RISK FACTORS INFLUENCING THE PERFORMANCE OF PROJECTS IN KENYA: SCHOOLS' BOOK BOX PROJECT IN KENYA NATIONAL LIBRARY SERVICE AT KARATINA BRANCH, NYERI COUNTY

BY:

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTERS OF ARTS IN PROJECT PLANNING AND MANAGEMENT OF UNIVERSITY OF NAIROBI

JULY 2014
DECLARATION

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

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L50/61642/2013

This research project has been submitted for examination with my approval as University supervisor.

Signed ............................................       Date ..............................................

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DEDICATION

To my wife, Joyce and my two daughters, Roselyne and Lauryn for their support and patience while writing this research project and to my mum, Rose, grandmother, Emily and my sister, Annie for their great assistance and spiritual morale and motivation.
ACKNOWLEDGEMENT

I wish to express my sincere gratitude to my supervisor Prof. C.M. Gakuu for his immeasurable guidance, support, encouragement and time input that enabled me write this research proposal. My sincere appreciation also goes to my lecturers, colleagues and staff of University of Nairobi, Extra Mural Centre, Nyeri Campus for the assistance extended to me in one way or the other.

My gratitude goes to our Almighty God for His mercies and grace that have enabled me to come this far.

May the Almighty God bless them all.
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<tbody>
<tr>
<td>3PL</td>
<td>Third Party Logistics Provider</td>
</tr>
<tr>
<td>CRM</td>
<td>Customer, Relationships, and Management</td>
</tr>
<tr>
<td>ECI</td>
<td>Early Contractor Involvement</td>
</tr>
<tr>
<td>ESI</td>
<td>Early Supplier Involvement</td>
</tr>
<tr>
<td>HRM</td>
<td>Human Resource Management</td>
</tr>
<tr>
<td>ICTs</td>
<td>Information and Communication Technologies</td>
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<tr>
<td>JIT</td>
<td>Just in Time</td>
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<tr>
<td>KNLS</td>
<td>Kenya National Library Service</td>
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<td>KPI’s</td>
<td>Key Performance Indicators</td>
</tr>
<tr>
<td>PMI</td>
<td>Project Management Institute</td>
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<td>PMS</td>
<td>Project Management Systems</td>
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<td>PPI</td>
<td>Project Performance Indicators</td>
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<tr>
<td>SCM</td>
<td>Supply Chain Management</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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ABSTRACT

The process of project implementation involves successful development and introduction of projects in the organization. The project implementation process is complex, usually requiring simultaneous attention to a wide variety of human, budgetary, and technical variables. The general objective of this study was to evaluate risk factors influencing the performance of projects in Kenya National Library Service. Specifically, the study sought to establish the influence of Information technology risk factor on the performance of projects in Kenya National Library Service, assess the influence of supply chain risk factor on the performance of projects in Kenya National Library Service, establish the influence of customer demand risk factor on the performance of projects in Kenya National Library Service and to establish the influence of human resource risk factor on the performance of projects in Kenya National Library Service with specific reference to schools’ book box project at Karatina branch. This study adopted descriptive survey design. The target population of this study comprised of all Karatina branch KNLS employees, teachers and school committee members of the schools benefiting from school book box project. A sample of 245 respondents was selected using stratified random sampling to group respondents into three strata. This study used primary data. Data collection methods used included a set of structured questionnaires. Data was analyzed quantitatively and qualitatively and presented descriptively and illustrated by use of tables and charts. Information was sorted, coded and input into the statistical package for social sciences (SPSS) for production of graphs, tables, descriptive statistics and inferential statistics. The study findings indicated that employees from KNLS and schools participating in the box book project were concerned about the project performance so as to enhance the whole organizations performance. This was demonstrated by the extent of agreement with the statements in the questionnaire in support of the project performance. Results indicated that information technology, supply chain, customer demand and human resource risk factors influenced project performance positively. From the study; it was possible to conclude that there was increased and improved performance at KNLS due to effective management of the risk factors associated by any project. Results also led to a conclusion that training has increased efficiency and job satisfaction among the employees at KNLS hence the organizational performance at large. The study recommends that the management of KNLS should do thorough assessment of the organization’s current practices, providing ongoing training in project management practices, and implementing the necessary controls that ensure compliance with these
practices that organization can ensure they will be able to deliver projects on-time, on-budget, and providing the desired functionality.
CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

A project is a combination of human and nonhuman resources pooled together in a temporary organization to achieve a specified purpose; they are development strategies through which ideas are transformed into reality so as to solve challenging issues of today’s rapidly changing world. Globally huge investments are made into projects for the purpose of helping organizations to do what it’s doing in a better way, improve the ability to grow and change. To this effect it’s imperative that the success of the project is not only measured on basis of time, cost and scope but also the attainment of the desired outcomes and solving the organizations problems (Belassi and Tukel, 1996). A project is generally considered to be successfully implemented if it comes in on-schedule, comes in on-budget, achieves basically all the goals originally set for it and is accepted and used by the clients for whom the project is intended (Cleland & Keizner, 1985).

The process of project implementation involves successful development and introduction of projects in the organization. The project implementation process is complex, usually requiring simultaneous attention to a wide variety of human, budgetary, and technical variables. As a result, the organizational project manager is faced with a difficult job characterized by role overload, frantic activity, fragmentation, and superficiality. Often the typical project manager has responsibility for successful project outcomes without sufficient power, budget, or people to handle all of the elements essential for project success. In addition, projects are often initiated in the context of a turbulent, unpredictable, and dynamic environment. The project manager requires the necessary tools to help him or her focus attention on important areas and set differential priorities across different project elements. For this reason, project management skills are essential for successful implementation (Slevin and Pinto, 1986).
Project performance is the behavior that can be evaluated in terms of the extent to which it contributes to organizational effectiveness (Onukwube, Iyabga and Fajana, 2010). Illriegel, Jackson and Slocum (2009) see project performance as individual’s work achievement after having exerted effort. Viswesveran and Ones (2010) regard it as the behavior and outcomes that employees engage in or bring about that are linked with and contribute to organizational goals (Onukwube et al., 2010). It is clear from these definitions that project performance is related to the extent to which an employee is able to accomplish the task assigned to him or her and how the accomplished task contributes to the realization of the organizational goal.

The key performance indicators are identified by DETR (2000) as an applicable indication of project and/or company levels. In some cases the company indicator is the average value of that company’s project indicators. Al-Momani (2000) stated that the owner satisfaction for performance can be defined as the gap between what the owner expects and the level of performance they believe is being delivered by the contractors. Lehtonen (2001) stated that performance measurement is a basis for progressive improvement and monitoring of company productivity. Chan and Kumaraswamy (2002) remarked that project performance measurement include time, budget, safety, quality and overall client satisfaction. Thomas (2002) defined performance measurement as monitoring and controlling of projects according to regular basis. Kuprenas (2003) stated that project performance measurement means an improvement of cost, schedule, and quality for design and construction stages. Long et al (2004) stated that a project performance measurement is related to many indicators such as time, budget, quality, specifications and stakeholders’ satisfaction. Navon (2005) defined performance measurement as a comparison between the desired and the actual performances. Ugwu and Haupt (2007) classified the key performance indicators as site-specific and project-specific. Early Contractor Involvement (ECI) and Early Supplier Involvement (ESI) give contractors and suppliers the opportunity to give advice and/or specific ideas earlier to enhance performance.
Cheung et al. (2004) identified project performance categories such as people, cost, time, quality, safety and health, environment, client satisfaction, and communication. It is obtained by Navon (2005) that a control system is an important element to identify factors affecting construction project effort. For each of the project goals, one or more Project Performance Indicators (PPI) is needed. Pheng and Chuan (2006) obtained that human factors played an important role in determining the performance of a project. Ugwu and Haupt (2007) remarked that both early contractor involvement (ECI) and early supplier involvement (ESI) would minimize constructability-related performance problems including costs associated with delays, claims, wastages and rework, etc. Ling et al (2007) obtained that the most important of practices relating to scope management are controlling the quality of the contract document, quality of response to perceived variations and extent of changes to the contract. It was recommended for foreign firms to adopt some of the project management practices highlighted to help them to achieve better project performance in China.

Pheng and Chuan (2006) stated that project performance can be determined by two common sets of indicators. The first set is related to the owner, users, stakeholders and the general public which are the groups of people who will look at project performance from the macro viewpoint. The second are the developer, a non-operator, and the contractor which are the groups of people who will look at project performance from the micro viewpoint. Jin et al (2006) studied the relationship-based factors that affect performance of general building projects in China. Thirteen performance metrics was used to measure the success level of construction projects. These factors were categorized into four groups namely cost, schedule, quality and relationship performance. It was recommended that foreign firms that have entered or are going to enter the Chinese construction industry should learn how to build cooperative and harmonious relationships with Chinese partners and finally achieve satisfactory project performance by paying sufficient attention to the aforementioned factors.
1.1.1 Kenya National Library Service (KNLS)

The Kenya National Library Service (KNLS) Board is a corporate body of the Kenyan government charged with the responsibility of providing information for National Development. It was established in 1965 by an Act of Parliament Cap 225 of the Laws of Kenya, to provide library and information services to the Kenyan Public. In its service provision, KNLS plays a dual role of Public library and National library of Kenya. The public library services are available in their 60 branches spread within Kenya, while the national library services are available at the headquarters in Nairobi.

National and public libraries play a critical role in the provision of information for development. Through these libraries, communities have been empowered to fight poverty, deprivation and illiteracy and thus supports reading and recovery programmes by the government. Rural and urban poor communities are better able to tackle their problems and introduce social change if they have access to relevant information that meets their needs and interests. In addition, access to information about the country enables citizens to participate effectively in the art of governance.

Through various reading campaigns, KNLS has provided opportunities for communities to enhance their reading and information seeking habits, and therefore sustain literacy. The 2006 Kenya National Adult Literacy Survey estimated the national literacy rate at 61.5% indicating that only 38.5% Kenyan adults were illiterate. The survey also revealed that only 29.6% of the adult population had acquired the desired mastery level of literacy. This meant that the majority of those termed as literate (61.5%) were at risk of losing their literacy skills or could not effectively perform within the context of knowledge economies.

However, a country with effective library and information services will achieve continuity in learning and reading beyond the formal school programme. Such systems cannot be explained any better than ensuring that library services are accessible to as many Kenyans as possible throughout the country. Public libraries go beyond formal
education and they are at the heart of personal and community development. KNLS promotes reading by providing access to relevant reading materials to all communities. Libraries play a major role in stimulating public interest in books and in promoting reading for knowledge, information and enjoyment – thus KNLS is indeed a "people's university."

Kenya is indeed working towards becoming an industrialized nation through their blueprint dubbed "Vision 2030". Various flagship projects have been undertaken and very many others are underway. The KNLS has a major role to play in linking the pillars of development identified through bridging the knowledge gap. Similarly, they have also undertaken various projects for expansion and modernization of their facilities.

### 1.1.2 Schools’ Book Box Project in Kenya National Library Services

This is an innovative way of serving a large clientele by providing the reading resources through the book boxes to schools that are far from the static library. The book boxes are made of metal to give room for preservation of these vital resources. The resources target the pupils and the teaching fraternity.

The idea of a schools’ book box service was borrowed from Zimbabwe during an exchange program between the officials of the National Library Services of Kenya and Zimbabwe in 1993. In Zimbabwe, books are packed in the metal boxes and transported from the static libraries to schools in further areas using donkey carts. This is in a bid to introduce a reading culture to pupils at an early age and reach as many members of the library as possible.

