

**INFLUENCE OF RESOURCE MANAGEMENT ON IMPLEMENTATION OF
PROJECTS IN GLOBAL SYSTEM OF MOBILE COMMUNICATIONS
COMPANIES IN KENYA**

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DECLARATION

This research project is my original work and has not been presented to any university for academic award.

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

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DEDICATION

This research project is dedicated to the love of my life Mr. Kelvin Ochieng Nyamor for his love, support, and encouragement. He has been my everyday inspiration to achieve more. A special feeling of gratitude to my loving dad Mr. Elias Ochieng and late mum Eunice Ochieng whose words of encouragement and push for tenacity continue to ring in my ears. Without their support and encouragement, completion of this project would not have been possible. Thank you for inspiring me through this journey.

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ABBREVIATIONS AND ACRONYMS

CAK	-	Communication Authority of Kenya formerly Communication Commission of Kenya (CCK)
EVM	-	Earned Value Management
GSM	-	Global System of Mobile Communications
HRM	-	Human Resource Management
IT	-	Information Technology
MTN	-	Mobile Telephone Network
NCCK	-	National Council of Churches of Kenya
PMBOK	-	Project Management Body of Knowledge
PMI	-	Project Management Institute
PRINCE	-	Projects In Controlled Environments
PWC	-	Price Waterhouse Coopers
SPSS	-	Statistical Package for Social Science

ABSTRACT

This study aimed at ascertaining how resource management influences implementation of projects in the telecommunication Industry in Kenya with a deliberate focus on the Global System of Mobile Communications (GSM) companies in Kenya. The study specifically sought to assess the effect of the four facets of resources (Human resources, financial resources, time and technology) with regards to project management in GSM companies and to reveal the influence of appropriate resource management on successful project implementation. The four main objectives of the study were to determine the influence of human resource management, financial management, time management and technology management on implementation of projects in GSM companies. The literature review discusses broadly the trends in GSM technology and its adoption in the four main GSM companies in Kenya (Safaricom Limited, Airtel Kenya, Orange Telkom and Yu/Essar Telecom) and further the four facets of resources (human, financial, time and technology) influencing implementation of Projects in GSM companies in Kenya and discussing further the dependency theory in relation to resource management. The target population comprised of the four main GSM companies in Kenya consisting of fifty project team members involved in the day to day running of projects. In view of the target population, the researcher saw it appropriate to treat the entire population as a study group. The study adopted a descriptive survey design and relied on data collected through a questionnaire structured to meet the objectives of the study. The questionnaires were hand-delivered to the respondents within reach and emailed to those who could not be reached within the appointed time. The responses were then collected and emailed at an agreed date. Instrument's validity was checked by use of content validity and research instrument's reliability done using split half technique that obtained a coefficient of 0.869. Data was analyzed through organizing responses in the themes as per the objectives of the study. Descriptive statistics was used to show the trend between the variables. Frequency tables, Chi square tables and percentages were used to describe, organize and summarize collected data. The variables were subjected to correlation analysis and the Software Package for Social Sciences (SPSS) was used to analyze data. The ethical issues related to the study were addressed by maintaining a high level of confidentiality of the information given by the respondents. The study found that awareness on importance of resource management is carried out among GSM companies in Kenya and that the four facets of project resource management (Human, Financial, Time and technology) to a great extent influence implementation of projects. The study also revealed that technology is still poorly managed as a great percentage of the respondents indicated that databases are managed manually and project management softwares are put to little use. The study recommended that the management should be realistic about the project scope, timelines and resources and in turn offer their support throughout the project life cycle to ensure projects succeed. The study also recommended that GSM companies invest more in project management softwares and also offer quality training to turn around the success rate of projects to admirable levels.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In organizational studies, resource management is the efficient and effective deployment of an organization's resources when they are needed. Such resources may include financial resources, human skills or information technology (Oktaba, 2008). In the realm of project management, there have been numerous developments of processes, techniques and philosophies as to the best approach for allocating resources. These include discussions on functional vs. cross-functional resource allocation as well as processes espoused by organizations like the Project Management Institute (PMI) through their Project Management Body of Knowledge (PMBOK) methodology of project management. Resource management is a key element to activity resource estimating and project human resource management (Grüneboom, 2012). Both are essential components of a comprehensive project management plan to execute and monitor a project successfully. As is the case with the larger discipline of project management globally, there are resource management software tools available that automate and assist the process of resource allocation to projects and portfolio resource transparency including supply and demand of resources (Schwalbe, 2007).

In most developed countries, many organizations like Vodafone in the United Kingdom use professional services automation software tools to make resource management tasks more efficient and effective. The automated tools may include timesheet software and employee time tracking software, which calculate skill sets, experience and workload in selecting the most skilled employee in an organization to handle any specific project. The use of automated tools in efforts to effectively and efficiently manage resources has put Vodafone ahead of many Global System of Mobile Communications (GSM) companies globally as this has enabled the organization to forecast future staffing requirements prior to project implementation (Safaricom, 2012).

The GSM community in Africa is still struggling with best practices to be adapted for effective and efficient management of resources as the benefits associated with it are slowly penetrating the African market. With reference to ilearn module (2010), Mobile Telephone Network (MTN) Nigeria which is one of the leading GSM companies in Africa pointed out that poor resource management was one of the leading causes of massive project failure during their major rollout in 2003. This forced them to undergo a major organization change and system overhaul in order to manage their rollout projects better. The trend has since not died as many organizations are slowly considering the use of professional services automation software tools to make resource management tasks more efficient and effective and Safaricom Limited in Kenya is not an exception.

Technology is a major force in this radical transformation that has led to breaking the geographical, legal and industrial barriers and has created new management tools and services (Hibberd, 2007). Resource management has equally been part of the technological transformation in efforts to plan, schedule, control costs, manage budgets and human resources. The telecommunication industry which the GSM companies are a part of is always at the center of these technological changes, hence projects in GSM companies have in the past frequently encountered highly uncertain and changing environment. To deal with environment change projects have had to be rescheduled dynamically, and related resources rearranged according to the changing environment in order to achieve the ultimate target of the project (Safaricom, 2012). For this reason, there is an increasing demand for proper resource management to achieve project objectives hence the increasing research and investment in resource management.

The deliberation of seeking solutions of resource management and heavy investment in proper ways of managing resources have also been driven by a worrying trend of failing projects especially among GSM companies that in turn waste resources and leave companies with great losses. Idoko (2008) noted that many projects in developing countries encounter considerable time and cost overruns, fail to realize their intended benefit or are even totally terminated and abandoned before or after their completion” The number of project failure cases frequently far exceed that of successful cases

(Frimpong et al. 2003). One of the major causes for project failure is inability to control and manage the project resources as this usually leads to project delay and cost overrun.

The interest of this research in the telecommunication industry was motivated by the industry's significant contribution to the economy of many developing countries and the critical role it plays locally in the Kenyan economy. Many factors have been proposed to influence successful implementation of projects in the telecommunication industry with little attention given to the contribution of resource management. Recent research however suggests that the majority of projects still fail. As projects are increasingly being implemented widely in the telecommunication industry, it is therefore vital to identify how proper resource management can contribute to the successful implementation of projects.

1.2 Statement of the Problem

Many projects around the world keep failing, resulting in loss of millions of dollar for organizations. This persisting challenge has led many project management professionals to attempt to identify the critical factors that need to be tackled head-on to produce a successful project management outcome. There exist literatures on critical success factors for specific industry sectors, or specific country situation with a common mention of the triple constraint triangle consisting of Time, Cost and Scope. However there has been little research that reveals how effective management of resources (people, time, finances and technology) contributes to project success. The current knowledge on this subject is inadequate in relation to understanding the factors enabling the success of projects in different organizational conditions. Companies increasingly use projects in their daily work to achieve company goals. There is a growing need for competent project management in various business organizations. Project evaluation, improvement and strategic alignment are both increasing their significance for project management, according to an article analysis, Crawford et al (2006).

To date, there are still many examples of projects exceeding their budgets, running late or failing to meet other objectives (Frimpong et al. 2003). Zwikael and Globerson (2006) also pointed out that project failure is still very high and called on project managers to act

on specific areas of failure to enhance project success. In an attempt to find a solution to this excruciating problem, this research aims to fill the gap by presenting results from surveys undertaken in the telecommunication industry and specifically the GSM companies regarding the contribution of resource management. This study therefore, seeks to identify how resource management influences project implementation. The framework is expected to be tested empirically using data from the four GSM companies in Kenya namely, Safaricom Limited, Airtel Kenya, Orange Telkom and Yu (Essar Telecom Kenya) which have been in operation for a considerable number of years.

1.3 Purpose of the Study

The main purpose of the study was to investigate how resource management influences the implementation of projects in GSM companies in Kenya.

1.4 Objectives of the study

The study specifically sought;

1. To determine the influence of human resource management on implementation of projects in Global System of Mobile Communications companies in Kenya.
2. To establish the influence of financial management on implementation of projects in Global System of Mobile Communications companies in Kenya.
3. To investigate the influence of time management on implementation of projects in Global System of Mobile Communications companies in Kenya
4. To assess the influence of technology management on implementation of projects in Global System of Mobile Communications companies in Kenya

1.5 Research questions

1. How does human resource management influence effective implementation of projects in Global System of Mobile Communications companies in Kenya?
2. How does financial resource management influence effective implementation of projects in Global System of Mobile Communications companies in Kenya?
3. How does time resource management influence effective implementation of projects in Global System of Mobile Communications companies in Kenya?

