7.1 Theory of Agile Project Management

This study is based on the theory of Agile Project Management which was developed in 1998 by proponents Robert D. Austin and Richard L. Nolan of Harvard Business School academics and IBM researcher Watts Humphrey (Plant and Willcocks, 2007). The theory stresses on flexibility in terms of the scope of work based on the new requirements in such a way that it is realistic for the planners to act on in the short term in order to deliver early value and therefore mitigate risk for the entire project. It also postulates the breaking down the project processes into smaller units, making the team members to work closely together and with clear vision about their responsibilities and roles in a project; frequent reassessment of the work done within the project cycle to make the final product better; and constant and frequent cooperation with the clients or stakeholders to consider their requirements and suggestions which is key to the organizational learning required to iteratively and incrementally produce the best possible value yielded in projects (Kwak, 2002). Agile project management theory is therefore demonstrated as a project delivery approach, which emphasizes the integration of project stakeholders, project systems, processes, structures and practices to ensure success. Through agile project management talents, resources, insights, capacities and expertise of project partners combined would normally determine the success of projects.

The agile project management theory is relevant to this study since it outlines project management principles that would ensure success in projects. The theory principles ensure that testing is integrated during the project cycle, which means that there are regular checkups and monitoring to see that the ultimate goal of the project is achieved; project customers are engaged and involved throughout the project leading to satisfaction; and techniques that eliminate the chances of absolute project failure are employed which would therefore lead to project success. This study seeks to prove and recommend the combination of these principles to demonstrate the important factors that would influence livelihood project success.

2.7.2 Information Systems Success Model

This model was created and advanced by (Delone and McLean, 2003) to assess success about an Information System and as an urgency for making comparisons between several measures (Raija, 2011). The model highlights three main pillars for an information systems success. These include qualities of Service, System and Information. Delone and McLean (2003) further added reaction loops which are the intentions to use, user satisfaction which gives net benefits of the System. (See figure 1).

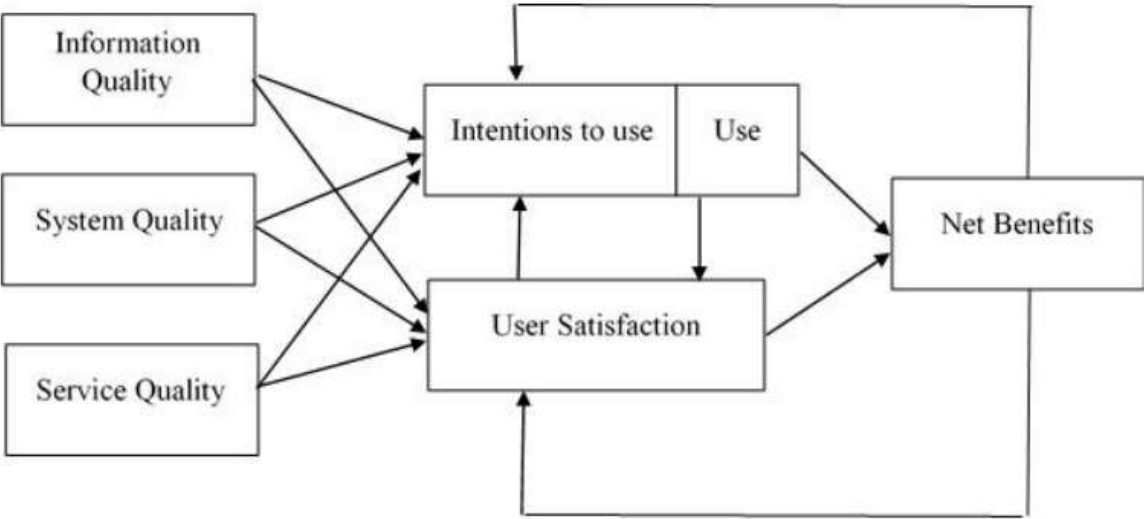


Figure 2.1: Updated Information Systems Success Model

This model has been used widely to measure success. The independent elements that influence an information system success include system quality, service quality information quality, which in turn affects the intention to use, user satisfaction and the net benefits in general resulting from the system implementation. The degree in which information is obtained from systems meeting the requirement and expectation of user is known as information quality. This includes how accurate, concise, reliable, timely, current and complete information is. Systems quality relates to performance and functionality of systems that involves the response time, ease of use, flexibility of the system and reliability. Service quality relates to how the convenience and reliability of the service and business process that uses the information system have improved. The Use is the manner in which the customers utilize the capabilities of an information system. User satisfaction refers to services of information system surpassing user expectation. Net value is how information systems contribute to an individual, organizations, society as a whole, such as improved decision making, higher profits, productivity and economic development.

The ERP system is assessed by quality of information, systems and services. The Vendors play a critical role in ensuring implementation success in the organization. As cited by Raija (2011), the information quality includes the data which is entered into the system, which the vendors have a major role in importing from legacy systems tone which should be accurate to avoid errors. System quality is the applications that are used to perform the functions of the organization from the requirements given by the organization and which are designed and coded by the vendors, this should be positive to achieve quality. Service quality is the support that is given by the vendors through the implementation of the system.

2.8. Conceptual Framework

A conceptual framework explains the broad concepts and values from applicable fields of enquiry, to build a succeeding arrangement of literature (Dunn, 2010). Conceptual frameworks are used to explain how the explanatory variables affect the explained variable. The focus of the study is to explore the project management practices on successful implementation of ERP Systems in University of Nairobi, taking into consideration the relationship between the dependent and independent variables