The schools’ book box service/project was introduced in Kenya in 1996 at the Kenya National Library Service (KNLS), Karatina branch. Under the project, schools in Mathira Division in Nyeri County pool resources for purchase of information materials mainly books; there are 5250 books in the project. A total of 200 books are packed in each metal box and then distributed to various schools in the Division using a
motorcycle provided by KNLS Board. The books are packed in the box according to levels of learning: elementary, medium and advanced in order to cater for all and sundry in a particular school. A box remains in a school for one month after which it is exchanged for another with different titles thereby giving learners the opportunity to read a wide variety of books hence better exposure. The project currently has 28 boxes with 5250 books which revolve around all schools in the Division. The book stock is regularly replenished by KNLS board which also co-ordinates the service through its staff at Karatina branch; the schools replace the lost and torn books. The selection of the information materials is done by KNLS staff who also act as the custodians of the same and the book boxes.

The book boxes have increased the language levels tremendously according to regular monitoring and evaluation of the project carried out by KNLS staff. The books have turned to be useful friends to the rural child who has no access to any other entertainment. There has been evidence from mothers who approve the use of books to occupy their children’s leisure time.

1.2 Statement of the Problem

The failure of any project is mainly related to the problems and failure in performance. Moreover, there are many reasons and factors which attribute to such problem. Ogunlana et al, (1996) stated that the construction industry performance problems in developing economies can be classified in three layers: problems of shortages or inadequacies in industry infrastructure (mainly supply of resources), problems caused by clients and consultants and problems caused by contractor incompetence/inadequacies. Okuwoga (1998) identified that the performance problem is related to poor budgetary and time control. Long et al (2004) remarked that performance problems arise in projects due to many reasons such as: incompetent designers, poor estimation and change management, social and technological issues, site related issues and improper techniques and tools.
Navon (2005) stated that the main performance problem can be divided into two groups: (a) unrealistic target setting (i.e., planning) or (b) causes originating from the actual construction (in many cases the causes for deviation originate from both sources). Samson and Lema (2002) found that the traditional performance measurement systems have problems because of large and complex amount of information with absence of approaches to assist decision maker understand, organize and use such information to manage organizational performance. Navon (2005) remarked that traditional project performance control is usually generic (e.g., cost control techniques). It relies on manual data collection, which means that it is done at low frequency (normally once a month) and quite some time after the controlled event occurred (i.e., not in real-time). Moreover, manual data collection normally gives low quality data.

Murphy, Baker and Fisher (2004) used a sample of 650 completed aerospace, construction, and other projects with data provided primarily by project managers on the factors contributing to project success. Theirs have been the most cited, used, extensive and authoritative research in the area of project success factors. They found ten factors that were found to be strongly linearly related to perceived success and perceived failure of projects, while twenty-three project management characteristics were identified as being necessary but not sufficient conditions for perceived success Baker, Murphy, and Fisher (2004).

Pinto and Slevin (1988) and Morris and Hough (1987) also did an important work on project success factors in the 1980s. While Morris and Hough (1987) drew primarily on literature and case study analysis of major projects, Pinto and Slevin (1988) based their findings on the opinions of a usable sample of 418 PMI members responding to questions asking them to rate the relevance to project implementation success of ten critical success factors and four additional external factors (Slevin & Pinto 1988).

Kim et al (2008) stated that international projects performance is affected by more complex and dynamic factors than domestic projects; frequently being exposed to
serious external uncertainties such as political, economical, social, and cultural risks, as well as internal risks from within the project. It is therefore for this gap that this study seeks to address the risk factors affecting performance of projects in Kenya.

1.3 Objectives

The general objective of the study was to investigate the risk factors influencing performance of projects in Kenya National Library Service. The study was guided by the following specific objectives:

i) To establish the influence of Information technology risk factor on the performance of projects in Kenya National Library Service

ii) To assess the influence of supply chain risk factor on the performance of projects in Kenya National Library Service

iii) To establish the influence of customer demand risk factor on the performance of projects in Kenya National Library Service

iv) To establish the influence of human resource risk factor on the performance of projects in Kenya National Library Service

1.4 Research Questions

i) How does information technology risk factor influence the performance of projects in Kenya National Library Service?

ii) To what extent does supply chain risk factor influence the performance of projects in Kenya National Library Service?

iii) In what ways does customer demand risk factor influence the performance of projects in Kenya National Library Service?

iv) How does human resource risk factor influence the performance of projects in Kenya National Library Service?
1.5 Purpose of the study

The purpose of the study was to evaluate the risk factors affecting performance of projects in Kenya National Library Service.

1.6 Value of Study

This study will be of interest and value to various stakeholders and therefore the justification of the study. The Kenya National Library Service management will be able to appreciate the risk factors affecting project performance. The lessons brought out in the study can be used by management to improve the project performances in future.

Academicians who are also researchers in the area of project planning and management will be able to access this study from the public repository domains like libraries, magazines, journals and online open access academic sites once the findings of the study are published. They will be able to add value on the gaps identified by this study. It will also contribute to the corpus of literature on project management being a new area with few case studies having looked at one of the biggest library service in East and Central Africa.

To the policy makers, the suggestions from the study would lead to new orientation in formulation and implementation of policies that could enhance the outcomes of project performance in Kenya. The recommendations of this study will enable scholars and policy makers to design more progressive and effective policies aimed at ensuring good advancement of Kenya National Library Service.

1.7 Limitations of the Study

Several limitations were experienced in this study, for example resistance from respondents primarily because they were suspicious of the study intentions although they were assured of their anonymity and the findings were used purely for academic purposes. The accuracy of the results depended on the honesty of the respondents,
though with the assurance given to employees it is the hope of the researcher that honest responses were given.

1.8 Delimitation of the Study

The population of the study was all the Karatina branch KNLS employees and members of the schools’ book box project (teachers and school committee members) at Karatina branch. There are 32 schools being served by the schools’ box project/service.

1.9 Assumptions

This research study had the assumption that all the respondents will cooperate and give reliable information. The study also assumed that all respondents will be available to respond to the questionnaires.

1.10 Definition of Significant Terms

Project- an individual or collaborative enterprise that is carefully planned and designed to achieve a particular aim or stated objectives. It can also be defined as a temporary endeavour with a defined beginning and end (usually time constrained and often constrained by funding or deliverables) undertaken to meet unique goals and objectives in order to bring about beneficial change or added value.

Project Management is the organization of resources and activities to deliver a predefined scope of work, within agreed timescales and costs, using existing capabilities to achieve the benefits that justified the project.

Performance is the key multi character factor intended to attain outcomes which has a major connection with planned objectives of the organization.

Risk Factor- A risk factor is a situation that may give rise to one or more project risks. A risk factor itself doesn’t cause you to miss a product, schedule, or resource target.
However, it increases the chances that something may happen that will cause you to miss one.

**Training** - Training, in the most simplistic definition, is an activity that changes people’s behavior. Increased productivity is often said to be the most important reason for training.

**KNLS Board** – is the board of management of Kenya National Library service

**School book box** - is a metal container used to transport 200 books from the library to schools that are far from the library and are members of the school book box project using a motor cycle.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews both theoretical and empirical literature related to the study. This chapter reviews studies on risk factors associated with project performance. The style adopted is by citing the topics and themes that have been reviewed. The theories reviewed are; contingency theory, agency theory and theory of internal control. The chapter concludes by highlighting the research gaps of the study.

2.2 Theoretical Framework

This section comprises review of project performance theories that are relevant to the study and inform the theoretical background of the study.

2.2.1 Pinto’s Model of Ten Critical Success Factors of the Project Management Profile

Pinto and others have published a number of articles between 1987-1990 on critical success factors and has established a widely known accepted 10 critical success factors. Pinto used a fifty-item instrument called Project management Profile (P.I.P) to measure a project’s score on each of the ten factors in comparison to over 400 projects studied. The 10 critical success factors identified by Pinto (1986) are listed as follows:

1) Project mission – initial clarity of goals and general direction 2) Top management support – willingness of top management to provide the necessary resources and authority of power for project success 3) Project schedule/plans – detailed specification of the individual action steps required for project management 4) Client consultation – communication and consultation with, and active listening to all affected parties 5) Personnel – recruitment, selection and training of the necessary personnel for the project team 6) Technical tasks – availability of the required technology and
expertise to accomplish the specific technical action steps 7) Client acceptance – the act of “selling” the final project to its intended users 8) Monitoring and feedback – timely provision of comprehensive control information at each stage in the implementation process 9) Communication – provision of an appropriate network and necessary data to all key actors in the project management 10) Trouble shooting – ability to handle unexpected crises and deviations from plan.

The first seven factors can be laid out on a sequential critical path while the balance three factors which are monitoring and feedback, communication and trouble shooting must be necessarily present at each point in the implementation process. As the project move along its life cycle, different factors are emphasized. The first three factors (mission, top management support and schedule) are related to the early “planning phase” of project management whereas the other seven are concerned with the actual execution stage of the project life cycle. As both strategic and tactics are essential for successful project management, their importance shifts as the projects moves through its life cycle. Strategic issues are most important at the beginning and tactical issues gain in importance toward the end. It is vital that a successful project manager/leader must be able to make transition between strategic and tactical considerations as the project moves forward.

In addition Pinto also stress the importance for both project team and clients to perform regular assessments to determine the “health” of the project and to involve team members in early planning and conceptual meetings. By doing so it can reinforces the goals of clients in the mind of the project team as well to obtain client’s perceptions on the ability of the project to satisfy their expectation besides influencing team members to achieve a common project goal. Regular and continuous communication is essential to ensure the team is moving in one common direction and members are aware of transition and also to emphasize the importance of joint effort in making the project a successful one. Based on Pinto empirical research conducted in 1986 where 418 responds were obtained from a group of project managers in multiple industries, the ten
factors identified explained 63.3% of the total variance in the dependent variable which is project success and 7 factors with p-values less than 0.05 were obtained.

2.2.2 Kerzner’s Critical Success Factors

Kerzner (1987) in his study defined critical success factors as elements which must exist within the organization in order to create an environment where projects may be managed with excellence on a consistent basis. They are the few key areas where “things must go right” for a particular business to flourish.

1st critical factor: Corporate understanding of project management

In order for a successful project management and management, corporate understanding of the project management at the employee/functional level, project management level and executive level. A good corporate understanding will create a corporate culture where project management is no longer viewed as either a threat to established authority or a cause for unwanted change.

2nd critical factor: Executive commitment

Project management is unlikely to succeed unless there is any visible support and commitment by executive management. This support and commitment can be described in two subtopics; project sponsorship and life-cycle management. The role of the sponsor is to manage interference that exist for the project manager besides continuously remind project team that only performance at the highest standards of excellence are acceptable. It is important that company goals, objectives and values be well understood by all members of the project team throughout the life-cycle of the project. Ongoing and positive executive involvement, in a leadership capacity will reflect executive management’s commitment to project management.

3rd critical factor: Organizational adaptability
Organizational adaptability refers to the organization’s ability to respond quickly and effectively to changes in the marketplace. Two critical factors involving organizational adaptability were found in organizations committed to excellence; informal project management and a simple but lean structure. The decision to go for either formal or informal project management and implementation depends on the scope and size of the project, the cost of the project, the availability of experienced personnel for the project and also the maturity of the concept of utilizing project in an organization. Staffing for projects was done in a manner to achieve a blend of experience, technical expertise and training. Proper selection of resources will insure that technical skills are optimally utilized with a minimum of overhead. A project team where its structure is simple and lean enable better control, communication and in budget. With this lean approach, the project manager must be experienced and have a qualified team. There must be a clear definition of responsibility and authority for individual members of the team and the project manager must be able fill the roles of facilitator, coordinator, leader, organizer, planner, delegator and administrator in order for the project to be implemented successfully.

4th critical factor: Project Manager Selection Criteria

Four criteria that are normally used to select project managers are whether they were results-oriented, possessed strong interpersonal skills, their depth of understanding of the organization and lastly their commitment to corporate values.