4. How does technology management influence effective implementation of projects in Global System of Mobile Communications companies in Kenya?

1.6 Significance of the Study

The study may be of importance to the management of GSM companies in providing them with insights on importance of effective resource management that will enable them to run projects effectively leading to their timely success. Effective delivery of projects will enable the management ensure that project's deliverables give value to the business, and the appropriate return on investment.

While the success of a project in previous studies has been measured mainly by delivering projects on time and on budget, this study may also pinpoint the contribution of proper management of human resources and technology to the overall success of a project. These insights may assist in mitigating the overall risks of abortive projects that lead to company loses and loss of jobs by sharing insights on importance of managing resources. Feedback from this research may enable project managers to understand that the importance of controlling and managing their entire resource pool is on a daily, weekly or monthly basis, helping to ensure the most valuable resources are used to a maximum effect, and workload is balanced.

The results of this study would also be invaluable to researchers and scholars, as it forms a basis for further research. It may also enrich existing knowledge in resource management's contribution to project implementation and hence it may be of interest to both researchers and academicians who seek to explore and carry out further investigations.

1.7 Delimitation of the Study

The study was conducted on project teams in GSM companies in Kenya which are Safaricom Limited, Airtel Kenya, Orange Telkom and Yu (Essar Telkom Kenya). GSM companies were selected as the target population due to their ease of access by the researcher, time available for the study and budgetary constraints.

1.8 Limitations of the Study

Due to the constraints of time and finances the researcher was not able to conduct a geographically extensive research. To counter this, the researcher narrowed the study to cover the GSM companies in Kenya only. Some of the respondents approached were reluctant in giving information demanding incentives to participate in the study. This problem was handled by providing an introduction letter from the university and assuring the respondent that the information will be used purely for academic purposes.

1.9 Assumptions of the Study

The study assumed that the human resource departments in the respective companies gave accurate information with regards to the employee database for purposes of the study. The study also assumed that the target respondents had substantial resources within their control and willingly participated in the research giving honest and accurate answers to the research questions.

1.10 Definitions of Significant terms

Global System of Mobile Communications: Is an open, digital cellular technology used for transmitting mobile voice and data services.

Implementation: Is the process of putting a decision or plan into effect, also known as execution.

Project: Is a temporary endeavor designed to produce a unique product, service or result with defined timelines and undertaken to meet unique goals and objectives, typically to bring about beneficial change or added value.

Resource Management: Is the efficient and effective deployment and allocation of an organization's resources when and where they are needed.

Human Resources Management: The procedures required to make the most effective use of the people involved with the project.

Financial Management: Is the process by which project costs or expenses are identified, monitored and controlled and settled

Time management: Is the act of planning and exercising conscious control over the amount of time spent on specific activities, especially to increase effectiveness, efficiency or productivity.

Technology Management: is set of management discipline that allows project organizations to manage the technological fundamentals of a project to create a competitive advantage.

Project team members: This study referrer to the teams involved in day to day implementation of projects and included: - project managers, projects officers project coordinators and project analysts.

1.11 Organization of the Study

This study is organized into five chapters. Chapter one contains the introduction and background of the study. The chapter also highlights the statement of the problem giving the research objectives, the research questions and the significance of the study. Chapter two reviews literature on the GSM technology and its incorporation in the four main GSM companies in Kenya (Safaricom Limited, Airtel Kenya, Orange Telkom and Yu/Essar Telcom). The four facets of resource management are extensively discussed in this chapter. The theoretical underpinnings of the study and the conceptual framework are also clearly discussed. Chapter three encompasses the research methodology under which, research design, target population, sampling procedure and sample size selection, data collection instruments, validity and reliability of the instrument, data collection procedures and data analysis techniques are discussed. Chapter four consists of data analysis, interpretation and presentation while chapter five covers summary of discussions, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter presents a review of the literature related to the study. It builds up from a review of the GSM technology and its incorporation in the four main GSM companies in Kenya (Safaricom Limited, Airtel Kenya, Orange Telkom and Yu/Essar Telkom). The literature review then discusses the four facets of resources influencing implementation of projects in GSM companies in Kenya. It further reviews the theoretical framework discussing in details the resource dependence theory in relation to project resource management. A conceptual framework is also presented which shows how the dependent variable is affected by the independent variables.

2.2 Global System of Mobile Communications (GSM)

The Global System of Mobile Communications (GSM) is a second-generation digital technology, which was originally developed in Europe and in less than ten years after the commercial launch, it developed into world's leading and fastest growing mobile standard (GSM Assoc., 2006). The GSM Association estimates that the GSM technology is used by more than one in five people of the world's population, representing approximately 77% of the world's cellular market and is estimated to account for 73% of the world's digital market and 72% of the world's wireless market (GSM Assoc., 2006). This growth principally results from the establishment of new networks in developing countries rather than from an increase in mobile access lines in developed countries (Turel and Serenko, 2006). African countries are actively involved in the establishment of the mobile services and specifically Kenya which is the focus of this study.

Gerpott et al. (2001) wrote that since 1990s, the telecommunications sector has become an important key in the development of the economy of developed countries. This results from the saturated markets, de-regulation of telecommunications industry (removal of monopoly rights, especially enjoyed by state-owned telecoms networks), increasing number of mobile service providers, enormous technical development and intense market

competition. Szyperski & Loebbecke (1999) wrote that this increasing economic importance and benefits of telecommunications firms motivated many management scholars (especially marketing experts) to devote attention to this sector, hence the focus of this research. The GSM companies in Kenya include Safaricom Limited, Airtel Kenya, Orange Telkom and Yu (Essar Telecom Kenya). This is the preferred target for the study due to the massive technical development constantly undertaken as projects.

Safaricom Limited is a leading mobile network operator in Kenya. It was formed in 1997 as a fully owned subsidiary of Telkom Kenya. In May 2000, Vodafone Group Plc of the United Kingdom acquired a 40% stake and management responsibility for the company (Safaricom prospectus, 2002). Safaricom was therefore started as a department of Kenya Posts & Telecommunications Corporation. The former monopoly operator, launched operations in 1993 based on an analogue ETACS network and was upgraded to GSM in 1996 and license awarded in 1999 (GSM Association, 2006). Safaricom was incorporated on April 1997 as a private limited liability company. It was converted into a public company with limited liability on 16 May, 2002. Safaricom offers mobile voice services using GSM-900 and GSM-1800 technologies. It launched GPRS services in July 2004 and Enhanced Data Rates for GSM Evolution (“EDGE”) services in June 2006. In 2007 it was formally granted Kenya’s first license to operate a 3G network (Communication Authority of Kenya, 2007). By virtue of ownership, Safaricom has had a long working relationship with Vodafone Group Plc, an established leader in global mobile telecommunications industry. Vodafone also provides Safaricom with the opportunity to be a member of its global procurement group and to benefit from Vodafone’s experience in other countries; strong marketing efforts and rapid product deployment; and maintain and grow strong brand recognition. This has continuously put Safaricom ahead of its competitors in the Kenya market.

Airtel Kenya is a subsidiary of Indian telecommunications company Airtel that operates in 17 countries across Africa. Airtel has a GSM network in all countries in which it operates, providing 2G, 3G and 4G services depending upon the country of operation. Airtel Kenya launched the GSM services in Kenya in August 2000 coming second after

Safaricom Limited. Its mobile voice services are also offered using GSM-900 and GSM-1800 technologies. Airtel is the world's fourth largest mobile telecommunications company by subscribers, with over 275 million subscribers across 20 countries as of July 2013 by Mobilecomms Magazine (Paul Skeldon, 2013). It is the largest cellular service provider in India, with 192.22 million subscribers as of August 2013. Airtel is the Second largest in-country mobile operator by subscriber base, behind China Mobile and the largest provider of mobile telephony and second largest provider of fixed telephony in India. It is also a provider of broadband and subscription television services and acts as a carrier for national and international long distance communication services (Mobilecomms Magazine, 2013)

Telkom Kenya which is Kenya's oldest operator was established as a telecommunications operator under the Companies Act in April 1999. Telkom Kenya became a part of one of the world's leading telecommunications operators, the France Telecom Group, following the Group's purchase of a majority share (51%) capacity from the Government of Kenya in 2008 leading to its rebranding to Orange Telkom (Communication Authority of Kenya, 2007). Orange Telkom launched the GSM services under the Orange brand in September 2008, operating its mobile voice services using GSM-900 and GSM-1800 technologies. Two years later in November 2010, CAK announced that Orange Telkom Kenya had been granted a 3G license (Communication Authority of Kenya, 2007).