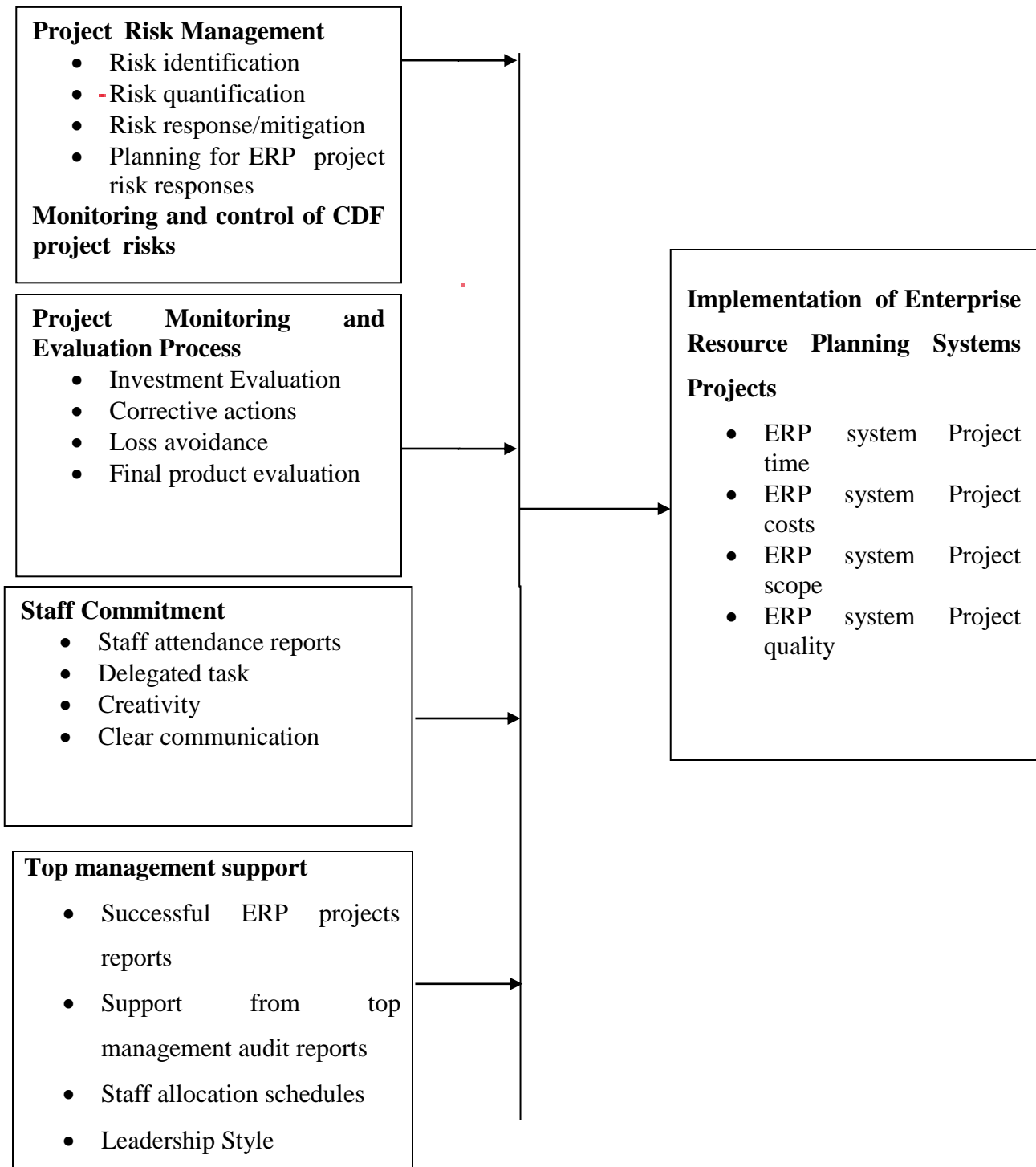


Figure 2.2: Conceptual Framework

2.9 Explanation of the Relationships in the Conceptual Framework

Project risk; can be classified into the following nine categories; customer associated, contract, project requirements, business practice expertise, work estimates, project constraints, complexity and scale deliverables, and contractors. Innovation for human development in project implementation requires risk-taking. Project implementers should know that risk is also positive- there is an upside and a downside. It is therefore important for an organization to dare to succeed and dare to fail.

Project monitoring and evaluation; is a powerful tool to help project implementers to make informed decision making allocate fund to facilitate performance. This tool helps Government, firms and Non-Governmental Organizations to track progress and help to provide feedback to enable reporting based on evidence.

Staff commitment; internal organizational factors go a long way in determining the success of automating processes and procedures in an organization. Employees are termed as the most valuable resources that are used to achieve any goals in any organization.

Top management support; is a vital requirement that has been researched on by scholars and researchers as a basic requirement for achieving success in ERP implementation. Senior managers and directors in the organization should commit their own time to be part of the project and make efforts to give advisory and consultation services to ensure that the organizations mission is kept in force by the project as well as improve the entire organizations.

If all the four variables will be in place, it is anticipated that there will be Implementation of ERP systems project. The ERP system is assessed by quality of information, systems and services. The Vendors play a critical role in ensuring implementation success in the organization.

2.10 Gaps in literature reviewed

The following Table 2.1 presents a summary of gaps in the literature reviewed.

Table 2.1: Summary Gaps in Literature

Author	Area of study	Research Methodology	Findings	Gaps	Filling the research gaps
BooYoung Chung (2007)	To analyze ERP implementation success factors associated with the success of ERP systems in engineering and construction firms.	Descriptive survey	Supported the hypothesis that perceived usefulness and Intention to use are significant when it comes to quality as the main predictors of ERP benefits	Impact of current trend of ERP implementation approach.	The study will focus on ERP Implementation
By Anees Ara, Abdullah S.,Al-Mudimigh (2011)	To determine the role and Impact of Project Management in ERP implementation life cycle	Literatures review of publications	Project management plays a key role and hence a proper emphasis must be placed in selecting the project team.	.ERP implementation through web 2.0 technologies	Will focus on Descriptive survey
ShafqatAli Shad, Enhong Chen and Faisal Malik Faisal Azeem (2002)	To examine Performance Enhancement technical ERP Projects in a Telecom Public Sector Organization of Pakistan.	Exploratory study, literature review and case study	Business process engineering had more influence on performance compared to IT infrastructure	Need to explore implementation of ERP.	Will explore implementation of ERP.
Garg(2010)	To identify and validate the critical success factors for ensuring successful ERP system implementation in context to retail industry in India	Exploratory study data were collected via a survey questionnaire	Top management support and project management were significant, while, product selection was significant to some extent	ERP system selection	Will use Descriptive analysis and context will be Kenya.

Kansal (2007),Dagher and Kuzic(2011)	To establish the influence of users' involvement in ERP system project.	Literature review of publications	Identify ERP system users and the need to involve them in all stages of the project	Determining the role of ERP system user in ERP system life cycle	Will use descriptive analysis and will focus on implementation of ERP
Yusuf et al.,(2004), Kansal(2007)	Top management Support	Survey method	Identify key leaders to support the ERP project, motivate, provide resources and make decision	Role of top management support on project manager selection	Implementation of ERP.
Grau (2004)	Influence of global environment on projects operation	Descriptive survey	Global environment risks adversely affects projects operation	Determining the role of ERP system user in ERP system life cycle	Will use descriptive analysis and will focus on implementation of ERP
Cooper, Grey, Raymond and Walker, (2005),	Sources of project risk.	Secondary Data	Project risk depends upon the project team understanding the sources of variation in projects	ERP system selection	Will use Descriptive analysis and context will be Kenya.
Bracht and Kingsbury (2000)	Factors influencing Stakeholders" participation in capacity development projects on project success in Canada	Used secondary data	. Low participation level in decision making too, an issue the researchers observe to threaten sustainability	Need to explore implementation of ERP.	Will use descriptive analysis and will focus on implementation of ERP

2.11 Summary of Literature Reviewed

Based on literature review, there is no doubt that ERP System solutions are revolutionizing the way business is done and quality products and services offered. However, research on Project management practices on Implementation of ERP system project continue to experience challenges and fail to deliver on the business value as anticipated. Several studies have established that ERP systems project is likely to meet its objectives when user participation is high and when users have genuine prospects connecting to the scope of the project and system functionality (Bonner 2000).

Other researchers have written about ERP systems implementation accomplishment and letdown with much emphasis on business tactics, technology and organizational fit (Hong & Kim, 2002). Existing literature demonstrates lack or limited focus on areas such as; ERP system selection process, and project leadership and governance in ERP system project implementation, especially in light of developing countries. Despite several studies having been carried out on top management support and its significance to ERP system project success, few of them have looked at the same in light of project leadership, though most researchers note that project management is among the most significant fundamentals in the conveyance of fruitful projects (Müller and Turner, 2010; Sirika, 2008).

Though several studies have been done on the influence of leadership styles and competencies on implementation of ERP systems, only a few attempts have been made to establish the relationship between Project management practices and ERP system project implementation. Building on the competency school, this study seek to shed light on the project risk management, project monitoring and evaluation process, staff commitment and top management supports and ERP System implementation as a moderating factor will be government. As Bass (1996) notes, project management practices have a direct influence on the implementation of ERP systems.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents information on the methods and techniques used in the study. In summary, this chapter encompasses the research design, the target population, the sample size and sampling procedures, data collection and analysis methods, pilot testing, validity and the reliability of the instrument to be used. In addition, this chapter contains the ethical issues addressed in the study and the operational definition of the study's variables.

3.2 Research Design

A research design denotes a comprehensive approaches or ways that are used by the researcher in collecting and analyzing data regarding a specific topic and presenting the findings in a more understandable and reasonable manner (Rahi, 2017). The researcher therefore used a descriptive research design that is aimed at attaining the study's objectives. According to Sumathi, Ahamed and Karthikeyan (2018), the purpose of a descriptive research design is to accurately and systematically describe a scenario or area of interest. A descriptive research design therefore efforts for determining the phenomenon status that the researcher is investigating.

3.3 Target Population

Orodho and Kombo (2002) assert that a study population is the totality of cases that fit in to the designated specifications as required by a research. According to the University of Nairobi Human Resource Department, there are 869 support staff on various service department that have implemented ERP. There are 12 departments that have implemented ERP. In conducting this study, the target population was stratified into the twelve various administration of University of Nairobi which is depicted in Table 3.1.

Table 3.1: Study Population

Administration/Department	Support Staff
Administration	59
Directorate Of Corporate Affairs	14
Directors Office - Graduate School	30
Directorate Of Quality Assurance	3
Director's Office – Swa	16
Finance	163
Information & Communication Technology Centre	308
Internal Audit	27
Library And Information Services	138
Office Of Career Services	5
Procurement	41
Transport	65
Total	869

3.4 Sample Size and Sampling Procedure

This section demonstrates the sample size and the sampling procedures that will be adopted for the study.