5th critical factors: Leadership style

Strong leadership style by the project manager is necessary for the successful implementation of projects. Normally the project manager has a great deal of responsibility but does not have the commensurate authority as a line manager whereas the line manager has a great deal of authority but only limited project responsibility. Considering this fact, it is therefore important for a project manager to maintain a leadership style that adapts to each employee assigned to the project. This is further
complicated by the fact that the project’s life cycle may be so short that the project manager does not have sufficient time to get to know the people.

6th critical factors: Commitment to planning and control

Well-managed projects are committed to planning. For example if the output of a project is to contain quality, then this quality must be properly planned for in the early states of a project. When detailed planning is being done, it must be tracked or follow-up and re-planning must be done if the initial plan does not work before it is too late to do so. It is shown that personnel factor especially the project manager competence and leadership style is one of the crucial factor in project success implementation. This is true as project in itself has no essence unless it is managed by a group of people with the necessary skills, experience and qualification.

2.2.3 Belassi and Tukel’s Critical Success Factors

Belassi and Tukel (1996) have grouped critical success factors in projects into four areas and further explain the interaction between them. The four groups were factors related to the project, factors related to the project manager and the team members, factors related to the organization and lastly factors related to the external environment. Belassi and Tukel perform 2 surveys; firstly they identify the 5 most common success factors from the literature and asked the respondent to list any other critical factor specific to their projects. From the first survey, they obtained 91 responses in which 21% of the respondents are project managers from manufacturing sector. The project managers in manufacturing ranked the most critical factor for project success as availability of resources, followed by top management support, the third most important factor was preliminary estimates, followed by project manager performance and client consultation.

In this survey, it also shown that in respect to the criteria used to measure success (cost, time, quality and client satisfaction), the organizational structure (pure, functional or matrix) and project size (more and less than 100 activities), the factors related to the organization which were availability of resources and top management support are still
the dominant factors on the list. From the second survey done using a questionnaire which targeted the project managers, out of the 57 responses that they obtained, 40.7% respondents are from manufacturing which formed the largest response group. The respondents from manufacturing sector indicated that factor related to the organization is most critical. Further to that the project managers from manufacturing rank top management support, coordination and competence of project manager as the most important factors for project success, in fact these three factors were ranked equally important followed by commitment, technical background and communication of project members as the next 3 important factors.

2.3 Empirical Literature Review

This section reviews literature from prior scholars regarding the effect of risk factors on performance of projects from various contexts.

2.3.1 Information Technology Risk Factor and Performance of Project

Information and Communication Technologies (ICTs) may be viewed in different ways. The World Bank defines ICTs as “the set of activities which facilitate” by electronic means, the processing and transmission of the customer populace as one system. Furthermore, as it curtails customer travel distance to bank branches it offers more time for customers’ productive activities. Technological innovation such as the use of computer automation and electronic banking influences speed of bank services delivery, enhanced management decision making and saving time (Alu, 2002).

Information and Communication Technology has provided self-service facilities (automated customer service machines) from where prospective bank customers can complete their account opening documents direct online. It assists customers to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards (Agboola, 2001). Thus, Technological Innovation deals
with the Physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon and Laudon, 2007).

Over the years, technology in business has been changing rapidly as the global environment becomes highly competitive and innovative. The use of Information Communication Technology (ICT) has become very vital to all organizations that intend to remain competitive in the market. In the words of Cravens (2000), the drivers of change in today’s world include, deregulation, global excess capacity, global competition, changing customer expectations, ICT, demographic shifts and changing work and lifestyles. These changes have led organizations to embark on activities that will provide a source competitive advantage and embrace the usage of ICT (Kevin, 2006).

ICT is clearly considered as a key growth area in this century, specifically, in a dynamic business and highly competition environment which requires utilizing advanced ICT to improve efficiency and cost effectiveness, and to present high quality products and services to their customers (Allen and Morton, 2004). Recently, the term of ICT has expanded to include the role of ICT tools not just inside the company but outside the company, for example, UNDP report, 2001, claimed that ICT is considered as a tool of marketing and contacting customers and looking for possible customers, as well as presenting ICT services is distinguished as a potential service for customers (Werthner, and Klein, 2005).

According to Gholami et al. (2008) ICT is also considered as a key enabler for globalization, facilitating worldwide flows of information, capital, ideas, people and products. Some researchers such as (Christensen, 2000; Doganis, 2001; Werthner and Klein, 2005) have tried to combine the previous definition by considering ICT as a group of elements (hardware, software, and people) that should be working together in the process to present the benefits to the organization in the form of information, product or services and so on. Laudon and Laudon (2007) assert that ICT includes all
the technology that facilitates the processing, transfer and exchange of information and communication services. It is considered as a subject of expertise that links information technology (computers and applications) and telecommunication networks (intranet and internet), that lets people and computers interrelate irrespective of physical location. Werthner and Klein (2005) conclude that the ICT term contains hardware, software, networks and people that should be integrated as a one unit by linking each one to the other in a clear process to generate the information that helps the decision makers, producing product and services presenting, promotion, controlling and for achieving the organization’s aims and goals.

Information technology generates fundamental changes in the nature and application of technology in business (Gholami et al., 2008). Information Communication Technologies (ICT) can provide powerful strategic and tactical tools for organisations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness. The proliferation of the Internet, as a main stream communication media and as an infrastructure for business transactions has generated a wide range of strategic implications for businesses in general as well as for the travel and airline industries in particular (Li-Hua and Khalil, 2006). Internet technology and web based commerce have dramatically transformed the airline industry in the decade (Werthner and Klein, 2005). Information and Communication Technologies (ICT) have always played a predominant role in the airline sector (Poon, 2003) but with the advent of the Internet and open source technology their impact is becoming increasingly more crucial and evident (Buhalis, 2004; Jacobsen et al., 2008). Web distribution combined with cheaper and more flexible technologies allows new players on the market to implement effective low-cost direct distribution strategies and intensify competition in the sector (Dennis 2007; Buhalis and Law, 2008).

Adeosun et al. (2009) state that the use of ICT enables strategic management, communication, collaboration, information access, decision making, data management and knowledge management in organizations. ICT causes fundamental changes in the
nature and application of technology in businesses. ICT can provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness (Buhalis, 2004). Hengst and Sol (2001), state that ICT enables organizations to decrease costs and increase capabilities and thus assist to shape inter organizational coordination. The use of ICT can assist to lower coordination cost and increase outsourcing in organizations. ICT is used to exchange information and it provides a medium for learning. Ramsey et al. (2003) note that organizations generally stand to gain from ICT in areas such as reduced transaction costs, information gathering and dissemination, inventory control, and quality control.

### 2.3.2 Supply Chain Risk Factor and Performance of Projects

Businesses rely on strong, flexible supply chains to meet consumer expectations, corporate profitability goals, and increase market share (Stank, Goldsby, Vickery, and Savitskie, 2003). To provide these capabilities, supply chains now span the globe across multiple continents and must be able to provide protection from increasingly dangerous, dynamic, and uncertain environments (Brewer and Henser, 2001) moving to a global practice. The complexity of supply chains also increase the level of risk from potentially disruptive events such as civil unrest, economic turmoil, natural disasters, pandemic outbreaks, and terrorism (Tang, 2006). According to the McKinsey 2011 survey on supply chain challenges, over 60% of business executives surveyed expect supply chain risks to increase over the next three years. Businesses have experienced losses in excess of US$ 50 billion related to ineffective supply chain risk management plans and procedures (Bessant, 2008). Businesses have seen stock price values lowered by 33% to 40% over a two year period following a supply chain disruption event (Hendricks and Singhal, 2005). This paper is focused on uncovering aspects of supply chain resiliency based on the lived experience of senior managers in some industries that have supply chain management as part of their operations.
Supply chains connect businesses, consumers, and suppliers to each other and must be protected from unnecessary exposure to risk due to faulty risk mitigation strategies which result in a business disruption. Businesses incorporate risk mitigation strategies to build higher levels of supply chain resiliency and lessen the impacts of a disruption when it occurs (Wakolbinger & Cruz, 2011). In order to achieve this goal, businesses must proactively review their supply chains using an internal and external perspective. Internal perspective examines risk relationships with respect to the company, its network of assets, processes, products, systems and people, as well as its markets (Lockamy & McCormack, 2010). External review needs to include; natural disasters, acts of war, and acts of terrorism, and other types of events which can lead to supply chain disruptions, delays, and inventory loss (Closs, Speier, Whipple, & Voss, 2008). This review of risk exposure, mitigation strategies, and supply chain resiliency can determine where business’ can best invest its resources. Despite the figural nature of supply chain management in practice, current academic and industry literature is sparse in reporting on the use of this asset in supply chain resiliency programs. Areas put forward are management decision models (Knemeyer, Zinn, and Eroglu, 2008) and sustainability within three areas of their market; economic, environmental, and social (Carter and Roger, 2008).

Risk mitigation strategy and supply chain resiliency measures are costly and each company must determine the level of investment and management right for the market they are in as well as ensure resiliency measures align with the overall company objectives (Liston-Heyes & Ceton, 2009). A private-sector analysis conducted by the International Monetary Fund found that damages resulting from natural disasters have risen from an estimated US$20 billion on average per year in the 1990s to about US$100 billion per year during 2000–10. This upward trend is expected to continue as a result of the rising concentration of people living in areas more exposed to natural disasters, and climate change (IMF, 2012). To offset these types of supply chain risks, businesses tend to carrying 10% higher inventories increasing the risk management spend to US$ 7.5 billion per year (PricewaterhouseCooper, 2011).
Supply chain resiliency programs typically consist of tangible components such as facilities, inventories, suppliers, and transportation networks. While these assist in ensuring continued operations or minimal down time when supply chains encounter disruptions, intangible component play a crucial role in supply chain resiliency as well. Commitment of managerial components (e.g. employees, leadership, management decision models, etc) to supply chain resiliency is necessary in contributing to high levels of resiliency performance. Similar to strategic use of the tangible assets, managerial components can be the difference between high and low performance.

SCM practices may enhance a firm’s flexibility, which could be defined as the firm’s ability to adapt to the changes in its business environment. The adaptation of the “many suppliers” practice could increase flexibility generating alternative sourcing for procurement by reducing supply chain risks. Building long-term partnership relations with suppliers and customers also helps to improve the flexibility of the supply chain by creating a mutual understanding among the members (Chang et al., 2005). Holding safety stock and sub-contracting could dampen down supply and demand chains uncertainties through delivering from inventory and/or purchasing sub-contracted resources. Outsourcing and 3PL are two of the frequently used SCM practices by firms to provide flexibility to internal capacity to ring fence their resources for the core activities.

E-procurement, delivery from stock, single sourcing and JIT delivery practices may help reduce delivery lead time as well as increase responsiveness, and thus provide competitive advantage to the firm. Forecasting accuracy is the most important feature in the performance of supply chains. It is a joint performance of a combination of resources such as supply of material, manufacturing, production planning and customer demand prediction. Wickramatillake et al. (2006) applied the baseline forecast to consider the major milestones of a large-scale project in order to measure the performance of the supply chain with respect to meeting the delivery targets. Through closer partnerships with suppliers and customers, it is anticipated that information could
be shared, and thus, fed into demand forecasts to improve the accuracy of predictions. This forecast will in turn enable the firm to deliver the order more confidently.

With appropriate strategic planning, it may be anticipated that the utilization of resources will be optimized leading to cost savings. For example, reduced cycle time in production could be materialized through reducing set-up time and/or eliminating non value-added activities. With a shortened cycle time, more orders could be processed, which would then result in improved efficiency and reduced production cost per unit. In addition, the use of an e-procurement tool could also shorten order lead time and reduce ordering cost (Tate, Ellram, & Kirchoff, 2010). JIT supply allows minimum inventory holding through supplies delivered when they are needed. This SCM practice will not only reduce inventory level, but will also free up warehouse space and untighten cash flow (Mistry, 2006). This is particularly important for SMEs which are in constant need for cash to run the business.