Essar Telecom Kenya became the fourth GSM licensee in Kenya, having launched under the brand "YU" in November 2008 and operating its mobile voice services using GSM-900 and GSM-1800 technologies. Essar holds a 33% interest in Vodafone Essar, which is a joint venture with the Vodafone Group, and is one of India's largest cellular service providers, with over 75 million subscribers. Essar Group has a presence in more than 15 countries worldwide. With a firm foothold in India, Essar Group is focused on global expansion with projects and investments in Canada, USA, Africa, the Middle East, the Caribbean and South East Asia (Mobilecomms Magazine, 2013)

2.3 Effective Implementation of projects

Project implementation through agile project management is designed to collect good practices information and lessons learned from previous projects to guide new projects. This feedback serves as information to manage new projects effectively and transfer past experiences of past projects for the effectiveness of new projects. Measuring the effectiveness of such past projects depends on the existence of a method for measuring their degree of success. The concept appears simple and straightforward, however many researchers over the years have attempted to define and measure project success, a difficult and elusive concept with many definitions (Thomas and Fernandez, 2008). The definition of project success is ambiguous (Salleh, 2009). Pinto et al (1998) offer two main reasons for project success ambiguity. First it is still not clear how to measure project success because project stakeholders perceive project success or failure differently and thus the outcome differently. Second is that the list of success or failure factors vary in various studies in literature. (Munns and Bjeirmi 1996; Cooke-Davis 2002) in an attempt to resolve the ambiguity in defining project success made a distinction between project success and project management success. They defined project success to be long-termed in nature oriented towards the expected total life span of the completed project. Project management success is oriented towards planning and control in the context of the short term life of the project development and delivery.

PMBOK (2008) stated that a project is successful if it achieves the triple objective outcome of within time, scope, and quality. This is the traditional view of project management as used by Munns and Bjeirmi (1996). It implies the successful achievement of time, cost and quality objectives, as well as the quality of the project process (Erling et al, 2006). Turner (2004) identifies on time, within budget and to specification especially for information technology projects as the standard for judging success. Erling et al (2006) stated that overall project success deals with the wider and longer term impact of the project, which means both project management success and project product success. They noted that project success can be determined at the end of the project, which means

in many cases, success criteria will be determined months or years after finishing the project, especially public projects.

Baccarini (1999) used the concept project success in a different approach, viewing it as product success, which implies the quality and impact of the end product to the end user (in terms of satisfaction of user(s) needs, meeting strategic organizational objectives, satisfaction of stakeholders' need) when a project execution is finished. Steinfort (2011) agrees with Baccarini (1999) and points out that “success needs to be investigated from the perspective of active project team stakeholders as well as from that of their client/benefit recipients and in the theoretical and empirical/practical review of critical success criteria and factors on any project”. Thus it is widely accepted that success is a multi-dimensional construct. This study defines project success based on the perception of success by the project stakeholders as satisfactory and meeting business objectives. This is supported by the PRINCE2 methodology stating that projects are informed to solve specific business problems, therefore they have specific goals and objectives, and success is measured in terms of how well these goals and objectives have been met (OGC, 2005).

2.4 Resource management in relation to implementation of projects in GSM companies in Kenya.

Resource management includes planning, allocating and scheduling of resources to tasks, which typically include manpower, machines, money and materials (Haugan, 2002). Resource management has an impact on time schedules and budgets. Resource allocation involves the planning of all the resources required for the project (Schwindt, 2005). The dwindling economy has given birth to tough competition especially with regard to financial resources. The operating cost of doing business has increased and companies have limited budget for projects with no margin for waste or misuse of any material (Crawford et al., 2006). Project managers have to work on limited or even tight budgets as management has come to realize that organizations must be dynamic in nature; that is, they must be very quick to change tactic should environmental conditions so dictate. These environmental factors have mostly evolved from the increasing competitiveness of

the market, changes in technology and a requirement for better control of resources for multiproduct firms (Kerzner 2013). Contributions of resource management are therefore not to be overlooked.

In response to this, processes, techniques and philosophies as to the best approach for allocating and managing resources have been developed in the field of project management. These include processes embraced by organizations like the Project Management Institute (PMI) through their Project Management Body of Knowledge (PMBOK) methodology of project management. With a lot of things to take care of in project management, resource management remains a major building block without which it is simply impossible to complete the project successfully.

Resource management is a key element to activity resource estimating and project human resource management. Both are essential components of a comprehensive project management plan to execute and monitor a project successfully (Anderson & Jessen, 2000). As is the case with the larger discipline of project management, there are resource management software tools available that automate and assist the process of resource allocation to projects and portfolio resource transparency including supply and demand of resources (Oktaba, 2008). The goal of these tools typically is to ensure that the available resources that include technology, time, money and human resource are optimally put to use to enable project management teams increase the potential for success.

2.5 Human Resources and project implementation

Human resources in project management comprises of project employees, vendor staff and subcontract labour. Managing human resources means having the right people, with the right skills and the proper tools in the right quantity, at the right time. It also means ensuring that they know what needs to be done, when and how. According to Werner & DeSimone (2006), Human Resource Management can be defined as the effective selection and utilization of employees to achieve the goals and strategies of the organization, and also the goals and needs of employees. Human Resources is said to be effective when the available talents and energies of people who are working in an

organization contribute to the creation and realization of the mission, vision, strategy, and goals of the organization. Thus, human resources could enable the company to create more value (Hill and Jones, 2004). This is the result why it is vital to manage and develop human resources effectively in any project organization (Priti, 2004).

Investigations on the link between HRM and project performance has extensively been done in the US and the UK. Several authors point out that research needs to be conducted in others contexts (Ericksen & Dyer, 2005; Wright et al., 2005). Research on HR practices and their link to firm's performance in most cases do not address the issue of horizontal integration and vertical alignment. This is centrally to HRM principle of synergetic relationship among various practices. Indeed there is a need to have measures of the contribution of synergetic relationship of these practices to performance of projects. According to Wanyama (2009), the relationship between HR practices and performance can be investigated in various ways. First independent HR practices and their contribution to project performance can be investigated. Importantly, synergetic relationship among the HR variables and contribution to project performance should be explored. Koca & Uysal (2009) researched on HRM practices and firms performance and found out that HRM practices have a strong relationship with project performance but weak relationship with market performance. Additionally, Khan (2010) investigated the effects of HRM practices and found a positive significant relationship between practices and organizational performance. Uysal and Koca (2009) found out that recruitment, training and performance based pay all have a significant positive relationship with project organization performance. Additionally khan (2010) investigated and found a significant positive relationship between recruitment and selection, training and development, performance appraisals and compensation on one hand and organizational performance on the other.

Ansoff and McDonnell (1990) have observed that organizational resources require internal integration such that collective identity and togetherness determines day to day usage, acceptable levels of utilization and equitable allocations throughout the organization structures. Similarly, external resources for dealing with outside environment will be very much in need when trying to implement a strategic plan. Aosa

(1992) has also added that the resources of an organization will affect how the organization relates to implementation of its projects. He argues that for external focus, such resources could be adaptability whereas an internal focus could lean the organization's resources towards highly skilled employees and strong budget plans. Awino (2007) in her study of the organizational resources in various NGOs in Kenya sought to determine whether organizational resources affect implementation of projects. She found out that organization resources require collective responsibility in order to determine day-to-day usage, acceptable/non-acceptable levels of utilization as well as proper allocation of those resources. These are important aspects in implementation of organizational projects.

There is evidence of gaps in the implementation of projects within Kenyan NGOs. In its 5th Corporate Plan, the National Council of Churches of Kenya (NCCCK, 2009) noted implementation of strategic projects as a weakness, and created a Planning, Monitoring and Evaluation department to ensure effective planning and implementation of the plans (5th Corporate Plan, 2009). In a similar move, the Young Women's Christian Association of Kenya (YWCA) created Oversight Teams to monitor implementation of the Strategic Plan 2008-2011, after realizing that about half of the strategic objectives in the current plan had been carried down from the previous strategic period, implying challenges in implementation of projects (YWCA, 2008). Similarly, lack of optimization of organization resources in their entirety impacts negatively on effectiveness, efficiency and sustainability of the said NGOs projects.

Human resource is a unique asset that can provide sustained competitive advantage for project organizations. Importance of managing human resources has been confirmed in changes in the business environment with increasing globalization, changing demographics of the workforce, increased focus on profitability through growth, technological changes, intellectual capital and the never-ending changes that organizations are undergoing (Sandeep Krishnan & Manjari Singh, 2006). The human resources in any organization are the most valuable asset. Lawler (2005:165) argues that human resources can and should add more value to corporations. Project managers empowered with real-time financial and acuity data can ensure that the right number of

employees with the right skills are on the job and can head off potential budget overruns (Lee, 2006). According to Targowski & Deshpande (2001), when a project manager chooses a vendor, in addition to the set criteria, there are some final ranking of vendor that should be based on factors like: functionality of software, technical infrastructure required, platform compatibility, and how the software meets various needs of the firm. Discussing about vendor, Hamerman (2008) suggest a ranking of using a human Resource management system.

Human resource management is therefore both an art and a science. The art of human resources management highly depends on the interpersonal and leadership skills of the Project Manager. These include among others motivation of stakeholders and project team members, confidence inspiration within the team, conflict management and building of team morale. The leadership factors in the success of projects, the factors contributing to making project management effective and the characteristics of effective project managers were examined by Yukl (2002) and Hyväri (2006). The science of human resources management on the other hand depends on effective planning. Human resource planning is an integral element of a comprehensive project implementation plan. The project's human resource management plan identifies the activities and resources required to manage the project team. Many of these activities (implementing the project staffing plan, acquiring staff, identifying staff assignments, documenting organizational charts) are technical in nature – often described as the 'science' of managing the project team. The skills, attitudes and behaviors required to promote a highly productive team environment, however, depend on the Project Manager's ability to move beyond the 'science' of project management and engage in the 'art' of the discipline. In order to promote a highly productive team environment, the Project Manager must be skilled in communicating vision, encouraging shared ownership, moving agendas within and outside the organization, and managing situations where there is no direct hierarchical authority.