3.4.1 Sample Size

Sample size denotes the portion of the study's population. It describes as the process of choosing and analyzing a comparatively small number of people, events or objects in order to discover about the entire population. (Malterud, Siersma & Guassora, 2016). Yamane (1969) equation for sample size determination was used. The equation is presented as:

$$n = \frac{N}{1 + Ne^2}$$

Where: n = Sample size

N = Population size (869)

e = Sampling error (5%)

869/1+ 869(0.0025)

N=274 Respondents

3.4.2 Sampling Procedure

The survey employed a stratified and simple random sampling technique, whereby a sample was drawn from each stratum. Stratified simple random sampling is a sampling procedure where each item in the population stratum has an even chance and likelihood of being selected in the sample. The sampling technique is also referred as a method of chances (Kothari, 2004).

Therefore, when we use 274 total sample sizes, we get the following sample size for each stratum by utilizing the proportionate stratification estimation method developed by Chin-Shun et al. (1996). The proportionate stratification estimation method is as follows;

$$nh = \left(\frac{Nh}{N} \right) * n$$

Where:

nh = the sample size of stratum h,

Nh= the population size of the stratum h

N = total population size, and

n= total sample size.

The ideal sample size derived for the study is presented in Table 3.2.

Table 3.2: Study Sample

Administration/Department	Support Staff	Sample of Support Staff
Administration	59	19
Directorate Of Corporate Affairs	14	4
Directors Office - Graduate School	30	10
Directorate Of Quality Assurance	3	1
Director's Office - Swa	16	5
Finance	163	51
Information & Communication Technology Centre	308	97
Internal Audit	27	9
Library And Information Services	138	44
Office Of Career Services	5	2
Procurement	41	13
Transport	65	21
Total	869	274

3.5 Data Collection Instruments

The method of data collection that was used was primary methods. The researcher trained three research assistants who assisted on data collection. The research assistants were required to have good communication skills and the ability to approach and engage the respondents while administering questionnaires to the respondents. Tryon (2000) refers to a questionnaire as a form that consist of questions or empty tables that are completed by the interviewer through filling them following obtaining of information from the respondents or the respondents filling the forms all together. The questionnaires was administered using real-time filling in method and drop and collect later method.

3.5.1 Pilot Testing of the Instruments

As indicated by Kothari (2013), pilot testing of research instruments aims at ensuring that there are no ambiguous and complex items in the research instruments and that the items can be understood by respondents. The pilot test enabled the assessment of the ease of use of the research instrument during the actual study. Any ambiguous, sensitive, complex or biased items

in the instruments was identified and modified or omitted in the research instruments that was applied for the final study. To conduct the pilots study 10 respondents from Kenyatta University. Was selected from the target population, the respondents had similar characteristics as those of the respondents sampled for the actual study contributed in the pilot study, however, the 10 respondents will not contribute in the actual study.

3.5.2 Validity of the Instruments

Validity denotes to the degree to which the research instruments measures what are they intended to measure (Ramadani, Supahar & Rosana, 2017). Validity is aimed at ensuring that the data is accurate and reliable. This study will therefore use content validity so as to test the instruments and ensure that they actually measure what they are supposed to. Content validity refers to how well a measurement instrument meets the different dimensions of the particular concept in question (Kovacic, 2018). In ensuring content validity, the supervisor was used to test the formulated concepts in the questionnaire and assess if they are indeed measuring what they are expected.

3.5.3 Reliability of Research Instruments

Rendering to Sekeann & Bougie (2010), reliability denotes the uniformity of measurement. It is enhanced by having many related components on a measure. Cronbach's Alpha will be used in this study in establishing the research instruments. Cronbach's alpha is applied in measuring internal consistency, that is, the manner in which a set of items are related to a group. A "high" value of alpha is regularly utilized as proof that the items measure a basic (or inactive) construct. Reliability with a predetermined value of 0.7 was acceptable since Cronbach's Alpha values higher than 0.75 indicates the presence of reliability. On the other hand, values below 0.7 indicate lack of research instrument reliability

3.6 Data Collection Procedures

The method of data collection that was used was primary methods. The researcher trained three research assistants who will assist on data collection. The research assistants was required to have good communication skills and the ability to approach and engage the respondents while administering questionnaires to the respondents. Tryon (2000) refers to a questionnaire as a form

that consist of questions or empty tables that are completed by the interviewer through filling them following obtaining of information from the respondents or the respondents filling the forms all together. The questionnaires were administered using real-time filling in method and drop and collect later method. The researcher was applied a drop and pick later technique in administering the questionnaires.

3.7 Data Analysis Techniques

The data collected was reviewed for completeness and consistency prior to inputting it in the SPSS for analysis. Descriptive statistics comprising of means and S.D was used by the study in analyzing the findings. The reason why descriptive statics are chosen is that it makes it much easier to display the distribution or count of individual population scores for a particular variable. The results of the analysis will be presented in tables, pie charts, frequency distribution and graphs.

In order to establish the independent and dependent variables relationship, the researcher conducted inferential statistics comprising of Correlation analysis to establish the extent of relationship amongst the variables. Pearson Moment of Correlation was used to aid in establishing the strength and direction of relation whereas.

3.8 Ethical Considerations

Prior to conducting the field work, an introductory letter sought by the investigator from the University of Nairobi, further, an application for research consent from the NACOSTI was done. While undertaking the study, the investigator upheld confidentiality throughout. The respondents' consent obtained before they participate in the study and any respondent who were not be willing to give detailed information was not be coerced to do so. The respondents' consent sought, their participation was voluntary and they were reassured that the study is for educational purposes. Further, the questionnaires were anonymous so the respondents were not disclose their personal information

3.9 Operationalization of Variables

The variables are operationalized as depicted in Table 3.3 it presents the measurement scales for each variable under study, data collection tool that will be embraced and the data analysis approaches that will be utilized in analyzing each variable.

Table 3.3: Operationalization Framework

Objectives	Type of Variable	Indicator	Measurement of Indicator	Scale	Data Collection Instrument	Tool of Analysis	Data Analysis
To ascertain implementation of enterprise resource planning systems projects	Dependent	implementation of enterprise resource planning systems projects	ERP system Project time ERP system Project costs ERP system Project scope ERP system Project quality	Ordinal Interval Ordinal	Questionnaire	Percentage Mean score	Descriptive Inferential
To examine the influence of project risk management on	Independent	Project risk management	Risk identification Risk quantification	Ordinal Interval Ordinal	Questionnaire	Percentage Mean score	Descriptive Inferential

implementation of ERP Systems in University of Nairobi			Risk response/mitigation Planning for ERP project risk responses				
To determine the influence of project monitoring and Evaluation Process on implementation of ERP Systems in University of Nairobi	Independent	Project monitoring and Evaluation Process	Investment Evaluation Corrective actions Loss avoidance Final product evaluation	Ordinal Interval Ordinal	Questionnaire	Percentage Mean score	Descriptive Inferential
To establish the influence of staff	Independent	Staff commitment	Communication structures	Ordinal Interval Ordinal	Questionnaire	Percentage Mean score	Descriptive Inferential

commitment on implementation of ERP Systems in University of Nairobi			Procedures of communication Quality of information Timeliness of information				
To examine the effect of top management support on implementation of ERP Systems in University of Nairobi	Independent	top management support	Public participation by stakeholders Learning by stakeholders Frequency of participation Impartiality by stakeholders	Ordinal Interval Ordinal	Questionnaire		Descriptive Inferential

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION, INTERPRETATION, AND DISCUSSION

4.1 Introduction

This chapter describes the interpretation and demonstration of the findings found from the field. The chapter describes the background information of the interviewed respondents, outcomes of the study based on the goals of the research. To discuss the results, descriptive and inferential statistics has been applied. The data analysis, presentation, interpretation, and discussion were aligned to the study's objectives.

4.2 Questionnaire Return Rate

This section describes the questionnaire return rates and the percentage as indicated in Table 4.1.

Table 4.1: Distribution of Questionnaire

Response Rate	Frequency	Percentage
Returned	196	71.53
Not Returned	78	28.47
Total	274	100

From the data collected, out of the 274 questionnaire administered 196 were fully completed and returned, which represents 71.53% response rate, this response rate of is very good for the above study. For a researcher to make decision from a study response rate is very critical. Jack, (2008), suggests that for a survey research proposed to exemplify the entire population, a response rate of more or equal to 80% is required.

4.3 Demographic of Respondents By age group, gender, education level and length of service.

The respondents were asked to indicate their age. Their responses were presented in Table 4.2.