2.3.3 Customer Demand Risk Factors and Performance of Projects

Market risks occurs both from the demand (insufficient articulation of the need for and ability to adopt innovation) and supply side (lack of good bidders, supply chain insufficiencies), but appeared to be of lower concern when negotiating the procurement contract. To minimize demand side risks users were (when possible) consulted early and in certain cases they were in a position to indicate the solutions acceptable to them (as in the case of the Hammar district). The demand risk in the case of the ethanol-fuelled trucks was the determinant factor, which was apparently not sufficiently taken into consideration and jeopardized the project. Finally the effect of prices (elasticity of demand) and income are very relevant factors, which were affected by the credit crisis and there were not anticipated. In the case of waste management the willingness of future users to cooperate was identified as a risk and was dealt with through awareness raising. Supply side risks were only seldom reported, supply chains operated and only in exceptional cases suppliers were not interested but this was partly due to market
imperfections (as in the case of the asphalt cartel in Sweden). In short, market risks were partly demand and partly supply driven; demand seems to preoccupy the procurers, supply the contractors.

Having looked at the three words: Customer, Relationships, and Management that made the acronym CRM, what then is CRM? CRM is a new concept in marketing, argued to have replaced the database marketing of the 80’s. It is a business strategy that aims to understand, anticipate and manage the needs of an organization’s current and potential customers. In their own view, Hair et al. (2006) defined CRM as a combination of strategic, process, organizational, and technological change where by a company seeks to better manage its own enterprise around customer information. According to the authors, acquiring and deploying knowledge about customers and using this information across all areas of the business is the focus of CRM. Kotler and Keller (2006) see CRM as the process of managing detailed information about individual customers and carefully managing all customer touch points to maximize customer loyalty. A customer touch point according to the authors are any occasion on which a customer encounter the brand and product from actual experience to personal or mass communication to casual observation.

Implementing customer relationship management, Mihelis et al. (2001) as quoted by Onut et al. (2007) considers the implementation of CRM in the banking sector to be focused on the evaluation of the critical satisfaction dimensions and the determination of customer groups with the distinctive preferences and expectations in the private bank sector. Saleh et al. (2004) cited in Opara (2010) assert that banks have already began the process of deconstructing their business through horizontal process of outsourcing, involving two trends; deconstruction i.e. move away from monolithic organizations that undertake every activities towards networked’ models where a number of institutions (technology, communications) combine to deliver the overall offer to customers, centralization or work cross all segment, brands and competence.
The academic literature suggests that CRM offers firm strategic benefits, such as greater customer satisfaction and loyalty Kumar and Shah, (2004), higher response to cross-selling efforts Anderson, (1996), and better word-of-mouth publicity. Overall, there is a strong sense that CRM efforts improve firm performance. Boulding and colleagues (2005) note that CRM has the potential to enhance both firm performance and customer benefits through the dual creation of value. According to this view, CRM enables firms to augment the value they extract from customers, while customers gain greater value because firms meet their specific needs.

More recently, however, highly publicized failures of CRM implementation have led to skepticism among managers about its much-vaunted potential to generate firm value (Ryals 2005; Zablah, Bellenger, and Johnston (2004). For example, one industry study reveals that the majority of CRM projects fall short of delivering strategic value because they fail to grow customer loyalty, revenues, and profits sufficiently (Thompson, 2005). Several articles in the business press refer to the inability of CRM implementation to generate firm value (Rigby, Reichheld, and Schefter 2002; Whiting, 2001). From the perspective of managers in firms that have implemented CRM, or plan to do so, these reports are disconcerting. As far as managers of firms that provide CRM technology and related services are concerned, reports that CRM efforts are not effective are particularly alarming. As such, exploration of the impact of CRM on different organizational performance measures is required to reassess its potential to create firm value and to justify the investments firms have made in this area.

Previous studies have examined the influence of CRM on intermediate metrics, such as customer satisfaction and loyalty (e.g., Jayachandran et al. 2005; Mithas, Krishnan, and Fornell 2005). However, the impact of CRM implementation on firm profitability has not received sufficient attention from academics (Kumar, 2008). More important, an examination of the influence of CRM on firm performance using longitudinal data has been lacking (Boulding et al., 2005), thus limiting researchers from making assessments about the causal relationship between CRM and firm profitability.
Firms that deploy CRM are expected to produce outputs that match consumer needs to a better degree than firms that use transactional marketing. These firms will build stronger relationships by customizing products using their superior customer knowledge. As such, firms that implement CRM may achieve greater customer satisfaction (Mithas, Krishnan, and Fornell, 2005) and higher rates of customer retention (Gustaffson, Johnson, and Roos, 2005). Consequently, these firms may also obtain a price premium and enjoy superior performance (Reinartz, Krafft, and Hoyer, 2004). In effect, even if firms that implement CRM face higher costs, their ability to provide products and services that match customer needs in a superior manner enables them to generate higher profits.

2.3.4 Human Resource Risk Factor and Performance of Projects

Employees are resources in organizations, and as such they need to be trained and developed properly in order to achieve an organization’s goals and expectations (Brewster, 2007). The initial development of the HRM concept is based on the effective utilization of people, and to treat them as resources leading to the realization of business strategies and organizational objectives (Zhu, Warner & Rowley). HRM contributes to create high performance work systems by linking various employees in different departments in the same organization (Brewster, 2007). Organizations use the effectual HRM system to increase their competitiveness by investing in employee development (Sutiyono, 2007).

Armstrong (2002) asserts that human resource development is concerned with providing learning and development opportunities, making training intervention and planning, conducting and evaluating training programmes. The author discloses that the overall aim of manpower development programmes is to see that the organization has the quality of workforce its needs to attain its goals for improved performance and growth.

In the development of organizations, training plays a vital role, improving performance as well as increasing productivity, and eventually putting companies in the best position
to face competition and stay at the top. This means that there is a significant difference between the organizations that train their employees and organizations that do not (April, 2010). Training is a type of activity which is planned, systematic and it results in enhanced level of skill, knowledge and competency that are necessary to perform work effectively (Gordon, 2010). There exists a positive association between training and employee performance. Training generates benefits for the employee as well as for the organization by positively influencing employee performance through the development of employee knowledge, skills, ability, competencies and behavior (April, 2010).

Bowra et al. (2011) has found successful organizations tend to progressively know that there are volume of factors which contribute to performance of organization but human resource is definitely the most essential one. According to Tharenou, Alan and Celia (2009) the goal of training is to enhance the organization effectiveness. It also demands an influence on employee’s performance, as well as in relation to organizational performance which is mediated by means of employee’s performance. Aguinis and Kraiger (2009) said that training improves the overall organization profitability, effectiveness, productivity, and revenue and other outcomes that are directly related to the training in improving the quality of services. Thang and Drik (2008) argued that the success of organization is determined by human resources, definitely not physical resources and is highly endorsed to increase the organization’ investments in training in order to offer superior expertise, knowledge and features pertaining to employees rather than their competitors relationship between training and organization performance. ALDamoe et al. (2012) claimed that organization performance is measured through financial and non-financial measures like sale, profit, and market share and non-financial factors measures are efficiency, quality of service, productivity of organization, satisfaction of employees and commitment these factors can increase through training.

Dess (2009) conducted a study on impact of people management practices on business performance. The fundamental aim of the study was to aid managers in determining
where to direct their efforts in order to have most impact upon the performance of their companies. They gathered data from an intensive ten year study of over a hundred small and medium-sized manufacturing enterprises in the United Kingdom. The results of the study demonstrated the relationship between employee attitudes and company performance. Overall, these results very clearly indicate the importance of people management practices in predicting company performance. The results suggest that, if managers wish to influence the performance of their companies, the most important area they should emphasize is the management of people.

Grant (2011) sought to determine the impact of training and development on public sector organizations using Ghana Ports and Harbors Authority (GPHA) as a case study. The study assessed the training and development process of GPHA and whether training has improved employee performance. He designed a structured questionnaire to collect primary data from employees of GPHA. Personal interviews were also held with some management staff of the organization. The results indicated that GPHA’s employees were not well informed about training and development programmes in the organization. Most of the employees were of the view that training and development were effective tools for both personal and organizational success.

In line with Kaplan and Norton (2007, 2008), organization learning and growth involves training employees and hiring experienced consultants so that they can mentor the existing employees. This implies that career development elements (training and education, career guidance interventions such as mentorships and coaching, and employee self-development) are crucial building blocks to the achievement of balances core card performance. Career development is seen as the process of managing life, learning and work over the lifespan. It encompasses the provision of services in many different jurisdictions and delivery settings to assist people to gain the knowledge, skills, attitudes and behaviors that help them to manage their career more effectively. Career development programmes enable a deeper focus on an employee’s aims and aspirations from identification of the handicaps being faced by an employee in accomplishing his
goals to the solutions in terms of re-skilling or reassignment. This focus acts as the significant motivator for an employee to excel and exceed the targets. It facilitates powerful personal and professional development. As per the motivational theories, achievement orientation, growth and development are the basic human needs (Armstrong 2010).

Employee development also means to develop the abilities of an individual employee and organization as a whole, hence employee development consists of individual and overall growth of the employee and when employees of the organization would develop the organization, organization would be more flourished and the employee performance would increase (Elena, 2008). Therefore, there is a direct relationship between Employee Development and Employee Performance. As when employees would be more developed, they would be more satisfied with the job, more committed with the job and the performance would be increased. When employee performance would increase, this will lead to the organization effectiveness (Champathes, 2009).

Performance management involves thinking through various facets of performance, identifying, critical dimensions of performance, planning, reviewing developing and enhancing performance and related competencies (Rao, 2009). Performance management includes the whole cycle of agreeing goals and objectives, providing feedback, offering advice and motivating employees to perform at high levels (Storey, 2010). Additionally, Performance management is a planned and systematic approach to managing the performance of individuals and teams in order to achieve higher levels of organizational performance (Armstrong and Baron, 2009) and ensuring that their personal development and contribution towards the organizational goals are realized. It (PMS) is a strategic and integrated process that delivers sustained success to the organization by improving the performance of the employees and their capabilities. Performance management should also aim for enabling an organization for continuous communication and commitment building process that provides scope for employee and organizational development. Therefore for an organization to effectively deliver on its
promises and grow, it is pertinent for it to provide a model for the effective management of employee performance.

2.4 Conceptual Framework

According to Kombo and Tromp (2009), a concept is an abstract or general idea inferred or derived from specific instances. A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. Smith (2004), defines a conceptual framework as a hypothesized model identifying the model under study and the relationship between the dependent and independent variables. Kothari (2004) defines an independent variable also known as the explanatory variable is the presumed cause of the changes of the dependent variable, while a dependent variable refers to the variable which the researcher wishes to explain. Below is a figurative representation of the variables to be explored by this study.
This chapter reviews the various theories that inform the independent and dependent variables. The chapter explores the conceptualization of the independent and the dependent variables by analyzing the relationships between the variables. In addition, empirical literature in a wide range of studies have considered various risk factors as being the most basic concept used to determine the performance of projects in the world. Most of the studies however have concentrated in the developed economies with emerging economies attracting only a minority share of the studies conducted. The above review of empirical literature has however determined that there are several factors that affect the performance of projects such as technology, supply chain factors, customer demand factors and human resource factors.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was used in gathering the data, analyzing the data and reporting the results. Here, the researcher aims at explaining the methods and tools that were used to collect and analyze data to get proper and maximum information related to the subject under study.