2.6 Technology and project implementation

Technology implementation in a project environment can take the form of using less complex tools for accounting and communication, and other fundamental IT structures in the company. As a company must stay flexible to cope with the emergent nature of their business, often time the IT environment is also developed and implemented in an emergent manner. This can also mean that updates are often reactionary and in response to a crisis, rather than planned and focused on specific outcomes (Powell and Levy 2006). Technology therefore needs to be more flexible in such an environment, adapting to the special needs and requirements of the project organization.

Project management effectiveness is identified in technical competency which are the tools and methods used in project management. As indicated by a survey of PMI members, project management software is commonly used by project management professionals in the USA (Liberatore and Pollack-Johnson 2003) While there are a large number of project management tools in the market, most project managers however, use only a small subset of these tools, such as Microsoft Project. In general, project managers seem to be satisfied with the tools available, even if they are not using them to their intended capacity. The literature by Zwikael et al (2006) offers several technical tools for forecasting the final project cost. Earned Value (Fleming and Koppelman 2002) is a quantitative approach to evaluating the true performance of a project in terms of both cost deviation and schedule deviation. However, the effective use of this important technique is rarely in use. Earned Value has been termed as one of the underused cost management tools available to project managers.

The relationship between Information Technology and Human resource management is that Technology enables employees to gain complete control over their training and benefits enrolments; it also facilitates a paperless project office thus streamlining the human resources. Technology also provides knowledge-based for decision support (Cieri et al., 2005). A successful manager will ensure that the proper processes are in place to enable the spread of knowledge on a regular basis (Omerzel and Antoncic, 2008).

Communication Authority of Kenya (2007) in their study of communication trends in Information technology companies in Kenya noted that workers share knowledge or information by regularly updating databases of good work practices, lessons learned or listings of experts in organizations. Seven organizations carrying 10% said it is very effective, while 25 organizations holding 36% concurred that it is effective, 28 organizations translating to almost 40% said it is somewhat effective and 9 organizations having 13% say it is not at all effective. The deduction made here is that most of the organizations are not regularly updating databases of good work practices, lessons learned or listing of experts. Knowledge management is just a routine and not a management tool.

Yamakawa (2012) observes that businesses in East Africa are increasingly reliant on technology to gain and retain a competitive edge. IT is under pressure to provide services that meet the current and future needs of the business driven by changes in the market and in the needs of the customers. Initially it was a challenge to actually demonstrate the value of technology in service delivery in an organization as emphasis was always put more on how to control or reduce cost; rather than how to actually prove definable value is being gotten from something that is not very visible. There is increasing need to prove that technology management is an enabler and is addressing the project management needs in efforts to implement successful projects by automating and supporting the project management processes. But oftentimes, a great deal of money is spent on systems that are subsequently not used, one of them being the earned value management (Price Waterhouse Coopers, 2012).

In the 2007 Global Project Management Survey by PWC, the top three reasons identified by respondents for project failure were missed deadlines (schedule), scope changes (scope) and insufficient resources (costs) which are all internal project factors. These factors, commonly referred to as the 'triple constraint' in the project management framework, are combined and measured under Earned Value Management (EVM). EVM is a management tool through the automatic integration of scope, schedule and costs used to objectively measure project performance. The same survey took a closer look at the use of EVM and its correlation to the success of projects in organizations. The survey

showed that 40% of participants use EVM in their organizations with the United States having the most respondents that always use tool, followed by Australia and Canada. Africa had the least number of respondents confirming use of EVM tool and Kenya was not an exception. The main reason respondents cited for rarely or never using EVM in their organization is due to a lack of EVM expertise and experience and Kenyan GSM companies were included in this. This is consistent with the organizations that do not have certified EVM professionals, which were 68% of the respondents. The survey results indicated that project management softwares and tools like EVM contribute to high performance across the key indicators and this have proved useful in countries like the United states but yet to gain popularity in Africa not excluding the GSM companies in Kenya. According to Price Waterhouse Coopers (2012), Organizations that utilize EVM, contribute its use towards project success (62%); as a useful tool to predict project success (73%); and enabling leaders to use EVM metrics to assess project status (51%)

2.7 Finances and project implementation

These are the costs associated with the project, they include costs for labour hours, purchase of software and purchase price for material and equipment required for the project among others.

Project budget is the third constraint included in the iron triangle of constraints, and one that receives a lot of attention in relation to failed projects. If the project scope and schedule cannot be altered, then this constraint will usually need to be altered to allow for project completion (Turner, 2004). The budget will often be the determining factor in deciding exactly how a project will be executed, as one of the decisions that may need to be made is whether to buy or build the solution. Depending on available internal resources and the available external offerings, this decision will influence whether a certain service is supplied internally to the organization or sourced from external contractors and suppliers (PMI, 2008). Managing the budgetary constraint also involves calculating the necessary funds pertaining to risk management, it is admittedly difficult to produce an accurate project cost estimate that takes into account the risks and uncertainties capable of causing costs overruns (Lester, 1998). If it is deemed that a

particular detrimental scenario has a high probability of occurring during the project implementation, funds may need to be assigned to diminish or minimize any potential negative effects. This is usually designated in the budget in the form of a contingency reserve.

The project's cost management processes are: resource planning, cost estimation, cost budgeting and cost control (Schwalbe, 2007). Resource planning involves the processes of determining technology, equipment as well as personnel. Cost estimation deals with approximations of all the costs for carrying out all anticipated activities. Once approximations have been made for the total costs, cost allocation is then made for individual activities through the process of cost budgeting. After the project has started, it is necessary to control the cost changes that occur during deployment. There is however a strong interaction and overlapping of the processes among themselves.

One of the most popular methods of cost control and management according to White's and Fortune's empirical survey is the Activity-Based Costing (White & Fortune, 2002). This is however yet to take effect in Africa and Kenya as well. The purpose of Activity-Based Costing (ABC) is to measure costs and therefore profitability based on the cost of time. This leads to accuracy in cost tracking as well as measuring resource capacity excesses and constraints. It also helps to decide what costs contribute to profitability. The costs of risk mitigation are attributed to appropriate project tasks and subtracted from project margins (Barkley, 2004). As the name suggests, Cost-Benefit Analysis identifies, specifies and evaluates a proposal's costs and benefits (Field & Keller, 1998). It is a typical financial measurement tool, which is also used to measure organizational value. According to PMI's survey, Cost-Benefit Analysis is a tool which is directly related to choosing the best project or finding the best solution to the project mission. According to Besner & Hobbs (2006) 37% of respondents of White's and Fortune's empirical survey answered that they make use of Cost-Benefit Analysis in project management (White & Fortune, 2002).

Kiogora (2009) in his study of the youth project in Kangema constituency points out that finance is a major resource in projects, without which they cannot operate and so the resource should be given the attention it deserves if the youth projects have to survive. Financial activities in youth groups should be planned for, recorded, monitored and controlled if the projects have to be sustainable. Massie (2006) noted that the demand for careful project planning has made financial management a key activity in organizations and projects in general. Financial Management is the process of managing the financial resources, including accounting and financial reporting, budgeting, collecting accounts receivable, risk management, and insurance for a business. Finance manager has not only to plan, procure and utilize the funds but he also has to exercise control over finances. This can be done through many techniques like ratio analysis, financial forecasting, and cost and profit control. In many cases, a financial project manager plays a key role in developing the long-term financial goals of a company or organization to ensure a profitable future for the firm. According to Madison (2009), financial planning involves setting objectives, assessing assets and resources, estimating future financial needs and making plan to achieve monetary goals. He continued to suggest that, one systematic approach for attaining effective management performance is financial planning, budgeting and that sustainability of any project lies in effective financial management right from the implementation stage to post implementation phase. It is important to lay and plan our budget for the amount of money received (Kiogora, 2009). Massie (2006), points out that financial statements contain valuable information that managers can use to analyze past performance of a project. Stoner et al (2007) noted that financial statements are used to track the monetary value of goods and services into and out of the project organization. This then calls for the project managers to have a careful financial management strategy to guarantee successful completion of projects.

With the local case of Kangema youth project, the members noted when proper financial records are kept in youth income generating projects, their sustainability would be promoted. This concurs with the idea of (Sanga, 2009) who argued that proper record keeping sustains a project and without it the business runs a risk of hitting cash flow crunches wasting money and missing deadlines. Efficient budgeting of the project

activities was also strongly supported by majority of the chairpersons and members to have a great influence on sustainability of youth income projects. This is supported by ideas advanced by (Madison 2009) who suggested that, one systematic approach for attaining effective management performance is financial planning, budgeting and that sustainability of any project lies in effective financial management right from the implementation stage to post implementation phase. It is also supported by (Kiogora, 2009), who argued that sustainability of any project lies on a good plan and budget for the amount of money received.

The Transparency International Kenya, (TI) (2009) in assessing the free primary school project, observed that the Kenyan education system is burdened with financial management risks that compromise the qualities of education. The report assesses the significant risks at the various levels of decision making, resource allocation and utilization that create corruption opportunities. According to this report, 73% of the government's social sector expenditure and 40% of the national recurrent expenditure is channeled to the education sector. Households spend between 5% to 7% of the GDP on education. This large budgetary allocation requires that accountable measures and control be instituted to ensure integrity and responsive service delivery in the sector.