Table 4.2 : Age of the Respondents

Years	Frequency	Percentage
18-25 years	46	23.46
25 - 35 years	30	15.3
36 – 50 years	70	35.71
51 years and above	50	25.51
Total	196	100

From Table 4.2, the study found that 35.71% of the respondents were between age 36-50 years, followed by above 51 years at 25.51%, 18-25 years were at 23.46% and lastly between 25-35 years were at 15.3%. This was justified by the fact that most employees who work in university of Nairobi are above 36 years of age.

The respondents were requested to indicate their gender. Their responses were as shown in Table 4.3.

Table 4.3: Gender of the Respondent

Gender	Frequency	Percentage
Male	130	66.3
Female	66	33.7
Total	196	100.0

From Table 4.3, showed that majority of the respondents were male as shown by 66.3% while the rest were female as shown by 33.7%. It was found out that the gender ratio was almost the same although the University of Nairobi is dominated by male compared to female. This shows that the researcher considered all respondents irrespective of the gender to obtain reliable information concerning the subject under study.

The respondents were asked to indicate their highest level of education. Their responses were presented in Table 4.4.

Table 4.4: Respondents Academic Qualifications

Academic Qualifications	Frequency	Percentage
College Diploma	40	20.4
Bachelor's Degree	56	28.5
Post Graduate Degree	100	51.0
Total	196	100.0

From Table 4.4, the study found that 51.0% of the respondents had a post graduate degree and degree holders were 28.5%. Further among the respondents there were those who had diploma at 20.4%. This also indicates that majority of the employees therefore appreciated to essence of the research instrument and likely provided credible information.

The respondents were asked to indicate the length of service with the University. Their responses were presented in Table 4.5

Table 4.5: Respondent's number of years worked

Years	Frequency	Percentage
Less than 1 year	15	7.653
1-2 years	25	12.80
3-5 years	45	22.95
6-10 years	51	26.02
Over 10 years	60	30.61
Total	196	100.0

From Table 4.5, majority of the respondents, 30.61%, having been with the University for over 10 years, followed by 26.025% of the employees who have being working with the University between 6-10 years, 22.95% of the employees have worked for the University between 3-5 years, 12.80% of the employees have worked between 1-2 years and lastly 7.65% employees worked less than 1 year. This shows that most of the respondents had worked for University s more than five years and above hence respondents were having reliable and accurate information on the subject under study.

4.4 Project Risk Management and Implementation of Enterprise Resource Planning Systems Projects

The first objective was determining the influence of the influence of project risk management on implementation of ERP Systems in University of Nairobi. To answer this objective the respondents were asked to indicate their level of agreement to given statements using a likert scale of 1 -5.

Table 4.6: Project Risk Management and Implementation of Enterprise Resource Planning Systems Projects

Statement	1	2	3	4	5	Mean	SDV
Risk identification	(21)10.71 %	(15) 7.65%	(55)28.06 %	(83)42.35%	(22)11.22 %	3.36	1.12 1
Risk quantification	(15)7.65%	(12)6.12 %	(18)9.18%	(94)47.96%	(57)29.08 %	3.85	1.14 0
Risk response/mitigation	(21)10.71 %	(9)4.59%	(74)37.76 %	(71)36.22%	(21)10.71 %	3.32	1.08 2
Project risk responses	(3)1.53%	(6)3.06%	(32)16.33 %	(103)52.55 %	(52)26.53 %	3.99	0.83 2
Funds to mitigate risks	(3)1.53%	(6)3.06%	(16)8.16%	(87)44.39%	(84)42.86 %	4.24	0.84 6
Composite Mean and S.D						3.75	1.00

From table 4.6, shows that out of 196 respondents who participated in the study, 21(10.7%) strongly agreed that there was risk identification, 15(7.65%) agreed, 55(28.06%) were neutral, 83(42.35%) disagreed, while 22(11.22%) strongly disagreed. This statement had a mean score of 3.642 and S.Dof 0.923 which was lower than the composite mean of 3.75 and S.Dof 1.00. This implies that the above statement does not influence s implementation of Enterprise Resource Planning Systems Projects. Therefore there is need for this to be improved or reviewed. On statement that Risk quantification 15,(7.65%) strongly agreed with the statement, 12(6.12%) agreed, 18(9.18%) were neutral, 94(47.96%) disagreed, while 57(29.08%) strongly disagree with the statement and it had a mean score of 3.89 and S.Dof 0.844 which was higher than composite mean of 3.75 and S.D of 1.00. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively. On statement that Planning for ERP project risk responses, 21(10.71%) strongly agreed with the statement, 9(4.59%) agreed, 74(37.76%) were neutral, 21(10.72%) disagreed, while 71(36.22%) strongly disagree with the statement and it had a mean score of 3.32 and S.Dof 0 1.082 which was lower than composite mean of 3.75 and S.Dof 1.00. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects negatively. Therefore there is need for improvement. On statement that Planning for ERP project risk responses, 3(1.53%) strongly agreed with the statement, 6(3.06%) agreed, 32(16.3%) were neutral, 103(52.55%) disagreed, while 52(26.53%) strongly disagree with the statement and it had a mean score of 3.99 and S.Dof 0.832 which was higher than composite mean of 3.69 and S.Dof 1.140. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively. On statement that Risk analysis leads to a program that generates enough funds to mitigate risks, 3(1.53%) strongly agreed with the statement, 6(3.06%) agreed, 16(8.16%) were neutral, 87(44.39%) disagreed, while 84(42.86%) strongly disagree with the statement and it had a mean score of 4.24 and S.Dof 0.846 which was higher than composite mean of 3.69 and S.Dof 1.140. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively.

4.5 Project Monitoring and Evaluation Process and Implementation of Enterprise Resource Planning Systems Projects

The second objective was determining the influence of Project monitoring and Evaluation Process on implementation of ERP Systems in University of Nairobi. To answer this objective the respondents were asked to indicate their level of agreement to given statements using a likert scale of 1 -5. The study findings were as discussed in table 4.7.

From table 4.7, shows that out of 196 respondents who participated in the study, 6(3.06%) strongly agreed that investment evaluation, 45(22.96%) agreed, 62(31.63%) were neutral, 64(32.65%) disagreed, while 19(9.69%) strongly disagreed that investment evaluation. This statement had a mean score of 3.23 and S.Dof 1.00 which was lower than the composite mean of 3.37 and S.Dof 1.36. This implies that the above statement does not influence implementation of Enterprise Resource Planning Systems Projects. On statement that corrective actions, 3(1.53%) strongly agreed with the statement, 27(13.78%) agreed, 66(33.67%) were neutral, 76(38.78%) disagreed, while 24(12.24%) strongly disagree with the statement and it had a mean score of 3.46 and S.Dof 0.93 which was higher than composite mean of 3.37 and S.Dof 1.36. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively. Programs involving stakeholder, 9(4.59%) strongly agreed with the statement, 39(19.9%) agreed, 67(34.18%) were neutral, 56(28.57%) disagreed, while 35(17.76%) strongly disagree with the statement and it had a mean score of 3.25 and S.Dof 1.05 which was lower than composite mean of 3.37 and S.Dof 1.36. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects negatively. Therefore there is room for improvement.

Table 4.7: Project Monitoring and Evaluation Process and Implementation of Enterprise Resource Planning Systems Projects

Statement	1	2	3	4	5	Mean	SD
Investment Evaluation	(6)3.06%	(45)22.96%	(62)31.63%	(64)32.65%	(19)9.69%	3.23	1.00
Corrective actions	(3)1.53%	(27)13.78%	(66)33.67%	(76)38.78%	(24)12.24%	3.46	0.93
Programs involving stakeholder	(9)4.59%	(39)19.9%	(67)34.18%	(56)28.57%	(25)12.76%	3.25	1.05
Loss avoidance	(15)7.65%	(21)10.71%	(37)18.88%	(105)53.57%	(15)7.65%	3.47	1.08
Plan development forums	(12)6.12%	(27)13.78%	(50)25.51%	(77)39.29%	(27)13.78%	3.45	1.12
Composite mean and S.D						3.37	1.03

On the statement loss avoidance, 15(7.65%) strongly agreed with the statement, 21(10.71%) agreed, 37(18.88%) were neutral, 105(53.57%) disagreed, while 15(7.65%) strongly disagree with the statement and it had a mean score of 3.47 and S.Dof 1.08 which was higher than composite mean of 3.37 and S.Dof 1.36. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively. Plan development forums, 12(6.12%) strongly agreed with the statement, 27(13.78%) agreed, 50(25.51%) were neutral, 77(39.91%) disagreed, while 27(13.78%) strongly disagree with the statement and it had a mean score of 3.45 and S.Dof 1.12 which was higher than composite mean of 3.37 and S.Dof 1.36. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively.