3.2 Research design

Research design has been defined by various scholars and the definitions seem to move towards the same direction. Lavrakas (2008) and Kothari (2004) define research design as the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process. It is therefore the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.

The research design that was employed in this study was descriptive research design. The major purpose of descriptive research design is to describe the state of affairs as it is at the time. According to Mugenda and Mugenda (2008), a descriptive research is a process of collecting data in order to answer questions concerning the current status of the subjects in the study. This would help the researcher evaluate the environmental risk factors affecting project performance at Kenya National Library service in Kenya. This type of research design attempts to describe such things as possible behavior, attitudes, values and characteristics.

3.3 Target Population

Target population in statistics is the specific population about which information is desired. Cooper and Schindler (2006) defined a population as the total collection of elements about which we wish to make inferences. This definition ensures that the
population of interest is homogeneous. Population studies are more representative because everyone has equal chance to be included in the final sample that is drawn according to Mugenda and Mugenda (2008). The population of the study was all the Karatina Branch KNLS employees and members of the school book box (teachers and school committee members). There are 32 schools being served by the school box. This study used stratified random sampling whereby the respondents were divided into three strata of KNLS employees, teachers and school committee members and then simple random sampling was used in each category to select the respondents.

3.4 Sampling

Cooper and Schindler (2007) define a sampling frame as a list of elements from which the sample is actually drawn. A sample size of 245 subjects was determined by the fisher et al, formula for small population.

\[ n = Z^2 \times p \times (1-p) / d^2 \]

\[ n = 384.16 \text{ Sample size} \]

\[ Z = 1.96 \text{ Normal distribution Z value score, (1.96)} \]

\[ p = 0.5 \text{ Proportion of units in the sample size possessing the variables under study, where for this study it is set at 50% (0.5)} \]

\[ d = 0.05 \text{ Precision level desired for the study (0.1)} \]

\[ N = 678 \text{ subjects} \]

The sample size is derived at by the following formula.

\[ n_0 = n / (1 + ((n - 1) / N)) \]

The target sample size was distributed within the 3 strata on a third ratio. This ensured that sample distribution was unbiased and balanced.
Table 3.1: Target Population

<table>
<thead>
<tr>
<th>Strata</th>
<th>Population</th>
<th>Sample size</th>
<th>Sample Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNLS Employees</td>
<td>12</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>Teachers</td>
<td>186</td>
<td>67</td>
<td>36%</td>
</tr>
<tr>
<td>School committee members</td>
<td>480</td>
<td>172</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>678</strong></td>
<td><strong>245</strong></td>
<td><strong>36%</strong></td>
</tr>
</tbody>
</table>

3.5 Data Collection Methods

The researcher developed the instruments with which to collect the necessary information. Questionnaire was used to obtain important information about the population. The questionnaire contained questions which were closed ended questions. These types of questions were accompanied by a list of possible alternatives from which respondents were required to select the answer that best describe their situation. The main advantage of closed ended questions is that they are easy to analyze since they are in their immediate usable form. They are also easy to administer because each time is followed by an alternative answer and is economical to use in terms of time saving.

3.6 Data Collection Procedure

The study incorporated primary data. The primary data was sought due to it nearness to the truth and ease for control over errors (Copper and Schindler, 2006). Primary data was collected using semi structured questionnaires. The questionnaires were administered through drop and pick methods. The questionnaire were used because they allow the respondents to give their responses in a free environment. The questionnaires were self-administered to all the respondents.

3.7 Pilot Test

Pilot study has been described by various authors as an exercise that ensures that errors are restricted at a very little cost. Kothari (2004) describes a pilot survey as a replica and a rehearsal of the main survey. Newing (2011) states that the importance of field pilot
cannot be over emphasized; you will always find that there are questions that people fail
to understand or interpret in different ways, places in the questionnaire where they are
not sure where to go next, and questions that turn out simply not to elicit useful
information. The subjects who participated in the pilot study were not be included in the
final study to avoid survey fatigue. A pilot study was conducted in order to establish the
validity and reliability of data collection instruments.

3.8 Validity of the research instruments

According to Mugenda and Mugenda (2003), validity is the accuracy and
meaningfulness of inferences, which are based on the research results. In other words
validity is the degree to which results obtained from the analysis of the data actually
represent the phenomenon under study. Validity exists if the data measure what they are
supposed to measure. In order to test and enhance the validity of the questionnaire, the
researcher selected two KNLS employees and the supervisor randomly and discussed
the contents of the questionnaire. This aimed to assess the content validity of the
questionnaire. The comments from the two employees and my supervisor were reviewed
and incorporated to enhance the validity of the questionnaire.

3.9 Reliability of the research instruments

Reliability is the consistency of a set of measurement items (Cronbach, 1951). Reliability is the consistency of measurement, or the degree to which an instrument
measures the same way each time it is used under the same condition with the same
subjects. In short, it is the repeatability of measurement. A measure is considered
reliable if a person’s score on the same test given twice is similar. Twenty questionnaires
were piloted by issuing them to respondents across the board who were not included in
the final study sample. The twenty questionnaires were then coded and responses input
into SPSS which was used to generate the reliability coefficient. The researcher used the
most common internal consistency measure known as Cronbach’s Alpha (α) which was
generated by SPSS. It indicates the extent to which a set of test items can be treated as
measuring a single latent variable (Cronbach, 1951). The recommended value of 0.7 was used as a cut-off of reliability for this study.

3.10 Data Analysis

Data Analysis is the processing of data to make meaningful information (Saunders, Lewis & Thornbill, 2009). Burns and Grove (2003) define data analysis as a mechanism for reducing and organizing data to produce findings that require interpretation by the researcher. According to Hyndman (2008) data processing involves translating the answers on a questionnaire into a form that can be manipulated to produce statistics. This involves coding, editing, data entry, and monitoring the whole data processing procedure.

The data collected was analyzed using descriptive statistics. The descriptive statistics used are frequencies, counts and percentages. The Statistical Package for Social Sciences (SPSS) was used as a tool to generate the frequencies and percentages that were used in excel tabulations. The data was presented using data tables and charts.

A multivariate regression model was used to link the independent variables to the dependent variable as follows:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu \]

Where;

- \( Y \) = Project Performance
- \( X_1 \) = Information Technology
- \( X_2 \) = Supply Chain
- \( X_3 \) = Customer Demand
- \( X_4 \) = Human Resource
In the model, $\beta_0$ = the constant term while the coefficient $\beta_i= 1…4$ will be used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables. $\mu$ is the error term which captures the unexplained variations in the model.

3.11 Ethical Issues

This study adhered to appropriate research procedures and all sources of information were acknowledged as far as possible. Before the questionnaire was administered, consent was sought and given by the respondents. The respondents were informed of their right not to take part in the survey. Full confidentiality was maintained especially when dealing with questionnaires and the identity of the respondents was kept secret. Personal information was used for the purposes of the study only.
### Operationalization of Variables

<table>
<thead>
<tr>
<th>No</th>
<th>Variable Name</th>
<th>Nature of Variable</th>
<th>Variable Indicator</th>
<th>Unit of Measurement</th>
<th>Data Collection Method</th>
<th>Type of Scale</th>
<th>Type of Analysis</th>
<th>Level of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information Technology</td>
<td>Independent</td>
<td>No. of computers Investing in MIS System compatibility</td>
<td>Five point likert scale</td>
<td>Questionnaire</td>
<td>Ordinal for primary data</td>
<td>Quantitative</td>
<td>Frequencies Descriptive analysis Inferential analysis</td>
</tr>
<tr>
<td>2</td>
<td>Supply chain factors</td>
<td>Independent</td>
<td>No. of suppliers Supplier’s capabilities Communication channels Sustainable suppliers</td>
<td>Five point likert scale</td>
<td>Questionnaire</td>
<td>Ordinal for primary data</td>
<td>Quantitative</td>
<td>Frequencies Descriptive analysis Inferential analysis</td>
</tr>
<tr>
<td>3</td>
<td>Customer Demand</td>
<td>Independent</td>
<td>No. of customers Customer relationship management strategy Customer service desk Customer satisfaction</td>
<td>Five point likert scale</td>
<td>Questionnaire</td>
<td>Ordinal for primary data</td>
<td>Quantitative</td>
<td>Frequencies Descriptive analysis Inferential analysis</td>
</tr>
<tr>
<td>4</td>
<td>Human Resource</td>
<td>Independent</td>
<td>No. of employees Training Recruitment and selection practices</td>
<td>Five point likert scale</td>
<td>Questionnaire</td>
<td>Ordinal for primary data</td>
<td>Quantitative</td>
<td>Frequencies Descriptive analysis Inferential analysis</td>
</tr>
<tr>
<td>5</td>
<td>Performance of project</td>
<td>Dependent</td>
<td>Budget plan Project time plan Coordination meeting Project schedule</td>
<td>Five point likert scale</td>
<td>Questionnaire</td>
<td>Ordinal for primary data</td>
<td>Quantitative</td>
<td>Frequencies Descriptive analysis Inferential analysis</td>
</tr>
</tbody>
</table>
CHAPTER FOUR: DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The chapter presents the empirical findings and results of the application of the variables using techniques mentioned in chapter three. Specifically, the data analysis was based on specific objectives where patterns were investigated, interpreted and implications drawn on them. The chapter starts with a preliminary analysis of the data before analyzing the study variables.

4.2 Response Rate

The initial target sample for the study was 245 respondents. Two forty five questionnaires were circulated to randomly selected respondents. A research assistant was deployed to circulate and follow up on the questionnaires. Out of the 245 self administered questionnaire, 170 were duly completed and returned. This converts to a response rate of 69% as shown on Table 4.1. According to Mugenda and Mugenda (2003) and also Kothari (2004) a response rate of 50% is adequate for a descriptive study. Babbie (2004) also asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Based on these assertions from renown scholars 69% response rate is adequate for the study.

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Response Rate</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returned</td>
<td>170</td>
<td>69</td>
</tr>
<tr>
<td>Unreturned</td>
<td>75</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3 Demographic Characteristics

The preliminary information gathered regarding the characteristics of the respondents was about; gender, age and the years employed in the organization and position.
4.3.1 Gender of respondents

The respondents were asked to indicate their gender. Table 4.2 shows that majority (74%) of the respondents was male and 26% were female. The findings imply that KNLS and primary schools in Karatina is a male dominated field. According to Ellis, Cutura, Dione, Gillson, Manuel and Thongori (2007), in spite of women being major actors in Kenya’s economy, and notably in agriculture and the informal business sector, men dominate in the formal sector citing the ratio of men to women in formal sector as 74%:26%.

Table 4.2: Gender of the Respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>45</td>
<td>26.5</td>
</tr>
<tr>
<td>Male</td>
<td>125</td>
<td>73.5</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.2 Department of the Respondents

The study sought to find out the departments that the respondents worked in. Table 4.3 illustrates that 55% of the respondents were from risk and compliance department, while 52% were from accounts and finance department and 9% were in human resource department. The results imply that the respondents were well spread in all departments hence the responses were not biased to one organizational department.

Table 4.3: Department of the Respondents

<table>
<thead>
<tr>
<th>Department</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>10</td>
<td>5.9</td>
</tr>
<tr>
<td>Accounts and finance</td>
<td>52</td>
<td>30.6</td>
</tr>
<tr>
<td>Risk and Compliance</td>
<td>93</td>
<td>54.7</td>
</tr>
<tr>
<td>Human Resources</td>
<td>15</td>
<td>8.8</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.3 Position of the Respondents

The respondents were asked to indicate their positions at the organization. Results on Table 4.4 indicate that 37.1% of the respondents were unionisable employees while
27.6% were at supervisory level and 24.7% were at the middle management level. The findings imply that the respondents were well spread hence had knowledge about the issues of research and no biasness.