2.8 Time and project implementation

Time management is the process of conscious management of the amount of time spent in performing a task. It is aimed at increasing one's productivity by ensuring effective and efficient allocation of time. The process involves planning, allocating, setting goals and delegating duties so as to use scarce time resource for unlimited tasks. Time Management is a vital part of Project Management. Westland (2006) gives the following definition for time management: "Time Management is the process of recording and controlling time spent by staff on the project."

Time resource is associated with the timing of the individual project tasks in relation to the project deadline. This usually includes the start and completion dates, and in the event that a project is delivering a product in stages, then it will most likely include timing or

the separate sections of the project. This is an important management tool to enable the best deployment of resources, and is necessary in situations where one task is dependent on another. Scheduling is an important issue that needs to be tightly controlled in a project, as even with meticulous planning tasks may not always occur when they should, with delays affecting the entire project timeline. The remaining tasks may need to be reexamined and the timing adjusted several times during the project (PMI 2007).

In a world of strict deadlines and timelines, scheduling is an important topic, and this has led to the establishment of manuals and standards to assist organizations in providing the best scheduling practices for projects. The practice standard from PMI (2007) aims to deliver a set of tools to the project practitioner so that they can assert a better control on the timing of projects. This includes such tools as project calendars, work periods and milestones, in addition to processes for optimizing the project update cycle.

Unlike other facets of resources, time cannot be manipulated. It is thus a scarce resource whose utilization is necessary for optimal achievement of project goals and objectives. This resource once wasted, it cannot be recovered. Time management is considered the most important component in achieving the project goals since 80% of the total projects offer minimum timeline for the completion and this is where a project manager's competence is judged (PMI, 2007) In the case of time overruns, Zhang et al. (2003) identified eight factors that cause delay in project executions in Africa. These are: - factors related to the contractor, the design team, the project, labour, client, material, equipment, and other factors. At present, the improvement of productivity and effective time management procedures become extremely important for completion of projects with positive results and even for survival of a project company. Inappropriate time management and low productivity create a negative impact on project environment, particularly increased cost, losses in profit and damage to reputation. Effective time management is vitally important for projects in GSM companies, but at the same time, project team should pay appropriate attention to other objectives of project management. "Project manager is a key figure in making trade-offs between project cost, time, and scope." (Mantel et al, 2011).

Poor estimates of time in the planning phase continue to be the single largest cause for poor performance in projects and the single largest worsening trend. In the 2004 Global Project Management Survey by PWC, participants contributed project underperformance 17% of the time to poor time estimates and missed deadlines, whereas today that number has increased to 32% (Price Waterhouse Coopers, 2012). PMI (2008) suggests that the project manager and the project team should utilize expert judgment if possible to predict the duration of project activities. Expert judgment can come from subject matter experts, project team members, and other resources, internal or external to the performing organization that is familiar with the activities the project demands. Estimating durations is not easy as there are many variables that can influence an activity's duration. Consider the amount of resources that can be applied to the project, the experience of the resources completing this type of work, and their competence with the work packages.

Project management in the construction industry in Kenya still remains rudimentary. A study done in Kenya for public building projects established that out of one hundred (100) of the projects, seventy three (73) experienced time overruns compared to thirty eight (38) out of one hundred (100), which suffered cost overruns (Mbatha,1986). Another study undertaken for both public and private building projects came up with a similar conclusion (Talukhaba, 1989). The overall implication is that national resources are significantly wasted. The observations also do imply that project risks are not adequately examined prior to the award of contracts (Gichunge, 2000). According to Gichunge (2000) the most serious source of cost and time risks in building projects during the construction period is 'extra work' (technically termed as variations or scope creep), which normally occurs in 73.50% of the building projects in the population whereas defective materials accounted for 38.20% for observed unacceptable quality work cases. There is evidence that construction projects performance in Kenya is inadequate. Time and Cost performance of projects in Kenya are poor to the extent that, over 70% of the projects initiated are likely to escalate in time with a magnitude of over 50%.. Studies have shown that, although cost performance was not better, time performance was comparatively the worst (Masu, 2006). Masu (2006) recommends that efforts should be directed to the training of the key participants in project resource management.

2.9 Theoretical Framework

This study is based on resource dependence theory by Pfeffer & Salancik (1978). They were very influential in establishing the resource dependence theory (Hillman, 2009: p. 1404). The theory describes projects as being exposed not only to internal but also to external contingencies. The contingencies arise because projects depend on the resources of its environment which are necessary for the project organization to exist and excel in successful completion of projects. External factors are able to control these resources to a certain degree which can influence the behaviour of project team members and build external dependence. To increase control of power over resources and ensure successful completion of projects, project organizations try to minimize their own dependence or increase the dependence of others on themselves (Ulrich and Barney, 1984: p. 472). In doing so, resource dependence theory proposes theoretically and empirically that project organizations concentrate more on resources which are critical for their long term survival (Jawahar and Mclaughlin, 2001: p. 402). A good portion of the work by Pfeffer and Salancik (1978) concentrates on how a project organization can manage resource dependence on its environment to ensure a successful outcome.

Project organizations in efforts to manage resource dependence on its environment can negotiate the environment by influencing the composition of the project board (Coulton & Taylor, 2004). There also exists the possibility of influencing political decisions or regulations to create a resourceful environment that is more favourable for the project's survival and success (Anderson et al., 2007). Furthermore, the success of a project also depends on the support of its executive sponsors, reason why it is critical to win their support throughout the project lifecycle. Pfeffer and Salancik (1978) suggest that certain benefits accrue to projects through their board members: advice, expertise, access to resources, and legitimacy. The board of directors or project sponsors is therefore a potentially valuable resource for the project and its management. In Particular, where boards can provide a firm access to scarce, valuable and non-replicable resources, it can become a valuable resource, particularly when compared to a board that focuses mainly on monitoring and minimizing agency costs (Huse, 2007) Thus, a board's capabilities

may be a valuable resource that cannot be easily duplicated or substituted and so may provide the project with a distinct competitive advantage.

To Pfeffer and Salancik (2003) the project's environment "encompasses every event in the world that may potentially have an effect on the project's activities." They distinguish three dimensions/levels that explain variations in a project's relationship with the environment. Considering their work, the theory has themes that are crucial in understanding how project's decision making with regards to resources are constrained by the environment with the main theme focusing on interdependency. Interdependence in social systems is a consequence of open systems and exists "whenever one actor does not entirely control all of the conditions necessary for the achievement of an action or for obtaining the outcome desired from the action" (Pfeffer & Salancik, 2003, p. 40). Since control of resources may lie outside the project organization, the focal organization must interact with elements of the environment in order to obtain and manage the resources necessary for successful completion of the project. The need for resources, including financial, human as well as technology obtained from the environment, makes projects potentially dependent on external or internal sources for these resources. The actors become mutually dependent as they work to ensure a sufficient flow of resources, the interconnected result of which is a network of social interactions and interdependencies. This state of interdependence, and the doubts that accompany the actions of other actors in the environment, creates uncertainty or unpredictability that also increase with a lack of coordinated activities among social units.

To Pfeffer and Salancik (2003), problematic conditions exist in determining the dependence of one project on another; consequently, the project's success depends on the following three factors. The first is the importance of resources and the extent to which a project organization requires them for continued operation and successful completion of projects. The second is the extent to which stakeholders have discretion over resource allocation and use. The third is the extent to which there are few alternatives, or the extent of control over the resource by an interest group (Pfeffer & Salancik, 2003; 45-46). The notion of Resource Dependence Theory therefore is that project organisations are affected by and change due to dependence on resources under external control. Hillman

(2009) expounds that for projects to sustain themselves they rely on an inflow of resources and require efficient and effective management. These resources can be physical or monetary; they can be in form of information or even social legitimacy. As project organizations are not self-sufficient they must interact with their environment and other business units to secure and manage the resources in question. The project units become dependent on their external environment like other business units which because of this have some degree of influence on or control of the projects team behaviour. If project units are to survive they will therefore have to adequately manage the scarce resources in their environment as they maintain good working relationships with other teams in control of some resources they may need.

One of the challenges for resource dependence theory as applied in this study is that its prescriptions are intertwined with its theoretical predictions (Casciaro and Piskorski, 2005). The prescriptions that arise from External Control undoubtedly require modification in today's tactics like co-opting suppliers by putting them on the board, or diversifying, probably would do most project organizations more harm than good. But the underlying theoretical approach of diagnosing the sources of power and dependence and predicting when and in what direction projects are likely to go still yields great insight. Thus, the most useful future work will address one or both of these issues: updating the sources of power and dependence, and cataloguing the new set of available tactics for managing project dependence.