4.6 Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects

The third objective was determining the influence of staff commitment on implementation of ERP Systems in University of Nairobi. To answer this objective the respondents were asked to indicate their level of agreement to given statements using a likert scale of 1 -5. The study findings were as discussed in table 4.8.

From table 4.8, shows that out of 196 respondents who participated in the study, 9(4.59%) strongly agreed that staff attendance reports, 34(17.35%) agreed, 18(9.18%) were neutral, 70(35.71%) disagreed, while 65(33.16%) strongly disagreed. This statement had a mean score of 3.76 and S.Dof 1.216 which was higher than the composite mean of 3.46 and S.Dof 1.153. This implies that the above statement does influence implementation of Enterprise Resource Planning Systems Projects.

Table 4.8: Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects

Statement	1	2	3	4	5	Mean	SDV
Staff attendance reports	(9)4.59%	(34)17.35%	(18)9.18%	(70)35.71%	(65)33.16%	3.76	1.216
Staff Leaders clearly define job roles and delegated tasks.	(21)10.71%	(30)15.31%	(28)14.29%	(82)41.84%	(35)17.86%	3.41	1.247
Staff demonstrates creativity and analytical skills.	(27)13.78%	(42)21.43%	(41)20.92%	(67)34.18%	(19)9.69%	3.05	1.225
Staff leaders encourages the team to be creative and innovative	(6)3.06%	(36)18.37%	(58)29.59%	(84)42.86%	(12)6.12%	3.31	0.944
Clear communication	(12)6.12%	(18)9.18%	(28)14.29%	(84)42.86%	(54)27.55%	3.77	1.135
Composite mean and S.D						3.46	1.153

On statement that staff leaders clearly define job roles and delegated tasks, 21(10.71%) strongly agreed with the statement, 30(15.31%) agreed, 28(14.2%) were neutral, 82(41.84%) disagreed, while 35(17.86%) strongly disagree with the statement and it had a mean score of 3.41 and S.Dof 1.247 which was lower than composite mean of 3.46 and S.Dof 1.153. This implies the above statement influences influence implementation of Enterprise Resource Planning Systems Projects negatively. This means that there is need for improvement. Staff demonstrates creativity and analytical skills, 27(13.78%) strongly agreed with the statement, 42(21.43%) agreed, 41(20.9%)

were neutral, 67(34.18%) disagreed, while 19(9.69%) strongly disagree with the statement and it had a mean score of 3.05 and S.Dof 1.225 which was lower than composite mean of 3.46 and S.Dof 1.153. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects negatively. This means that there is need for improvement. On statement that Staff leaders encourages the team to be creative and innovative, 6(3.06%) strongly agreed with the statement, 36(18.71%) agreed, 58(29.5%) were neutral, 84(42.86%) disagreed, while 12(6.12%) strongly disagree with the statement and it had a mean score of 3.31 and S.Dof 0.944 which was lower than composite mean of 3.46 and S.Dof 1.153. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects negatively. This means that there is need for improvement.

Clear communication, 12(6.12%) strongly agreed with the statement, 18(9.18%) agreed, 28(14.2%) were neutral, 84(42.86%) disagreed, while 54(27.55%) strongly disagree with the statement and it had a mean score of 3.77 and S.Dof 1.135 which was higher than composite mean of 3.46 and S.Dof 1.153. This implies the above statement influences implementation of Enterprise Resource Planning Systems Projects positively.

4.7 Top Management Support and Implementation of Enterprise Resource Planning Systems Projects

The fourth objective was to examine the effect of top management support on implementation of ERP Systems in University of Nairobi. To answer this objective the respondents were asked to indicate their level of agreement to given statements using a likert scale of 1 -5. The study findings were as discussed in table 4.9.

From table 4.9, shows that out of 196 respondents who participated in the study, (0.0%) strongly agreed that successful ERP projects reports, 3(1.53%) agreed, 18(9.18%) were neutral, 80(40.82%) disagreed, while 95(48.4%) strongly disagreed. This statement had a mean score of 4.36 and S.Dof 0.714 which was higher than the composite mean of 3.59 and S.Dof 1.035. This implies that the above statement does influence implementation of Enterprise Resource Planning Systems Projects.

Table 4.9 Top Management Support and Implementation of Enterprise Resource Planning Systems Projects

Statement	1	2	3	4	5	Mean	SDV
Successful ERP projects reports	0.0%	(3)1.53%	(18)9.18%	(80)40.82%	(95)48.47%	4.36	0.714
Support from top management audit reports	(18)9.18%	(21)10.71%	(52)26.53%	(73)37.24%	(32)16.33%	3.41	1.158
Staff allocation schedules	(24)12.24%	(27)13.78%	(51)26.02%	(72)36.73%	(22)11.22%	3.21	1.186
Leadership Style	(37)18.88%	(42)21.43%	(49)25%	(25)12.76%	(43)21.94%	2.97	1.409
Managing societal demands and Motivation	0.0%	(6)3.06%	(31)15.82%	(116)59.18%	(43)21.94%	4.00	0.709
Composite mean and S.D						3.59	1.035

On statement that support from top management audit reports, 18(9.18%) strongly agreed with the statement, 21(10.71%) agreed, 52(26.53%) were neutral, 73(37.24%) disagreed, while 32(16.3%) strongly disagree with the statement and it had a mean score of 3.41 and S.Dof 1.158 which was lower than composite mean of 3.59 and S.Dof 1.035. Therefore there is need for improvement, 24(12.24%) strongly agreed with the statement, 27(13.78%) agreed, 51(26.02%) were neutral, 72(36.73%) disagreed, while 22(11.2%) strongly disagree with the statement and it had a mean score of 3.21 and S.Dof 1.158 which was lower than composite mean of 3.59 and

S.Dof 1.035. Therefore there is need for improvement for the above statement. On statement that leadership style, 37(18.88%) strongly agreed with the statement, 42(21.43%) agreed, 49(25%) were neutral, 43(21.9%) disagreed, while 32(16.3%) strongly disagree with the statement and it had a mean score of 2.97 and S.Dof 1.409 which was lower than composite mean of 3.59 and S.Dof 1.035. Therefore there is need for improvement. On statement that managing societal demands and motivation, (0.0%) strongly agreed with the statement, 6(3.06%) agreed, 31(15.82%) were neutral, 116(59.18%) disagreed, while 43(21.9%) strongly disagree with the statement and it had a mean score of 4.00 and S.Dof 0.709 which was higher than composite mean of 3.59 and S.Dof 1.035.

4.8 Implementation of Enterprise Resource Planning Systems Projects

Implementation of Enterprise Resource Planning Systems Projects was the dependent variable. To answer this objective the respondents were asked to indicate their level of agreement to given statements using a likert scale of 1 -5. The study findings were as discussed in table 4.10.

From table 4.10, shows that out of 196 respondents who participated in the study, 18(9.18%) strongly agreed that ERP System project was completed within the time schedule, 21(10.71%) agreed, 60(30.61%) were neutral, 66(33.67%) disagreed, while 31(15.82%) strongly disagreed. This statement had a mean score of 3.36 and S.Dof 1.14 which was lower than the composite mean of 3.58 and S.Dof 1.08. This implies that the above statement does influence implementation of Enterprise Resource Planning Systems Projects.

On statement that the ERP System adaption has led to reduced operational costs, 18(9.18%) strongly agreed with the statement, 40(20.41%) agreed, 52(26.53%) were neutral, 65(33.16%) disagreed, while 21(10.71%) strongly disagree with the statement and it had a mean score of 3.16 and S.Dof 1.14 which was lower than composite mean of 3.58 and S.Dof 1.08. This implies that the above statement does influence implementation of Enterprise Resource Planning Systems Projects. Therefore there is need for improvement.