<table>
<thead>
<tr>
<th>Position</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top management</td>
<td>18</td>
<td>10.6</td>
</tr>
<tr>
<td>Middle Management</td>
<td>42</td>
<td>24.7</td>
</tr>
<tr>
<td>Supervisory</td>
<td>47</td>
<td>27.6</td>
</tr>
<tr>
<td>Unionisable Employee</td>
<td>63</td>
<td>37.1</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>

### Table 4.4: Position of the Respondents

#### 4.3.4 Education Level

The study sought to find out about the education level of the respondents. Study findings in Figure 4.5 indicate that 57% of the respondents had attained college level and 38% had reached university level. The findings imply that the respondents had high level of education in this sector and perhaps this observed level of education may have had a bearing on the quality of our responses.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>College</td>
<td>97</td>
<td>57.1</td>
</tr>
<tr>
<td>University</td>
<td>64</td>
<td>37.6</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>5.3</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>

#### Figure 4.5: Level of Education

#### 4.3.5 Length of Employment

The respondents were asked to indicate the years of service they have been in the project. Results on Table 4.6 indicate that 34.7% of the respondents had been in service for a period of between 6-10 years while 35.3% indicated between 2 to 5 years and 23.7% had been in the project for over 10 years. The findings imply that the employees had been in the service for more than three years therefore able to understand the book project in the organization.
4.4 Descriptive Results

This section is arranged based on the objectives of the study.

4.4.1 Project Performance

The general objective of the study was to investigate the risk factors influencing performance of projects in Kenya National Library Service. This section tested the views of the respondents regarding project performance in Kenya National Library service. Table 4.7 shows that 64.1% of the respondents agreed that the organization had systems in place for effectively managing changes to scope, budget, or schedule, 70% agreed that the organization had appropriately detailed schedules developed and used for all projects and 71.2% agreed that the organization had detailed plans used for plant shutdowns related to the project. In addition 56.5% of the respondents agreed that weekly coordination meetings were held by the project team, 60.5% agreed that a system was implemented to report and control project expenditures and 57.7% agreed that the project change orders are processed in a timely manner. The mean score for the responses was 3.52 which indicate that many respondents agreed to the statements regarding project performance at KNLS.

The findings concur with those of Ling et al (2007) obtained that the most important of practices relating to scope management are controlling the quality of the contract document, quality of response to perceived variations and extent of changes to the contract. It was recommended for foreign firms to adopt some of the project management practices highlighted to help them to achieve better project performance in China. The study findings also concur with those of Pheng and Chuan (2006) who stated

<table>
<thead>
<tr>
<th>Length of Employment</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 1 year</td>
<td>11</td>
<td>6.5</td>
</tr>
<tr>
<td>2 to 5 years</td>
<td>60</td>
<td>35.3</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>59</td>
<td>34.7</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>40</td>
<td>23.5</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>100</td>
</tr>
</tbody>
</table>
that project performance can be determined by two common sets of indicators. The first set is related to the owner, users, stakeholders and the general public which are the groups of people who will look at project performance from the macro viewpoint. The second are the developer, a non-operator, and the contractor which are the groups of people who will look at project performance from the micro viewpoint. Jin et al (2006) studied the relationship-based factors that affect performance of general building projects in China. Thirteen performance metrics were used to measure the success level of construction projects. These factors were categorized into four groups namely cost, schedule, quality and relationship performance. It was recommended that foreign firms that have entered or are going to enter the Chinese construction industry should learn how to build cooperative and harmonious relationships with Chinese partners and finally achieve satisfactory project performance by paying sufficient attention to the aforementioned factors.

Table 4.7: Project Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Likert Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization has systems in place for effectively managing changes to scope, budget, or schedule</td>
<td>10.6%</td>
<td>14.1%</td>
<td>11.2%</td>
<td>33.5%</td>
<td>30.6%</td>
<td>3.59</td>
</tr>
<tr>
<td>The organization has appropriately detailed schedules developed and used for all projects</td>
<td>4.1%</td>
<td>18.8%</td>
<td>7.1%</td>
<td>37.6%</td>
<td>32.4%</td>
<td>3.75</td>
</tr>
<tr>
<td>The organization has detailed plans used for service shutdowns related to the project</td>
<td>7.6%</td>
<td>15.3%</td>
<td>5.9%</td>
<td>46.5%</td>
<td>24.7%</td>
<td>3.65</td>
</tr>
<tr>
<td>Weekly coordination meetings are held by the project team</td>
<td>12.9%</td>
<td>24.1%</td>
<td>6.5%</td>
<td>41.2%</td>
<td>15.3%</td>
<td>3.22</td>
</tr>
<tr>
<td>A system is implemented to report and control project expenditures</td>
<td>8.2%</td>
<td>23.5%</td>
<td>7.6%</td>
<td>32.9%</td>
<td>27.6%</td>
<td>3.48</td>
</tr>
<tr>
<td>The project change orders are processed in a timely manner</td>
<td>11.2%</td>
<td>24.1%</td>
<td>7.1%</td>
<td>25.9%</td>
<td>31.8%</td>
<td>3.43</td>
</tr>
<tr>
<td>Average</td>
<td>9.1%</td>
<td>20.0%</td>
<td>7.6%</td>
<td>36.3%</td>
<td>27.1%</td>
<td>3.52</td>
</tr>
</tbody>
</table>
4.4.2 Information Technology and Project Performance

The first objective of the study was to establish the influence of Information technology risk factor on the performance of projects in Kenya National Library Service. Table 4.8 shows that 53.5% of the respondents agreed that the organization had invested in a management information system which was easy to use, 51.8% agreed that the organization has invested in a management information system which has enabled the minimization of administrative costs and 46.4% agreed that the organizations management information system was compatible with other systems. Eighty four point one percent of the respondents agreed that the management information system was flexible enough to support the growth of the firm, 81.8% agreed that the management information system of the firm has been crucial in delivering innovative customer services and 83.5% agreed that the management information system of KNLS had been crucial in assisting employees to enhance their performance and productivity. The mean score for responses for this section was 3.52 which indicates that majority of the respondents agreed that information technology was a key driver of project performance.

The study findings agree with those in Laudon and Laudon (2007) who asserted that ICT includes all the technology that facilitates the processing, transfer and exchange of information and communication services. It is considered as a subject of expertise that links information technology (computers and applications) and telecommunication networks (intranet and internet), that lets people and computers interrelate irrespective of physical location. The study findings further agree with those of Werthner and Klein (2005) who concluded that the ICT term contains hardware, software, networks and people that should be integrated as a one unit by linking each one to the other in a clear process to generate the information that helps the decision makers, producing product and services presenting, promotion, controlling and for achieving the organization’s aims and goals.

The findings corroborate with those of Adeosun et al. (2009) who stated that the use of ICT enables strategic management, communication, collaboration, information access,
decision making, data management and knowledge management in organizations. ICT causes fundamental changes in the nature and application of technology in businesses. ICT can provide powerful strategic and tactical tools for organizations, which, if properly applied and used, could bring great advantages in promoting and strengthening their competitiveness.

Further the study confirm those of Hengst and Sol (2001) who stated that ICT enables organizations to decrease costs and increase capabilities and thus assist to shape interorganizational coordination. The use of ICT can assist to lower coordination cost and increase outsourcing in organizations. ICT is used to exchange information and it provides a medium for learning. Ramsey et al. (2003) also noted that organizations generally stand to gain from ICT in areas such as reduced transaction costs, information gathering and dissemination, inventory control, and quality control.
Table 4.8: Information Technology and Project Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Likert Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization has invested in a management information system which is</td>
<td>8.2%</td>
<td>31.2%</td>
<td>7.1%</td>
<td>33.5%</td>
<td>20.0%</td>
<td>3.26</td>
</tr>
<tr>
<td>easy to use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organization has invested in a management information system which</td>
<td>11.8%</td>
<td>31.2%</td>
<td>5.3%</td>
<td>40.0%</td>
<td>11.8%</td>
<td>3.09</td>
</tr>
<tr>
<td>has enabled the minimization of administrative costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organization management information system is compatible with other</td>
<td>17.6%</td>
<td>27.6%</td>
<td>8.2%</td>
<td>28.8%</td>
<td>17.6%</td>
<td>3.01</td>
</tr>
<tr>
<td>systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The management information system is flexible enough to support the growth</td>
<td>7.1%</td>
<td>4.1%</td>
<td>4.7%</td>
<td>60.6%</td>
<td>23.5%</td>
<td>3.89</td>
</tr>
<tr>
<td>of the firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The management information system of the firm has been crucial in</td>
<td>5.9%</td>
<td>8.2%</td>
<td>4.1%</td>
<td>54.7%</td>
<td>27.1%</td>
<td>3.89</td>
</tr>
<tr>
<td>delivering innovative customer services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The management information system of KNLS has been crucial in assisting</td>
<td>5.3%</td>
<td>6.5%</td>
<td>4.7%</td>
<td>54.1%</td>
<td>29.4%</td>
<td>3.96</td>
</tr>
<tr>
<td>employees to enhance their performance and productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>9.3%</td>
<td>18.1%</td>
<td>5.7%</td>
<td>45.3%</td>
<td>21.6%</td>
<td>3.52</td>
</tr>
</tbody>
</table>

4.4.3 Supply Chain and Project Performance

The second objective of the study was to assess the influence of supply chain risk factor on the performance of projects in Kenya National Library Service. Table 4.9 illustrates that 93.6% of the respondents agreed that the suppliers involved with their organization have good distribution and production qualities hence supply consistently and in time, 48.3% agreed that their organization had sustainable suppliers hence all goods supplied in time and 79.4% agreed that the suppliers engaged by their organization have the capabilities to meet all the supply needs. Eighty three percent of the respondents agreed
that there was good communication between the organization and suppliers hence effective plans and 78% agreed that their organization had laid down policies for supplier selection. The mean score for responses for this section was 3.83 which indicates that majority of the respondents agreed that supply chain was a key driver of project performance.

The findings agree with those in Chang et al. (2005) who argued that SCM practices may enhance a firm’s flexibility, which could be defined as the firm’s ability to adapt to the changes in its business environment. The adaptation of the “many suppliers” practice could increase flexibility generating alternative sourcing for procurement by reducing supply chain risks. Building long-term partnership relations with suppliers and customers also helps to improve the flexibility of the supply chain by creating a mutual understanding among the members.