2.10 Conceptual Framework

Mugenda and Mugenda (2003), define a conceptual framework as a hypothesized model identifying the concepts under study and their relationships. In this framework, there are certain facets of resource management that influence implementation of projects in GSM companies in Kenya. For this study, five facets; Human resource, financial resource, Time resource and Technology resource are considered as the independent variables. Successful Implementation of Projects in GSM Companies in Kenya is the dependent variable that is affected by the independent variables. The resource management facets influencing implementation of projects in GSM companies in Kenya have been reflected as illustrated in figure 1:

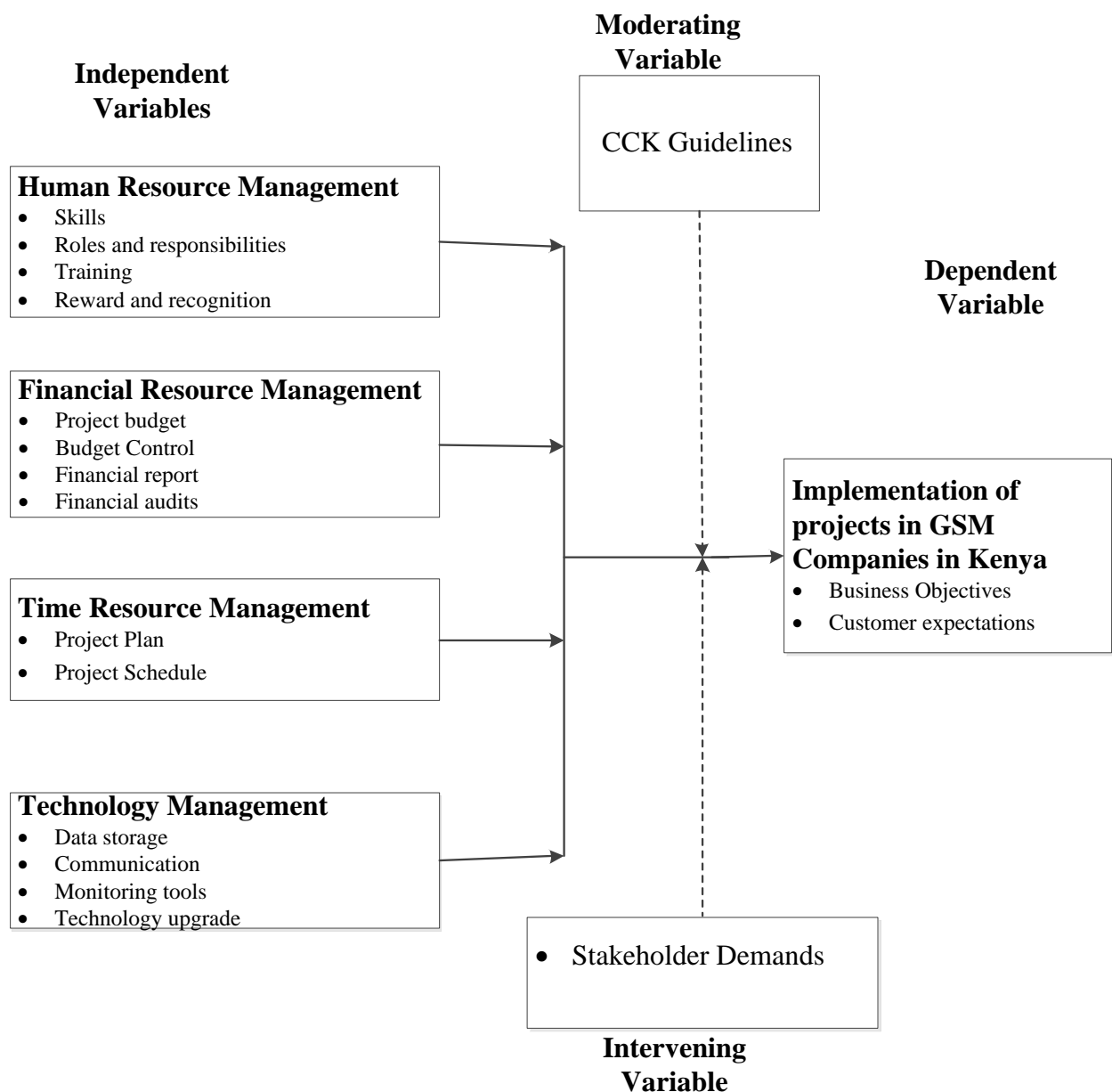


Figure 1: Conceptual Framework

2.11 Knowledge Gap

Several studies have been conducted on factors influencing successful implementation of projects. For instance, the triple constraint triangle of scope, cost and time fronted by

PMI in their Project Management Body of Knowledge (2008). These discussions ascertaining that success of a project can only be determined with respect to Scope, Cost and Time are limiting as they are strictly efficiency based leaving a lot to be desired in terms of effectiveness. Murali (2006) examined the effects of time on construction projects in Africa. He pointed out the effects of project delay as cost overrun, disputes, arbitration, litigation and total abandonment of projects. This study only concentrated on one aspect of time leaving out other factors heavily contributing to project success like project funding and stakeholder buy in. Nguyen et al (2004) on the study of project success factors in large construction projects in Africa identified five factors relating to project success. These were competent project manager, adequate funding, competent team, commitment to projects and availability of human resources. Their contributions though very critical were mainly human related factors leaving out the contributions of technology. Yukl (2008) specifies leadership style of Project Manager from all other competences correlated to overall project success. Fortune and White (2006) following Formal System Model components point user and client involvement, competence of project manager, qualified team and good performance of suppliers and contractors as success factors but allocate them into different model's aspects. They also specify project sponsor/ champion role separately. Toor and Ogunlana (2008) point 'sufficient resources' as an extra factor increasing chances for project successful implementation but did not elaborate farther to discuss the different aspects of resources. From the above discussions, there is no known study that has been carried out on the influence of resource management on implementation of projects. This study therefore seeks to establish how resource management influences implementation of projects in GSM companies in Kenya.

2.12 Summary of the Chapter

This chapter has reviewed the GSM technology and its incorporation in the four main GSM companies in Kenya (Safaricom Limited, Airtel Kenya, Orange Telkom and Yu/Essar Telkom). The literature review further discussed the four main facets of resources in relation to project management namely human resources, financial resources, technology and time in relation to project implementation. The theoretical framework

covered the resource dependence theory which expounds that the success of projects highly depends on the control and power over the available resources. The conceptual framework gave a diagrammatic representation of the relationship between the independent variables and the dependent variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methods used for the study and adopts the following structure: research design, target population sample and sampling procedure, the data collection instruments, the validity and reliability of the research instruments and the method of data collection. Data analysis and ethical considerations are also discussed in this in chapter.

3.2 Research Design

The research design is a master plan which shows the method that the researcher is going to use to gather data. According to Baxter, (2008) he defines the research design as the essential parameters of a research project including factors such as its basic approach (qualitative or quantitative), the sample or target to be interviewed or observed, numbers of interviews or observations, research locations, questionnaires and materials to be introduced.

This study adopted a descriptive survey to conduct and evaluate the influence of resource management and its impact on implementation of projects among GSM companies in Kenya, namely Safaricom Limited, Airtel Kenya, Orange Telkom and Yu (Essar Telecom Kenya). Khan, (1993) recommends a descriptive survey design for its ability to produce statistical information about aspects of education that interest policy makers and researchers.

Descriptive survey research designs are used in preliminary and exploratory studies to allow researchers to gather information and summarize, present and interpret data for the purpose of clarification (Orodho, 2003). According to Mugenda and Mugenda (2003) the purpose of descriptive research is to determine and report the way things are and it helps in establishing the current status of the population under study. The design was considered for this study due to its ability to ensure minimization of bias and maximization of reliability of evidence collected. Furthermore, descriptive survey design

raises concern for the economical completion of the research study. The method is rigid and focuses on the objectives of the study (Gay, 2011)

3.3 Target population

Target population is the specific population about which information is desired. According to Ngechu (2004), a population is a well-defined or set of people, services, elements, events, group of things or households that are being investigated. Mugenda and Mugenda, (2003), explain that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. The target population of this study comprised of the project team members from the four main GSM companies in Kenya which include Safaricom Limited consisting of 20 project team members, Airtel Kenya consisting of 14 project team members, Orange Telkom consisting of 10 project team members and Yu/Essar Telkom consisting of 6 project team members. The total target population for the study was 50 project team members.

3.4 Sample and Sampling Procedure

Sampling is the process of selecting a number of individuals for a study (Ngulube, 2003). Khan (1993, pp 47) warns that “there is no fixed number of percentages of subjects that determine the size of an adequate sample.” the ideal sample is “large enough to serve as an adequate representation of the population about which the researcher wishes to generalize and small enough to be selected economically in terms of subject availability, expense in terms of time and money and complexity of data analysis”. A sample is a smaller and more accessible sub-set of the population that adequately represents the overall group, thus enabling one to give an accurate (within acceptable limits) picture of the population as a whole, with respect to the particular aspects of interests of the study. However in view of the target population, it was more appropriate to treat the entire population as a study group. According to Kothari (2008), when the universe is a small one, it is no use resorting to a sample survey. The population for this study consisted of 50 project team members that included project managers, project officers, project analysts and project coordinators thus eliminating the need for a sample survey. Questionnaires were administered to the 50 project team members from the four GSM

companies. Each of the above companies has project team members directly involved in internal projects as illustrated in Table 3.1.