Table 4.10: Implementation of Enterprise Resource Planning Systems Projects

Statement	1	2	3	4	5	Mean	SDV
ERP System project completed within time	(18)9.18%	(21)10.71%	(60)30.61%	(66)33.67%	(31)15.82%	3.36	1.14
ERP System adaption has led to reduced operational costs	(18)9.18%	(40)20.41%	(52)26.53%	(65)33.16%	(21)10.71%	3.16	1.14
ERP System project achieved what was intended	(6)3.06%	(18)9.18%	(13)6.63%	(88)44.9%	(71)36.22%	4.02	1.03
The information provided by the information system is accurate and is free from errors	(6)3.06%	(12)6.12%	(25)12.76%	(97)49.49%	(56)28.57%	3.94	0.967
Information system is available and flexible to be used	(9)4.59%	(47)23.98%	(24)12.24%	(82)41.84%	(34)17.35%	3.43	1.16
Composite mean and S.D						3.58	1.08

On statement that ERP System project achieved what was intended, 6(3.06%) strongly agreed with the statement, 18(9.18%) agreed, 13(6.63%) were neutral, 88(44.9%) disagreed, while 71(36.22%) strongly disagree with the statement and it had a mean score of 4.02 and S.Dof 1.03 which was higher than composite mean of 3.58 and S.Dof 1.08. This implies that the above statement does not influence implementation of Enterprise Resource Planning Systems Projects. Therefore, there is need for improvement.

The information provided by the information system is accurate and is free from errors, 6(3.06%) strongly agreed with the statement, 12(6.12%) agreed, 25(12.76%) were neutral, 97(28.57%) disagreed, while 56(28.57%) strongly disagree with the statement and it had a mean score of 3.94 and S.Dof 0.967 which was higher than composite mean of 3.58 and S.Dof 1.08. This implies that the above statement influence implementation of Enterprise Resource Planning Systems Projects.

On the statement, i find the information system is available and flexible to be used, 6(3.06%) strongly agreed with the statement, 12(6.12%) agreed, 25(12.76%) were neutral, 97(28.57%) disagreed, while 56(28.57%) strongly disagree with the statement and it had a mean score of 3.94 and S.Dof 0.967 which was lower than composite mean of 3.58 and S.Dof 1.08. Therefor there is need for improvement.

4.9 Correlation Analysis

The study carried out correlation analysis to show the relationship strength amongst both the dependent and the independent variables as presented in summary in table 4.11.

Table 4.11: Correlation

			Implementation	Project risk	M&E	Staff commitment	Top mgt support
Implementation of ERP.	Pearson Correlation		1				
	Sig. (2-tailed)						
	N		58				
Project mgt risk	Pearson Correlation		.649**	1			
	Sig. (2-tailed)		.000				
	N		196	196			
M&E	Pearson Correlation		.607**	.491**	1		
	Sig. (2-tailed)		.000	.000			
	N		196	196	196		
Staff commitment	Pearson Correlation		.752**	.672**	.626**	1	
	Sig. (2-tailed)		.000	.000	.000		
	N		196	196	196	196	
Top support mgt	Pearson Correlation		.201	-.335*	.087	.062	1
	Sig. (2-tailed)		.130	.010	.517	.646	
	N		196	196	196	196	196

The correlation matrix displayed above showed the existence of a positive strong correlation amongst project risk management and implementation of ERP Systems which implied that a unit increment in project risk management leads to increment in the implementation of ERP Systems by 0.649.

Again, there was a positive strong correlation between Project monitoring & Evaluation Process and implementation of ERP Systems which implied that a unit increment in Project monitoring & Evaluation Process leads to increment in the implementation of ERP Systems by 0.607.

A positive strong correlation was also observed between staff commitment and implementation of ERP Systems which implied that a unit increment in staff commitment increases the implementation of ERP Systems by 0.752.

However, a positive weak correlation was observed between the top management and implementation of ERP Systems that implied that a unit increment in top management increases the implementation of ERP Systems by 0.201.

4.10 Discussion of Findings

The study sought to investigate the influence of project management practices on successful implementation of enterprise resource planning Systems with reference to: A case of University of Nairobi. The specific objectives of the study were; to examine the influence of project risk management on implementation of ERP Systems in University of Nairobi, to determine the influence of Project monitoring and Evaluation Process on implementation of ERP Systems in University of Nairobi, to establish the influence of staff commitment on implementation of ERP Systems in University of Nairobi and to examine the effect of top management support on implementation of ERP Systems in University of Nairobi. Thus, the discussion of findings of the study were based on the mentioned specific objectives.

4.10.1 Project Risk Management and Implementation of Enterprise Resource Planning Systems Projects

The study found that project Risk management influences Implementation of Enterprise Resource Planning Systems Projects moderately with a composite mean of 3.75. This was supported by the study key statements that majority of the respondents' with a mean of 3.85 agreed risk identification and Planning for ERP project risk responses with a mean of 3.99 and

lastly risk analysis leads to a program with a mean of 4.24. This finding agreed with findings by Lugusa and Moronge (2016) suggests four main areas of risk management including risk identification, analysis, response and finally risk control and monitoring. In risk identification, the project manager should establish what is and what might be in an effort to find the risks that are pertinent to the project.

4.10.2 Project Monitoring and Evaluation Process and Implementation of Enterprise Resource Planning Systems Projects

The study found that project monitoring and evaluation influences Implementation of Enterprise Resource Planning Systems Projects moderately with a composite mean of 3.37. This was supported by Corrective actions with a mean of 3.46, Loss avoidance with a mean of 3.45 and lastly Plan development forums with a mean of 3.44. These findings concur with Fullan (2014) argued that Monitoring and evaluation function ought to be seen as a collective responsibility in the organization. Another important aspect of monitoring and training team capacity is the concern of internal support structures that supports monitoring and evaluation activities, some organizations may lack appropriate logistical support to empower them perform efficient monitoring and evaluation data-gathering, data-entry and analysis.

4.10.3 Staff Commitment and Implementation of Enterprise Resource Planning Systems Projects

The study found that staff commitment influences Implementation of Enterprise Resource Planning Systems Projects moderately with a composite mean of 3.46. This was supported by clear communication with a mean of 3.77. Wilson, (2004) Staff attendance reports with a mean of 3.76. The finding concurs with Having employees working with an organization is not enough in implementing any project but rather the key ingredient is having a firmly committed workforce that is capable of turning challenges and hardships into successes. Structures are supposed to be put in place in an organization implementing an ERP project that will monitor and evaluate the level of commitment both at individual level and at the team level informing decision makers on the right decisions to be made. Huse, (2004), Proper and sequential coordination in executing ERP project implementation and outlined action items are achieved

through clear employee roles which are brought about and reinforced by employee commitment at various levels

4.10.4 Top Management Support and Implementation of Enterprise Resource Planning Systems Projects

The study found that top management support influences Implementation of Enterprise Resource Planning Systems Projects moderately with a composite mean of 3.59. This was supported by clear managing societal demands and Motivation with a mean of 4.00 and Successful ERP projects reports with a mean of 4.36. The findings agree with Chen (2001) top management playing its oversight and management role should ensure a team is formed with members having the right knowledge and skills to take up the roles of implementing the new system. The project team should have the best talent in the organization and the capability to quickly grasp the technological principles used and more so be able to disseminate the knowledge to other employees. Myerson, (2002) the project team drawn to implement ERP projects normally has diverse groups of people and this creates an avenue for conflicts escalation. Some conflicts may jeopardize the entire project and need to be addressed by top management

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This Chapter focuses on the findings obtained from the data analysis as well as the conclusions reached. It also includes the recommendations and suggestions for further research on this topic. From the results of data analysis, the researcher will be able to give their view as to whether this objective has been met or not.

5.2 Summary of Findings

The study comprised of a sample of 314, out of which 196 questionnaires were correctly completed and given back achieving a 62.24% return rate. The study found that the gender ratio was almost the same although the University of Nairobi is dominated by male compared to female. This shows that the researcher considered all respondents irrespective of the gender to obtain reliable information concerning the subject under study. It was also found out that most of the staff are above 36 years of old and post graduate degree. It was also found out that most of the respondents had worked for University s more than five years and above hence respondents were having reliable and accurate information on the subject under study.

The first objective was determining the influence of project risk management on implementation of ERP Systems in University of Nairobi. It was found that project risk management influence implementation of ERP Systems moderately. It was supported with the above statements risk quantification, planning for ERP project risk responses and risk analysis leads to a program that generates enough funds to mitigate risks. It was found out that project risk management had a positive correlation with implementation of ERP Systems ($r=0.649$ $p< 0.01$). This is an indication that project risk management had a statistically significant influence on implementation of ERP Systems.