The findings further confirm those of Wickramatillake et al. (2006) who applied the baseline forecast to consider the major milestones of a large-scale project in order to measure the performance of the supply chain with respect to meeting the delivery targets. Through closer partnerships with suppliers and customers, it is anticipated that information could be shared, and thus, fed into demand forecasts to improve the accuracy of predictions. This forecast will in turn enable the firm to deliver the order more confidently.
Table 4.9: Supply Chain and Project Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Likert Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>The suppliers involved with my organization have good distribution and production qualities hence supply consistently and in time</td>
<td>0.6%</td>
<td>3.5%</td>
<td>2.4%</td>
<td>61.2%</td>
<td>32.4%</td>
<td>4.21</td>
</tr>
<tr>
<td>Our organization has sustainable suppliers hence all goods supplied in time</td>
<td>11.2%</td>
<td>36.5%</td>
<td>4.1%</td>
<td>31.2%</td>
<td>17.1%</td>
<td>3.06</td>
</tr>
<tr>
<td>The suppliers engaged by my organization have the capabilities to meet all the supply needs</td>
<td>4.7%</td>
<td>13.5%</td>
<td>2.4%</td>
<td>55.9%</td>
<td>23.5%</td>
<td>3.8</td>
</tr>
<tr>
<td>There is good communication between the organization and suppliers hence effective plans</td>
<td>0.6%</td>
<td>10.6%</td>
<td>5.9%</td>
<td>50.6%</td>
<td>32.4%</td>
<td>4.04</td>
</tr>
<tr>
<td>My organization has laid down policies for supplier selection</td>
<td>1.8%</td>
<td>11.2%</td>
<td>8.8%</td>
<td>38.2%</td>
<td>40.0%</td>
<td>4.04</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>3.8%</strong></td>
<td><strong>15.1%</strong></td>
<td><strong>4.7%</strong></td>
<td><strong>47.4%</strong></td>
<td><strong>29.1%</strong></td>
<td><strong>3.83</strong></td>
</tr>
</tbody>
</table>

4.4.4 Customer Demand and Project Performance

The third objective of the study was to establish the influence of customer demand risk factor on the performance of projects in Kenya National Library Service. Results on Table 4.10 indicates that 81.2% of the respondents agreed that customer relationship management strategy enables the organization to analyze the customer profiles, 44.2% agreed that customer demand helps KNLS to identify the most profitable customer and prospects and 81.8% agreed that high customer demand enables the organization to provide better customer service. Eighty five point nine percent of the respondents agreed that CRM has assisted in improving the image of KNLS over time and 74.1% agreed that there was increase of customer due to improved performance. The mean score for responses for this section was 3.84 which indicates that majority of the respondents agreed that customer demand was a key driver of project performance.
The finding compare well with those in Mihelis et al. (2001) who notes that implementing customer relationship management considers the implementation of CRM in the banking sector to be focused on the evaluation of the critical satisfaction dimensions and the determination of customer groups with the distinctive preferences and expectations in the private bank sector. The finding compare well with those in Saleh et al (2004) cited in Opara (2010) who assert that banks have already began the process of deconstructing their business through horizontal process of outsourcing, involving two trends; deconstruction i.e. move away from monolithic organizations that undertake every activities towards networked’ models where a number of institutions (technology, communications) combine to deliver the overall offer to customers, centralization or work cross all segment, brands and competence. This has led to improved performance and sustainable competitive advantage.

The findings also agree with those in the academic literature which suggests that CRM offers a firm strategic benefits, such as greater customer satisfaction and loyalty (Kumar and Shah 2004), higher response to cross-selling efforts (Anderson, 1996), and better word-of-mouth publicity. Overall, there is a strong sense that CRM efforts improve firm performance. Boulding and colleagues (2005) note that CRM has the potential to enhance both firm performance and customer benefits through the dual creation of value. According to this view, CRM enables firms to augment the value they extract from customers, while customers gain greater value because firms meet their specific needs.

The findings are inconsistent with those in Elmuti, Jia and Gray (2009) who conducted a study on Customer Relationship Management strategic application and organizational effectiveness show the result from surveyed 500 financial service providers in the United States that 79% of the respondents agreed that the greatest barrier of CRM success comes from lack of leadership and management skill, while 64% of respondents agreed on poor data quality and inadequate data concerning their customer, competitors and markets, and 51% of respondents reported on top management support respectively. Moreover, it is a clearly indicate that most of the organizations were less understanding
of the requirements and benefits of CRM by different functional managers in the surveyed firm (Elmuti, Jia and Gray, 2009).

Table 4.10: Customer Demand and Project Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Likert Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer relationship management strategy enables the organization to analyze the customer profiles</td>
<td>2.4%</td>
<td>11.8%</td>
<td>4.7%</td>
<td>42.4%</td>
<td>38.8%</td>
<td>4.04</td>
</tr>
<tr>
<td>Customer demand helps KNLS to identify the most profitable customer and prospects, High customer demand enables the organization to provide better customer service</td>
<td>10.6%</td>
<td>35.3%</td>
<td>10.0%</td>
<td>22.4%</td>
<td>21.8%</td>
<td>3.09</td>
</tr>
<tr>
<td>CRM has assisted in improving the image of KNLS over time</td>
<td>5.3%</td>
<td>6.5%</td>
<td>6.5%</td>
<td>40.6%</td>
<td>41.2%</td>
<td>4.06</td>
</tr>
<tr>
<td>There is increase of customer due to improved performance</td>
<td>0.6%</td>
<td>2.9%</td>
<td>10.6%</td>
<td>36.5%</td>
<td>49.4%</td>
<td>4.31</td>
</tr>
<tr>
<td>Average</td>
<td>6.1%</td>
<td>13.3%</td>
<td>7.2%</td>
<td>37.1%</td>
<td>36.4%</td>
<td>3.84</td>
</tr>
</tbody>
</table>

4.4.5 Human Resource and Project Performance

The fourth and last objective of the study was to establish the influence of human resource risk factor on the performance of projects in Kenya National Library Service. Results on Table 4.11 illustrates that 75.2% of the respondents agreed that every new employee receives induction training, 81.2% agreed that learning about the duties of the job is included in the induction training and 84.7% agreed that on the job training is important and effective in improving employee performance. Sixty six point five percent of the agreed that training programs have helped inculcating the sense of team work, 74.1% agreed that through training programs, morale in the organization has improved and 64.7% agreed that staff exchange programs with other regional revenue improves work knowledge and productivity. Finally, 65.9% of the respondents agreed that the
organization offers short training in form of seminars. The mean score for responses for this section was 3.81 which indicates that majority of the respondents agreed that human resource was a key driver of project performance.

The study findings agree with those in Aguinis and Kraiger (2009) who said that training improves the overall organization profitability, effectiveness, productivity, and revenue and other outcomes that are directly related to the training in improving the quality of services. The findings further agree with those in Thang and Drik (2008) who argued that the success of organization is determined by human resources, definitely not physical resources and is highly endorsed to increase the organization’ investments in training in order to offer superior expertise, knowledge and features pertaining to employees rather than their competitors relationship between training and organization performance.

The findings concur with those of Dess (2009) who conducted a study on impact of people management practices on business performance. The fundamental aim of the study was to aid managers in determining where to direct their efforts in order to have most impact upon the performance of their companies. They gathered data from an intensive ten year study of over a hundred small and medium-sized manufacturing enterprises in the United Kingdom. The results of the study demonstrated the relationship between employee attitudes and company performance. Overall, these results very clearly indicate the importance of people management practices in predicting company performance. The results suggest that, if managers wish to influence the performance of their companies, the most important area they should emphasize is the management of people.
Table 4.11: Human Resource and Project Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Likert Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every new employee receives induction training</td>
<td>7.1%</td>
<td>11.2%</td>
<td>6.5%</td>
<td>37.6%</td>
<td>37.6%</td>
<td>3.88</td>
</tr>
<tr>
<td>Learning about the duties of the job is included in the induction training</td>
<td>5.3%</td>
<td>7.6%</td>
<td>5.9%</td>
<td>39.4%</td>
<td>41.8%</td>
<td>4.05</td>
</tr>
<tr>
<td>On the job training is important and effective in improving employee performance</td>
<td>4.1%</td>
<td>5.3%</td>
<td>5.9%</td>
<td>45.9%</td>
<td>38.8%</td>
<td>4.1</td>
</tr>
<tr>
<td>Training programs have helped inculcating the sense of team work</td>
<td>7.6%</td>
<td>21.2%</td>
<td>4.7%</td>
<td>42.4%</td>
<td>24.1%</td>
<td>3.54</td>
</tr>
<tr>
<td>Through training programs, morale in the organization has improved.</td>
<td>2.4%</td>
<td>16.5%</td>
<td>7.1%</td>
<td>36.5%</td>
<td>37.6%</td>
<td>3.91</td>
</tr>
<tr>
<td>Staff exchange programs with other regional revenue improves work knowledge and productivity</td>
<td>8.8%</td>
<td>18.2%</td>
<td>8.2%</td>
<td>30.6%</td>
<td>34.1%</td>
<td>3.63</td>
</tr>
<tr>
<td>The organization offers short training in form of seminars</td>
<td>10.0%</td>
<td>17.1%</td>
<td>7.1%</td>
<td>35.3%</td>
<td>30.6%</td>
<td>3.59</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>6.5%</strong></td>
<td><strong>13.9%</strong></td>
<td><strong>6.5%</strong></td>
<td><strong>38.2%</strong></td>
<td><strong>34.9%</strong></td>
<td><strong>3.81</strong></td>
</tr>
</tbody>
</table>

4.5 Inferential Statistics Analysis

This section presented the correlation and regression analysis.

4.5.1 Bivariate Correlation

Table 4.12 displays the results of correlation test analysis between the dependent variable (project performance) and independent variables and also correlation among the independent variables themselves. Results on Table 4.12 show that project performance was positively correlated with all the independent variables (information technology, supply chain, customer demand and human resources). This reveals that any positive
change in effective management of information technology, supply chain, customer
demand and human resources risks led to increased project performance.

**Table 4.12: Bivariate Correlation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Project Performance Correlation</th>
<th>Information Technology</th>
<th>Supply Chain</th>
<th>Customer Demand</th>
<th>Human Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Performance</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Technology</td>
<td>0.759</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain</td>
<td>0.797</td>
<td>0.859</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Demand</td>
<td>0.755</td>
<td>0.757</td>
<td>0.794</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Human Resource</td>
<td>0.759</td>
<td>0.728</td>
<td>0.787</td>
<td>0.731</td>
<td>1</td>
</tr>
</tbody>
</table>

4.5.2 Regression Analysis

In order to establish the statistical significance of the independent variables on the
dependent variable (project performance) regression analysis was employed. The
regression equation took the following form.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu \]

Where;

\( Y = \text{Project Performance} \)

\( X_1 = \text{Information Technology} \)

\( X_2 = \text{Supply Chain} \)

\( X_3 = \text{Customer Demand} \)
X₄ = Human Resource

In the model, β₀ = the constant term while the coefficient β₁,…,4 will be used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables. µ is the error term which captures the unexplained variations in the model.

Table 4.13 shows that the coefficient of determination also called the R square is 70.9%. This means that the combined effect of the predictor variables (information technology, supply chain, customer demand and human resources) explains 70.9% of the variations in project performance. The correlation coefficient of 84.2% indicates that the combined effect of the predictor variables has a strong and positive correlation with project performance. This also meant that a change in the drivers of project performance (information technology, supply chain, customer demand and human resources) has a strong and a positive effect on performance of a project.

Table 4.13: Regression Model Fitness

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>0.842</td>
</tr>
<tr>
<td>R Square</td>
<td>0.709</td>
</tr>
<tr>
<td>Std. Error of the Estimate</td>
<td>0.49995</td>
</tr>
</tbody>
</table>

Analysis of variance (ANOVA) on Table 4.14 shows that the combined effect of information technology, supply chain, customer demand and human resources was statistically significant in explaining changes in project performance. This is demonstrated by a p value of 0.000 which is less than the acceptance critical value of 0.05.

Table 4.14: ANOVA

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>100.676</td>
<td>4</td>
<td>25.169</td>
<td>100.698</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>41.241</td>
<td>165</td>
<td>0.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141.917</td>
<td>169</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.15 displays the regression coefficients of the independent variables. The results reveal that information technology is statistically significant in explaining project performance (beta=0.221, p value 0.049). The findings imply that an increase in information and technology management risks by one unit leads to an increased project performance effectiveness by 0.221 units.

Regression results indicate that supply chain risks and project performance had a positive and significant relationship (beta=0.362, p value 0.000). The findings imply that an increase in supply chain risks management by one unit leads to an increased project performance effectiveness by 0.362 units.

Results further indicate that customer demand and project performance was positive and significant (beta=0.240, p value 0.003). The findings imply that an increase in customer demand risks management by one unit leads to an increased project performance effectiveness by 0.240 units.

Finally, the results indicated that human resources had a positive and significant relationship with project performance (beta=0.268, p value 0.000). The findings imply that human resources risks management was statistically significant in explaining project performance.