Table 3.1: Summary of population size

GSM Companies	Number
Safaricom Ltd.	20
Airtel Kenya	14
Orange Telkom	10
Yu (Essar Telcom)	6
Total	50

3.5 Data Collection Instruments

The researcher used questionnaires for primary data collection. The questionnaires were preferred because they are straightforward and less time consuming for both the researcher and the participants (Owens, 2002). Questionnaires are appropriate for studies since they collect information that is not directly observable as they inquire about feelings, motivations, attitudes, accomplishments as well as experiences of individuals (Borg and Gall, 1996). This is largely because the participants are not manipulated in any way by the researcher. Structured questionnaires designed to meet the objectives of the study were used. Each item was developed to address specific themes of the study. The respondents selected were each briefed on how to fill in the questionnaire. The respondents were given a time frame within which they will respond to the questionnaire after which some questionnaire were collected by the researcher and some emailed within the agreed time. The questionnaires were divided into five sections, the first giving the demographic information of respondents while the other four were structured in line with the research objectives.

3.6 Instruments Validity

Validity shows whether the items measure what they are designed to measure (Borg and Gall, 1989). A pilot test was conducted to assist in determining accuracy, clarity, relevance and suitability of the research instrument. Borg and Gall (1989) notes that two to three cases are sufficient for some pilot studies. For this study, a sample of four was preferred. The sample of four was picked from members of other departments that work directly with the project teams and not from the project departments scheduled to take part in the survey. The purpose of the pilot was to assist the researcher to identify the items which could have been inadequate and necessary corrections were made, and ambiguous questions reframed. Content validity was examined to ensure the instruments would answer all the research questions (Borg and Gall, 1996). Based on the analysis of the pilot results, the researcher made corrections, adjustments and additions to some research instruments with expertise advice from the supervisor.

3.7 Instruments Reliability

This is the dependability, consistency or trustworthiness of a test. Creswell (2000) defines reliability as 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. The Split-half method was used to establish reliability of the instruments. The method involved splitting each instrument into two halves (odd and even items) then calculating the Pearson's correlation coefficient(r) between the responses (scores) of the two halves. This was done using both the instruments separately. The scores for all odd and even numbered items for each of the four respondents in the pilot study were computed separately using the formula below.

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \times \sqrt{n \sum y^2 - (\sum y)^2}}$$

Where;

X = Odd scores

Y = Even Scores

$\sum x$ = Sum of X Scores

$\sum y$ = Sum of Y scores

$\sum xy$ = Sum of the product of corresponding X & Y scores

$\sum x \sum y$ = Product of X & Y totals

$\sum X^2$ = Sum of the square of X scores

$\sum Y^2$ = Sum of the square of Y scores

The correlation was re-evaluated using the spearman-brown formula to increase the estimate reliability.

Spearman-brown formula

$$r = \frac{2r}{1+r}$$

Where,

r = estimated correction between two halves

Pearson product moment correlation coefficient of 0.869 was obtained which was interpreted to mean high level of reliability. Gay (2011) recommends that a coefficient of 0.80 is good to make judgment.

3.8 Data Collection Procedure

Primary data was collected via a structured questionnaire. Two methods were used to administer the questionnaire; the first was the drop and pick-later method. This method was used for project team members within Safaricom limited due to ease of access by the researcher. The second method was through email. This method was used for project team members outside Safaricom Limited. According to Borg and Gall (1996) questionnaires have the added advantage of being less costly and using less time as instruments of data collection. Mugenda and Mugenda (2003), advise that questionnaires are commonly used to obtain important information about a population under study.

The researcher first obtained an introduction letter from the university approving collection of data and conducting the study, this was used as an introduction to the respondents. The researcher employed the aid of research assistants who underwent a

comprehensive induction course on administration of the questionnaires. The Human resource departments of the four GSM companies (Safaricom Limited, Airtel Kenya, Orange Telkom and Yu (Essar Telecom)) were visited and permission for research granted. The researcher used members of the human resource departments to facilitate introduction to the respective project team members.

3.9 Data Analysis and Presentation

The collected data was analyzed using statistical tools so as to answer the research questions and objectives. The data analysis process involved the use of descriptive statistics. Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data. Descriptive Statistics are used to present quantitative descriptions in a manageable form. In this research descriptive analysis such as frequencies tables, chi square tables and percentages were used to present quantitative data in form of tables. Data from questionnaires was coded and logged in the computer using Statistical Package for Social Science (SPSS). This involved coding responses from the questionnaire in order to run simple descriptive analyses to get reports on data status. The responses from the open-ended questions were listed to obtain proportions appropriately and the response then reported by descriptive narrative.

3.10 Ethical considerations

While this research is intended to contribute to the knowledge of project management, it will maintain utmost confidentiality about the respondent. The researcher ensured that all respondents were given free will to participate and contribute voluntarily to the study. In addition, the researcher ensured that necessary research authorities were consulted, permission granted and due explanations given to the respondents before commencement of the study.

Table 3.2: Operational Definition of Variables

Objective	Variable	Indicator	Measure	Scale	Tools of Analysis
To establish how Human resource management influences successful implementation of projects	Independent variable Human resource management	Skills Defined Roles and responsibilities Schemes of reward and recognition Training	Are tasks assigned as per skills Are there defined roles and responsibilities Availability of reward and recognition schemes Is training provided for project team members	Nominal Ordinal	Frequency Percentage Chi-Square
To establish how Financial management influences successful implementation of projects	Independent variable Financial management	Project budget Budget control mechanisms Financial reports Financial Audits	Availability of project budget Availability and use of Budget control mechanisms Availability of project financial reports Are financial audits conducted on projects?	Nominal Ordinal	Frequency Percentage Chi-Square

To establish how Time management influences successful implementation of projects	Independent variable Time management	Project plan Project Schedule	Use of a project plan Use of a schedule for project tasks	Ordinal	Frequency Percentage Chi-Square
To establish how technology influences successful implementation of projects	Independent variable Technology	Database Management Monitoring Tools Communication tools Technology Upgrade	How is the project database managed? What tools are used to monitor the project How do the teams communicate? How often is technology (e.g. software) upgraded?	Ordinal	Frequency Percentage Chi-Square
	Dependent variable Effective Implementation of projects	Business Objectives Customer Expectations	Have the business objectives been met? Have the customer expectations been met?	Ordinal	Frequency Percentage Chi-Square

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction

The study investigated how the four facets of resource management (Human, financial, technology and time) influenced implementation of projects in GSM companies in Kenya. Data was gathered exclusively from questionnaires as the research instrument. The questionnaires were designed in line with objectives of the study. To enhance quality, the collected data from all the respondents, was analyzed using the Statistical Package for Social Sciences (SPSS) version 20 for Windows. Results are presented in this section using Descriptive statistics.

The research guiding objectives were to determine the influence of human resource management on implementation of projects in GSM companies in Kenya, to determine the influence of financial management on implementation of projects in GSM companies in Kenya, to determine the influence of time management on implementation of projects in GSM companies in Kenya and to determine the influence of technology management on implementation of projects in GSM companies in Kenya. The research findings were presented in frequency tables, chi-Square tables, percentages and narrations.

4.2 Response Rate

The study targeted 50 respondents from the four main GSM companies in Kenya which were Safaricom Limited, Airtel Kenya, Orange Telkom and Yu (Essar Telecom). Out of the 50 questionnaires distributed, 46 questionnaires were filled and returned. The response rate achieved for the questionnaires was 92% as shown in the Table 4.1. This was valid and reliable representation of the targeted population hence adequate for the study. According to Mugenda and Mugenda (2003) a statistically significant response rate should be at least 50%.

Table 4.1 Response Rate

Respondents	Sample	Response	Rate
Safaricom Ltd.	20	19	95%
Airtel Kenya	14	12	85.7%
Orange Telkom	10	9	90%
YU (Essar)	6	6	100%
Total	50	46	92%

4.3 Demographic factors

The study sought to investigate the demographic profile of the respondents in order to understand the population dynamics while relating them with the objectives of the study. This was done by analyzing the organizations they work with, their gender, marital status, positions occupied in the organizations, length of time they have been working there and whether they have project management certificates or have other qualification.

As shown in Table 4.1, the study targeted project team members in GSM companies in Kenya of which 41.3% (19) were for Safaricom Ltd, 26.1% (12) worked for Airtel Kenya, 19.6% (9) for Orange while 13% (6) were for Yu (Essar Telkom Kenya). The other findings are shown in the tables below.

Table 4.2 Demographics: Gender and Age

Factor	Variable	Frequency	Percentage
Gender	Male	19	41.3%
	Female	27	58.7%
Age	26-35 years	29	63%
	36-45 years	13	28.3%
	46-55 years	4	8.7%

Table 4.2 shows that 58.7% (27) of the respondents were female while 41.3% (19) were male. These results show that women are breaking through the gender gap and carving out successful careers in the technical fields including project management. This can be attributed to their proactive communication, escalation and problem solving skills.

Most of the respondents that is 63% (29) were aged between 26 to 35 years. 28.3% (13) were about 36-45 years while a few (4) were about 46-55 years.

Table 4.3 Demographics: Marital Status, Positions occupied

Factor	Variable	Frequency	Percentage
Marital Status	Married	32	69.6%
	Single	14	30.4%
Position occupied	Project Manager	36	78.3%
	Project Coordinator	3	6.5%
	Project Officers	7	15.2%

Table 4.3 clearly shows that 69.6% (32) of the respondents were married while 30.4% (14) were single. 78.3% (36) of the respondents were project managers while the rest were project officers and project coordinators in the GSM companies.