The second objective was determining the influence of project monitoring and evaluation process on implementation of ERP Systems in University of Nairobi. It was found that project monitoring and evaluation process influence implementation of ERP Systems moderately. It was supported by the above statements that loss avoidance plan development forums. It was found

out that project monitoring and evaluation process had a positive correlation with implementation of ERP Systems ($r=0.607$ $p < 0.01$). This is an indication that project monitoring and evaluation process had a statistically significant influence on implementation of ERP Systems.

The third objective was determining the influence of staff commitment on implementation of ERP Systems in University of Nairobi. It was found that staff commitment influence implementation of ERP Systems moderately. It was supported by the above statements of clear communication and Staff attendance reports. It was found out that staff commitment project had a positive correlation with implementation of ERP Systems ($r=0.752$ $p < 0.01$). This is an indication that staff commitment had a statistically significant influence on implementation of ERP Systems.

The fourth objective was to examine the effect of top management support on implementation of ERP Systems. It was found that top management support influence implementation of ERP Systems moderately. It was supported by the above statements clear managing societal demands motivation successful ERP projects reports. A positive weak correlation was observed between the top management and and implementation of ERP Systems ($r=0.201$ $p < 0.01$). This is an indication that top management had a statistically significant influence on implementation of ERP Systems.

5.3 Conclusion

From the above discussion, several conclusions were made:

The study concludes that project risk management influence implementation of ERP Systems moderately. Having a risk management plan at the planning phase makes it less trouble free and much more rewarding. Trying to develop a risk management plan before doing the project plan can be much more difficult since the project is not well defined yet.

From the research, it can be concluded that, project monitoring and evaluation process influence implementation of ERP Systems moderately. It was clear that investment evaluation, final

product evaluation and corrective actions greatly affect implementation of ERP Systems project portfolio management practices at University of Nairobi.

This study has shown that staff commitment influence implementation of ERP Systems moderately. Having employees working with an organization is not enough in implementing any project but rather the key ingredient is having a firmly committed workforce that is capable of turning challenges and hardships into successes. Structures are supposed to be put in place in an organization implementing an ERP project that will monitor and evaluate the level of commitment both at individual level and at the team level informing decision makers on the right decisions to be made.

The study concluded that top management support influence implementation of ERP Systems moderately. Top management should put more energy on staff allocation and commitment so that ERP system works well.

The study further concluded that ERP system implementation in the University of Nairobi to moderate extent. Much of the benefits anticipated were realized leading to improved service delivery, operational efficiency and productivity. However, the findings also indicate that some of the organizations had their ERP system project delivered beyond scheduled time and budget. In some cases, certain modules, such as business analytics and reports were not successfully completed as anticipate.

5.4 Contribution of the Study to Knowledge in management

These findings will further contribute to hypothetical study as a source of information for knowledge or further research, and especially in the light of project leadership competencies and the role of organizational executives in ERP system implementation. Further the study will assist coming up with references for further research.

5.5 Recommendations

5.5.1 Recommendations for Policy and Practice

The study recommends that the universities that have implemented the ERP projects should do a post-implementation analysis of systems. This will enable organizations review the areas that need to be worked on and to know how to improve the process in the future. Areas will include maintenance of the system, budget allocation and upgrades to newer versions.

From what was established, vendor involvement in the system implementation phases, vendor capability and vendor-customer link are very critical in the implementation of ERP projects. The universities and other sectors should consider seriously the three factors when implementing the enterprise resource planning systems.

Based on the research outcomes, organizations leadership are required take ownership of ERP system implementation by developing policy framework for procurement, planning, manage mentioned execution of ERP systems projects in order to realize the intended corporate objectives and value. They should ensure appointment of a competent and well skilled project manager to drive the ERP system implementation agenda in their institutions. Both the ERP system vendors and implementing agencies should ensure that properly defined and proven methodologies are identified, adopted and used in order to enhance ERP system project implementation performance.

Even though the customer factors in the study was found to be insignificant, the top management should encourage still the end users to work with the vendors closely in the areas of giving the feedback of the system and also utilizing the system fully to ensure that the implementation is 100% implemented.

5.5.2 Recommendations for Further Research

The research aimed at investigating the relationship between project manager leadership competencies, top management support and ERP system project performance. For purposes of this study, ERP system project implementation was measured based on a combination of two theories; IS success model and project constraint triangle model to capture project management success in both implementation and adoption phase.

It's necessary that similar studies are conducted in other constituencies in Kenya to compare the findings and provide empirical evidence that can be used to improve the sustainability of donor funded projects.

REFERENCES

- Akkermans, H, & Helden, K. V. (2002). and virtuous cycles in ERP implementation: A case study of interrelations between critical success factors. *European Journal of Information Systems*, 1(11), 35-37.
- Ali, T., Hussain, A., Takwa, T., & Ra'ed, M. (2015). Analysis of the Critical Success Factors for Enterprise Resource Planning Implementation from Stakeholders' Perspective: A Systematic Review . *International Business Research*; Vol. 8, No. 4, 25-40.
- Amponsah, R. (2015). Improving project management practice in Ghana with focus on agriculture, banking and construction sectors of the Ghanaian economy.
- Ayuso, S., Rodríguez, M., A.; Castro, R., G., (2011). Does stakeholder engagement promote sustainable innovation orientation?, *International Managing Data. System*, 2011, 111, 1399–1417.
- Bakker, K., Boonstra, A., & Wortmann, H. (2014). The communicative effect of risk identification on project success. *International Journal of Project Organization and Management*, 6 (2),138-156.
- Bala,H., & Venkatesh, V. (2013). Changes in Employees' Job Characteristics During an Enterprise System Implementation: A Latent Growth Modeling Perspective. *MIS Quarterly*, 1113-1140.
- Bonner, M. (2000). Roadmap to ERP Success. *Control Magazine*,26(08), 14
- Bracht, M. & Kingsbury, C.,(2000). Re-examining project appraisal and control: Developing a focus on wealth creation. *International Journal of Project Management*19, 375–383.
- Cervone, H. F. (2006). Managing Digital Libraries: The View from 30,000 Feet. Project risk management. *International Digital Library Perspectives*, 22(4), 256-262. doi:10.1108/10650750610706970
- Chapman, C., & Ward, S. (2003). *Project Risk Management: Processes Techniques and Insights*. Chichester, West Sussex, England: John Weiley and Sons.
- Cooper F., Grey, V., Raymond, S., & Walker, C., (2005),A statistical project control tool for engineering managers. *Project Management Journal* 32(2), 37–44.
- Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems*, 9-30.
- Dezdar, S., & Ainin, S. (2011). The influence of organizational factors on successful ERP implementation. *Management Decision* Vol. 49 Issue: 6, 911-926..
- GarGeya, V. B., & Brady, C. (2005). Success and failure factors of adopting SAP in ERP system implementation. *Business Process Management Journal*,11(5), 501-516.
- Grau, G,. (2004). The logical framework method for defining project success. *Project Management Journal* 30(4), 25–32.
- Huang, S., Hung, Y., Chen, H., & Ku, C. (2004). Transplanting the Best Practice for Implementation of an ERP System: A Structured Inductive Study of an International Company. *Journal of Computer Information Systems*, 44(4), 101.
- Hurban, L. (2008). *Issues with implementing ERP in the public administration*. Munich: University Library of Munich, Germany.
- Kariungi S., (2014). Determinants of timely completion of projects in Kenya: A case of Kenya Power and Lighting Company, Thika. *ABC Journal of Advanced Research*, 3 (2), 9-20