**Table 4.15: Regression Coefficients**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Std. Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.581</td>
<td>0.22</td>
<td>2.638</td>
<td>0.009</td>
</tr>
<tr>
<td>Information Technology</td>
<td>0.221</td>
<td>0.111</td>
<td>1.983</td>
<td>0.049</td>
</tr>
<tr>
<td>Supply Chain</td>
<td>0.362</td>
<td>0.13</td>
<td>2.779</td>
<td>0.006</td>
</tr>
<tr>
<td>Customer Demand</td>
<td>0.24</td>
<td>0.079</td>
<td>3.019</td>
<td>0.003</td>
</tr>
<tr>
<td>Human Resource</td>
<td>0.268</td>
<td>0.073</td>
<td>3.68</td>
<td>0.000</td>
</tr>
</tbody>
</table>
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS 
AND RECOMMENDATIONS

5.1 Introduction

This chapter finalizes the study by proving the summary of key findings, conclusions and recommendations. The summary, conclusions and recommendations are aligned to the specific objectives of the study.

5.2 Summary of Findings

Chapter one discussed the problem statement and the objectives of the study. The study aimed to investigate the risk factors influencing performance of projects in Kenya National Library Service.

Chapter two discussed the literature review, that is, the theories backing the study. The empirical evidence of the study was also given.

Chapter three presented the research methodology

The chapter discussed the type of research design, population, and target population, sample, instruments to be used and data analysis.

Chapter four presented the findings.

One of the key findings was that employees from KNLS and schools participating in the box book project were concerned about the project performance so as to enhance the whole organizations performance. This was demonstrated by the extent of agreement with the statements in the questionnaire in support of the project performance.

The first objective of the study was to establish the influence of Information technology risk factor on the performance of projects in Kenya National Library Service. Results indicated that information technology risk factors influenced project performance
positively. This was evidenced by the responses from the respondents who indicated that the organization has invested in a management information system which is easy to use (53.5%), the organization has invested in a management information system which has enabled the minimization of administrative costs and the organizations management information system was compatible with other systems (51.8%). The findings were also supported by the regression results which indicated that there was a positive and significant relationship between project performance and information and technology risk factors (beta=0.221, p value 0.049).

The second objective of the study was to influence of supply chain risk factor on the performance of projects in Kenya National Library Service. The study findings indicated that supply chain risk factors influenced project performance. These results reveal that employees at KNLS are very comfortable with the suppliers involved by the organization. This was evidenced by the responses from the respondents that indicated that suppliers involved with their organization have good distribution and production qualities hence supply consistently and in time (93.6%), the organization had sustainable suppliers hence all goods supplied in time (48.3%) and the suppliers engaged by their organization have the capabilities to meet all the supply needs (79.4%). In addition the respondents indicated that there was good communication between the organization and suppliers hence effective plans and the organization had laid down policies for supplier selection (83%). Regression results indicated that there was a positive and significant relationship between project performance and supply chain risk factors (beta=0.362, p value 0.000).

The third objective of the study was to establish the influence of customer demand risk factor on the performance of projects in Kenya National Library Service. The findings indicated that customer demand influenced project performance at KNLS. This was supported by the overwhelmingly responses from the respondents who indicated that customer relationship management strategy enabled the organization to analyze the customer profiles (81.2%), customer demand helps KNLS to identify the most profitable customer and prospects (44.2%) and high customer demand enables the organization to provide better customer service (81.5%). Results further indicated CRM has assisted in
improving the image of KNLS over time and there was increase of customer due to improved performance (85.9%). Regression results indicated that there was a positive and significant relationship between project performance and customer demand risk factor (beta=0.240, p value 0.003).

The fourth and last objective of the study was to establish the influence of human resource risk factor on the performance of projects in Kenya National Library Service. Results revealed that the respondents were empowered and the organization emphasizes on employee development. This was supported by the responses from the respondents who indicated that every new employee receives induction training (75.2%), learning about the duties of the job is included in the induction training (81.2%) and on the job training is important and effective in improving employee performance (84.7%). Regression results also supported this as they indicated that there was a positive and significant relationship between project performance and human resource risk factors (beta=0.268, p value 0.000).

5.3 Conclusions

Form the study; it was possible to conclude that there was increased and improved performance at KNLS due to effective management of the risk factors associated by any project. Results also led to a conclusion that training has increased efficiency and job satisfaction among the employees at KNLS hence the organizational performance at large.

It was possible to conclude that information technology was highly emphasized at KNLS. It was concluded that KNLS has invested in a management information system which was easy to use and that the organization has invested in a management information system which has enabled the minimization of administrative costs. Results led to the conclusion that the management information system was compatible with other systems and that the management information system was flexible enough to supports the growth of KNLS.
Based on the study findings it was possible to conclude that there was a positive and significant relationship between supply chain and project performance. This further leads to a conclusion that supply chain was a key determinant factor in influencing project performance.

Results led to the conclusion that customer demand strategy enables KNLS to analyze the customer profiles, identifying the most profitable customer and prospects and that CRM enables the organization to provide better customer service. Correlation results led to the conclusion that the relationship between customer demand and project performance is positive and significant. The findings imply that customer demand has a significant positive effect on project performance.

It was possible to conclude that staff competence was highly emphasized in KNLS. Results led to a conclusion that all employees received induction training and all the learning was incorporated on the job training. Results revealed that on the job training was important and effective in improving employee performance; training had improved the employees’ knowledge gap about the organization, which helped them to adjust comfortably to the work environment. It was also possible to conclude that the organization encouraged staff exchange programs with other employees which improve work knowledge and productivity and the organization offers short training in form of seminars to improve staff competency. Correlation and regression results led to conclusion that that the relationship between human resource and project performance is positive and significant.

Regression analysis was conducted to empirically determine whether independent variables were a significant determinant of project performance. Regression results indicate the goodness of fit for the regression between independent variables and dependent variable is satisfactory. ANOVA results indicated that the overall model is significant. This implied that the independent variables were good predictors at predicting project performance.
5.4 Recommendations

The study recommends that the management of KNLS should do through assessment of an organization’s current practices, providing ongoing training in project management practices, and implementing the necessary controls that ensure compliance with these practices that organization can ensure they will be able to deliver projects on-time, on-budget, and providing the desired functionality.

It is also recommended that organizations must recognize the importance of establishing sound project management practices when it comes to developing and/or implementing any projects in their organizations. Therefore the management is recommended that investment in Information technology be emphasized in the organization as it has an effect on the overall achievement of competitive advantage. In addition, the organization should invest in management information systems which are easy to use and which facilitate minimization of administration and operational costs.

In line with study results, it is recommended that staff competence be emphasized in the organization as it has an effect on the overall performance of project. The study recommends that the management encourages the developed clarity regarding goals, clear work procedures and clarity in all areas of responsibility. It was recommended that the management ensures that career growth, training and development on reward and motivation are emphasized. Finally, the study recommends that the management ensures that employees are satisfied on job design and responsibilities, working environment and management style.

The study also recommends that the management should ensure that it carries out training programs among the staff so that they may embrace the change and ensure that the project resources are effectively and efficiently utilized among the staff.

5.5 Areas for Further Study

Arising from the findings and the gaps in the study, another study could be carried out to include other issues that should be considered, ascertaining what measures of project success are currently in use and how valid these measures are; the effectiveness of the
various project management methodologies, practices, and tools as related to achieving project success; and finally, which other factors within the organization and outside the organization impact project performance.
REFERENCES


Kenya National library Service Board Act ( 1986). Board Act (Cap 225)


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APPENDICES

Appendix I: Introduction Letter to the Respondent

TO WHOM IT MAY CONCERN

14 May 2014

SUBJECT: INTRODUCTION LETTER
IRUNGU ALEX MAINA - REG.NO L59/61642/2013

This is to confirm that the above named is a bona fide student of University of Nairobi pursuing a Master of Arts Degree in Project Planning and Management - in the School of Continuing and Distance Education – Department of Extra Mural Studies.

He has completed course work and is currently writing the Research Project which is a requirement for the award of the Masters Degree.

His topic is “Risk Factors Influencing the Performance of Projects in Kenya; A case of Schools’ Book Box Project at Kenya National Library Service in Karatina, Nyeri County.”

Any assistance accorded to him will be highly appreciated.

Dr. L. Githero - Omutoko
RESIDENT LECTURER
NYERI & MT. KENYA REGION
Appendix II: Questionnaire

This questionnaire is divided into three short sections that should take only a few moments of your time to complete. Please respond by ticking the appropriate box or filling in your answers in the blank spaces provided. This is an academic exercise and all information collected from respondents will be treated with strict confidentiality.

Thank you very much for your cooperation

SECTION 1: BASIC INFORMATION

1. Indicate your gender
   a) Female
   b) Male

2. Department you are working
   a) Administration
   b) Accounts and finance
   c) Risk and Compliance
   d) Human Resources
   e) Operations and IT

3. Position in your department
   a) Top management
   b) Middle Management
   c) Supervisory
   d) Unionisable Employee

3. Level of education
   a) College
   b) University
   c) Other

4. How long have you been employed
SECTION2: RISK FACTORS AND PROJECT PERFORMANCE

Section A: Project Performance

This Section is concerned with assessing the performance of projects at KNLS. Please mark (x) in the box which best describes your agreement or disagreement on each of the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization has systems in place for effectively managing changes to scope, budget, or schedule</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organization has appropriately detailed schedules developed and used for all projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The organization has detailed plans used for service shutdowns related to the project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly coordination meetings are held by the project team</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A system is implemented to report and control project expenditures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The project change orders are processed in a timely manner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section B: Information Technology and Project Performance

This subsection is concerned with investigation of whether information technology risk factor influences performance of projects at KNLS. Please mark (x) in the box which best describes your agreement or disagreement.
The organization has invested in a management information system which is easy to use
The organization has invested in a management information system which has enabled the minimization of administrative costs
The organization’s management information system is compatible with other systems
The management information system is flexible enough to support the growth of the firm
The management information system of the firm has been crucial in delivering innovative customer services
The management information system of KNLS has been crucial in assisting employees to enhance their performance and productivity

Section C: Supply Chain Risk Factors and Project Performance

This subsection is concerned with investigation of whether supply chain risk factors influences performance of projects at KNLS. Please mark (x) in the box which best describes your agreement or disagreement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The suppliers involved with my organization have good</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Statement</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>distribution and production qualities hence supply consistently and in time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our organization has sustainable suppliers hence all goods supplied in time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The suppliers engaged by my organization have the capabilities to meet all the supply needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is good communication between the organization and suppliers hence effective plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My organization has laid down policies for supplier selection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section D: Customer Demand Risk Factors and Project Performance**

This subsection is concerned with investigation of whether customer demand risk factors influences KNLS project performance. Please mark (x) in the box which best describes your agreement or disagreement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer relationship management strategy enables the organization to analyze the customer profiles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer demand helps KNLS to identify the most profitable customer and prospects,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High customer demand enables the organization to provide better customer service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRM has assisted in improving the image of KNLS over time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is increase of customer due to improved performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section E: Human Resource Risk Factors and Project Performance

This subsection is concerned with investigation of whether human resource risk factors influence performance of projects at KNLS. Please mark (x) in the box which best describes your agreement or disagreement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every new employee receives induction training</td>
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<td>Learning about the duties of the job is included in the induction training</td>
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<td>On the job training is important and effective in improving employee performance</td>
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<td>Training programs have helped inculcating the sense of team work</td>
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<td>Through training programs, morale in the organization has improved.</td>
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<tr>
<td>Staff exchange programs with other regional revenue improves work knowledge and productivity</td>
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<td>The organization offers short training in form of seminars</td>
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</table>

What other factors have influenced performance of projects at KNLS?
Explain...........................................................................................................................................
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Thank you for participation