- Kaushal, S. (2011). Determinants of IT Effectiveness in Indian Organizations. *Review of Knowledge Management*, 1(2), 12.
- Kibera, G. (2013). Assessment of Stakeholders Participation in The Implementation of Information and Communication Technology Software Projects: A Case of Jomo Kenyatta University of Agriculture and Technology. *International Journal of Academic Research in Business and Social Sciences*.
- Kinne, D., Tokdemir, B., & Suh, K. (2002). Effect of learning on line-of-balance scheduling. *International Journal of Project Management* 19(5), 265–277.
- Kwak, Y. H. (2002). *Critical Success Factors in International Development Project Management*, Washington, DC, 2002
- Lugusa, S. I., & Moronge, M. (2016, May 25). Influence of Project Management Skills on Performance of Bank Financed Projects in Kenya: A Case of Commercial Banks Projects. *The Strategic Journal of Business and Change Management*, 3(2), 810-838.
- Mabert, V.A., Soni, A, & Venkataramanan, M.A. (2003a). The impact of organization size on enterprise resource planning (ERP) implementations in the US manufacturing sector. *Omega*, 31(3), 235-246.
- Makokha, A. N., Musiega, D., & Juma, S. (2013). Implementation of Enterprise Resource Planning Systems in Kenyan Public Universities, A Case of Masinde Muliro University of Science and Technology. *Research Journal of Finance and Accounting*, 26-34
- Mohammed, Z., Al-Mudimigh, A., & Al-Mashari, M. (2003). Enterprise resource planning: A taxonomy of critical factors. *European Journal of Operational Research*. Vol. 146, No. 2, 352-364.
- Nour, M. A., & Mouakket, S. (2011). A classification framework of critical success factors for ERP systems implementation: A multi-stakeholder perspective. *International Journal of Enterprise Information Systems (IJEIS)*, 7 (1), 56-71.
- Otieno, J. (2008). *Enterprise Resource Planning (ERP) Systems Implementation Challenges: A Kenyan Case Study*.
- Pinto J., K., and Slevin, D., P., (2008). Project success: Definitions and management techniques. *Project Management Journal*, 19(1): 67–71
- Plant, R., & Willcocks, L. (2007). Critical Success Factors in International ERP Implementations: A Case Research Approach. *Journal of Computer Information Systems*, Vol 47, 60-70.
- PMI (2004). *Guide to the Project Management Body of Knowledge*. PMI Standards Committee, Project Management Institute, Newtown Square, PA
- Pollitt, J. (2007). Supply chain management (SCM) and organizational key factors for the successful implementation of enterprise resource planning (PROJECTS)
- Project Management Institute (PMI): Pennsylvania, PA, USA, 2004; pp. 81–86. *Project Management Institute [PMI]. (2006). A Guide to the Project Management Body of Knowledge*. USA: .
- Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. *Information systems research*, 13(1), 50-69
- Raija, H. (2011). Reflecting with the Delone and McLean Model. *International Workshop on Practice Research* (pp. 1-13). Helsinki: University of Oulu, Department of Information Processing Science.

- Ramadani, M., Supahar, S., & Rosana, D. (2017). Validity of evaluation instrument on the implementation of performance assessment to measure science process skills. *Journal Inovasi Pendidikan IPA*, 3(2), 180-188.
- Ryus, P. (2017). A methodology for performance measurement and peer comparison in the public transportation industry (No. 141). Transportation Research Board.
- Serpella, A., Ferrada, X., Howard, R., & Rubio, L. (2013). Risk management in construction projects: A knowledge-based approach. *Social and Behavioral Sciences*, 119 (19), 653-662.
- Sharma, R., & Yetton, P. (2003). The contingent effects of management support and task interdependence on successful information systems implementation, *MIS Quarterly*, 27, 4, 533-555.
- Sia, S. K., & Soh, C. (2002). Seventy Assessment of ERP-Organization Misalignment
- Sumathi, P., Ahamed, S., & Karthikeyan, M. (2018). Descriptive research study on factors influencing entrepreneurial intention among engineering students in Virudhunagar District. *Journal of Advanced Research in Dynamical and Control Systems*, 10(1), 605-611.
- Tadayon, M., Jaafar, M., & Nasri, E. (2012). An assessment of risk identification in large construction projects in Iran. *Journal of Construction in Developing Countries*, 1 (2), 57-69
- Wachuru, S. (2013). The role of risk management practices in the successful performance of constituency development fund projects: A survey of Juja constituency Kiambu, Kenya. *International Journal of Academic Research in Business and Social Sciences*, 3 (7), 423-438.
- Yen, H. R., & Sheu, C. (2004). Aligning ERP implementation with competitive priorities of manufacturing firms: An exploratory study. *International Journal of Production Economics*, 92(3), 207-220.
- Yu, C. S. (2005). Causes influencing the effectiveness of the post-implementation ERP system. *Industrial Management & Data Systems*, 105(1), 115-132.

APPENDICES

Appendix I: Introduction Letter

Dear Respondent,

RE: **DATA COLLECTION**

My name is Michael Kariuki Kibuti, a student at the University of Nairobi, Kenya. I am currently undertaking a research study on **INFLUENCE OF PROJECT MANAGEMENT PRACTICES ON SUCCESSFUL IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING SYSTEMS: A CASE OF UNIVERSITY OF NAIROBI**. To do so, your organization is chosen to generate necessary data for this report. This information is used for academic purposes only and your name is not indicated in the study. You will be able to access the findings of the study upon request.

Yours Sincerely,

Michael Kariuki Kibuti

L50/10773/2018

Mobile No: 0724 938 835

Appendix II: Research Questionnaire for Support Staff in University of Nairobi

SECTION A: BACKGROUND INFORMATION

1. Tick on your appropriate age bracket?

18- 25 years

25 - 35 years

36 - 50years

51 years and above

2. Are you male or female?

Male

Female

3. Indicate the highest education level you have attained?

College Diploma

Bachelor's Degree

Post Graduate Degree

Other (Specify).....

4. For how long have you worked for the University?

Less than 1 year

1-2 years

3-5 years

6-10 years

More than 10 years

SECTION B: PROJECT MANAGENT PRACTICES

Project Risk Management

To what extent do the following influence the implementation of ERP systems ? (Where 1=Not at all, 2=Low extent,3=Moderate Extent, 4 =Great extent and 5=Very Great extent).

Statement	5	4	3	2	1
Risk identification					
Risk quantification					
Risk response/mitigation					
Planning for ERP project risk responses					
Risk analysis leads to a program that generates enough funds to mitigate risks					

In what way does project risk management influence the Implementation of implementation of ERP systems?

.....

.....

Monitoring and Evaluation

To what extent do the following influence the implementation of ERP systems? (Where 1=Not at all, 2=Low extent,3=Moderate Extent, 4 =Great extent and 5=Very Great extent)

Statement	5	4	3	2	1
Investment Evaluation					

Corrective actions					
Programs involving stakeholder					
Loss avoidance					
Plan development forums					

In what way does monitoring and Evaluation influence the Implementation of implementation of ERP systems?

.....

Top Management Support

To what extent do the following influence the implementation of ERP systems? (Where 1=Not at all, 2=Low extent,3=Moderate Extent, 4 =Great extent and 5=Very Great extent)

Statement	5	4	3	2	1
Successful ERP projects reports					
Support from top management audit reports					
Staff allocation schedules					
Leadership Style					
Managing societal demands and Motivation					

In what way does top management support influence the Implementation of implementation of ERP systems?

.....

Staff Commitment

To what extent does staff commitment influence the implementation of ERP systems?

Not at all[] Low extent[] Moderate extent[] Great extent[] Very great extent[]

To what extent do the following influence the implementation of ERP systems? (Where 1=Not at all, 2=Low extent,3=Moderate Extent, 4 =Great extent and 5=Very Great extent)

Statement	5	4	3	2	1
Staff attendance reports					
Staff Leaders clearly define job roles and delegated tasks.					
Staff demonstrates creativity and analytical skills.					
Staff leaders encourages the team to be creative and innovative					
Clear communication					

In what way does top management support influence the Implementation of implementation of ERP systems?

.....

SECTION C: IMPLEMENTATION OF ERRP SYSTEM

To what extent do you agree with the following statements concerning implementation for ERP system in your organization? (Please tick only one option) (Where 1=Not at all, 2=Low extent,3=Moderate Extent, 4 =Great extent and 5=Very Great extent)

Statement	5	4	3	2	1
ERP System project was completed within the time schedule					
ERP System adaption has led to reduced operational costs					
ERP System project achieved what was intended					
The information provided by the information system is accurate and is free from errors					
I find the information system is available and flexible to be used					

Thank you for participation

Appendix III: Work Plan

Task Description	4 weeks	4 weeks	4 weeks	4 weeks
Proposal writing				
Questionnaire Design				
Proposal Defence				
Data collection				
Data Analysis				
Findings and Report Writing				
Submission of Report				

Appendix IV: Budget

Items	Details	Cost
Stationery	Binders	1000
	Printing papers	2000
Transport		2,000
Data collection	Internet services	2,000
	Collection instruments	2,000
	Distribution instruments	2,000
Production of the documents	Printing	1000
	Typesetting	2000
	Photocopy	1000
	Binding	1000
Data analysis		30,000
TOTAL		46,000