Table 4.4 Demographics: Duration with organization, whether you have any project management certifications

Factor	Variable	Frequency	Percentage
Duration with organization	Less than 1 year	3	6.5%
	1-5 years	32	69.6%
	6-9 years	3	6.5%
	Over 10 years	8	17.4%
Project management certification	Yes	40	87%
	No	6	13%
Specify project management certification	PMP	10	21.7%
	PRINCE 2	30	65.2%

From Table 4.4, most of the respondents at 69.6% (32) had spent around 1-5 years working for their respective companies. 17% had spent between 6-9 years, while 6.5% had spent less than 1 year and over 10 years in their organization.

Most (87%) of the project team members had certifications in project management and related courses while only 13% didn't have any. For those who had certificates, 30 (65.2%) were certified in PRINCE2 while 10 (21.7%) had completed a course in PMP. In some situations, more than one of the certifications had been attained. Project management is a skill oriented career and requires knowledge and skills to undertake. This is due to involvement of development of substantive data about each project

parameter to be considered so that the decision making between parameters is more effective. One important means that can be useful in gaining skills in project management is through learning and practically being involved in the whole process (project management phases) to gain experience in the discipline.

For those who hadn't done any project management short course, various qualifications enabled them to be engaged in project management. Most of them had Information Technology degrees; some had Master of Science in business administration (MBA) and other related courses of which project management is part and parcel of.

4.4 Human resource management and project implementation

Project management involves the allocation of various resources including people, materials, equipment, knowledge and time resources to achieve the project objectives. This is a team work activity and the researcher sought to find out the influence of human resource management on implementation of projects in the GSM companies in Kenya. To achieve this, people (an essential element which forms a major concern of project management) and their roles, appointments, responsibilities, trainings, motivations and performances were assessed. The findings are presented as follows.

Table 4.5 Importance of human resource management and extent to which role appointments are based on skill requirements of the project position

Factor	Variable	Frequency	Percentage
Awareness on importance of human resource management	Yes	42	91.3%
	No	4	8.7%
Extent to which role appointments are done based on skill requirements	Certain extent	33	71.7%
	Large extent	13	28.3%

Table 4.5 shows that most of the respondents agreed on the existence of awareness on importance of human resource management at 91.3% (42) while a mere 8.7% (4) were not in agreement on the same. 71.7% (33) indicated that role appointments are to a certain extent done based on skill requirements of the project position while 28.3% (13) specified that it was done to a large extent.

Since resources are typically limited, resource allocation plan is always important in managing the scarce resources effectively to achieve the project's objectives. The recognition of people (project team) as the important resource to a project is not in vain. This is because projects sometimes usually require expertise depending on the milestones to be delivered. Proper management of this resource, in tandem with other resources such as time is critical to the overall success of the project. It is usually said in project management that the people and not the processes and techniques are critical in the successful implementation of projects.

Table 4.6 Human resource factors

Factor	Variable	Frequency	Percentage
Roles and responsibilities of project team members clearly defined and communicated	Strongly disagree	4	8.7%
	Neutral	3	6.5%
	Agree	39	84.7%
Members receive adequate and relevant training aligned to market needs	Disagree	3	6.5%
	Neutral	6	13%
	Agree	37	80.4%

Table 4.6 shows that majority (84.7%) of the respondents agreed that the roles and responsibilities of project team members are clearly defined and communicated. 8.7% (4) strongly disagreed while 6.5% (3) were neutral. It was also found that many respondents

(80.4%) agreed that members received adequate and relevant training aligned to changing needs of business and market.

Table 4.7 Human resource factors

Factor	Variable	Frequency	Percentage
Existence of incentive plan to motivate members	Disagree	15	32.6%
	Neutral	12	26.1%
	Agree	20	41.3%
Whether performance of team members was tracked regularly and feedback provided	Yes	32	69.6%
	No	14	30.4%

Table 4.7 shows that respondents' responses on whether there exists incentive plan to motivate members were varied as 41.3% agreed, 26.1% were neutral while 32.6% disagreed. 69.6% of the project team members agreed that the performance of team members was tracked regularly while 30.4% disagreed.

Table 4.8 Human resource's contribution to successful project completion

Factor	Variable	Frequency	Percentage
Extent to which human resource contributes to successful completion of projects	Little extent	14	30.4%
	Some extent	20	43.5%
	Very great extent	12	26%
Total		46	100%

Table 4.8 shows that human resource contributes to successful completion of projects at 30.4% for little extent, 43.5% for some extent and 26% to a very great extent.

Table 4.9 Chi-Square Test: Tracking Human resources contribution to successful completion of projects

Chi-Square Tests	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.778	4	.019
Likelihood Ratio	13.780	4	.008
Linear – by – Linear Association	2.096	1	.148
N of Valid Cases	46		

There was an association between regular tracking of team members' performance and the extent to which human resource management contributed to successful completion of projects i.e. $\chi^2 = 11.778$, $p < 0.019$.

Table 4.10 Role appointments VS Clear definition of roles and responsibilities

		Extent to which role appointments are done based on skills	Roles and responsibilities clearly defined and communicated
Extent to which role appointments are done	Pearson Correlation	1	.425
	Sig. (2-tailed)		.003
	N	46	46
Roles and responsibilities of project team members clearly defined and communicated	Pearson Correlation	.425	1
	Sig. (2-tailed)	.003	
	N	46	46

Table 4.10 shows that role appointments based on skill requirements has a significant relationship to clear definition of roles and responsibilities of project team members. Role appointments are therefore aided by how clear the roles and responsibilities of project team members have been defined.

4.5 Financial management and project implementation.

The study then sought to establish the influence of financial management factors on project implementation. This was measured using financial planning, project budget control, its mechanisms and impacts, and completion within the allocated budget. The extent to which financial management contributes to successful completion of projects is also considered. The results are presented in the tables that follow.

Table 4.11 Financial management factors

Factor	Variable	Frequency	Percentage
Awareness on importance of financial management to the organization and project team members	Yes	28	60.9%
	No	18	39.1%
Total		46	100%

Table 4.11 shows that there is awareness on the importance of financial management to the organization and project team members at 60.9% while 39.1% declined. This can be attributed to the importance of financial resource management on the implementation of projects. The cost of project is an essential element of project management and the project managers have the task to manage the project's cost hence ensure the costs are closer to the allocated budget. Otherwise the project might fail due to cost overruns. This is the reason why project cost estimations are prepared with contingencies should the cost exceed the budget and even so exceptions are granted to manage any eventualities.

How often financial planning is done leading to project budget generation prior to project commencement, and whether efforts to control the budget were assessed and the results presented in the table that follows.

Table 4.12 How often financial planning is done and effort to control project budget

Factor	Variable	Frequency	Percentage
Frequency of financial planning leading to project budget generation	Never	4	8.7%
	Rarely	12	26.1%
	Sometimes	13	28.3%
	Often	10	21.7%
	Always	7	15.2%
Effort made to control Project budget to ensure money is spent appropriately	No effort	4	8.7%
	Little effort	3	6.5%
	Not sure	4	8.7%
	Just enough effort	18	39.1%
	High effort	17	37%

Table 4.12 reveals that 8.7% of the respondents indicated that they never do financial planning to control project budget, 26.1% rarely did the same, 28.3% did sometimes, 21.7% did most often while 15.2% always did. 39.1% of the respondents indicated that just enough effort to control the project budget to ensure that money is spent appropriately as planned and with proper authorization, 37% indicated the effort was high, 8.7% were not sure while 6.5% specified that little effort was put. The goal of project budget management is to control project costs within the approved budget and deliver the expected project goals. The budget control mechanisms help to achieve this goal and that only the appropriate project changes are included in the budget baseline hence manage the budget.

The respondents suggested practical controls put in place by the organization to ensure that projects conform to specified budgets and this included avoiding repeated visits by site engineers to reduce project costs, use of sign offs to specific budgets, business cases and project contracts. Some respondents indicated that committees are sometimes put in place to manage budgets for instance capex and pre-capex governance. Project schedules and plans are also used. The budgetary control mechanisms and tools for monitoring progress and how often financial auditing and reporting are conducted were assessed and the results tabulated as shown below.

Table 4.13 Budgetary control mechanisms serving as monitoring tools and how often financial auditing and reporting is conducted on projects.

Factor	Variable	Frequency	Percentage
Budgetary control mechanisms aid to eliminate waste and serve as a performance monitoring tool	Strongly disagree	3	6.5%
	Neutral	11	23.9%
	Agree	15	32.6%
	Strongly agree	17	37%
Frequency of financial auditing and reporting on projects	Never	5	10.9%
	Rarely	12	26.1%
	Sometimes	15	32.6%
	Often	14	30.4%

Table 4.13 above shows that many respondents agreed (32.6%) and (30.4%) strongly agreed that budgetary control mechanisms help to eliminate waste and serve as a performance monitoring tool, 23.9% were neutral while 6.5% strongly disagreed on the same. On how often financial auditing and reporting is conducted on ongoing projects, 10.9% indicated that it is never done, 26.1% indicated it is rarely done, sometimes it could be done as specified by 32.6% of the respondents while 30.4% indicated that it is

done most often. Financial auditing is very important in assessing the process and system used in capturing and reporting project costs. This helps to monitor the financial progress of the project implementation process hence ensuring necessary adjustments are done to keep the project on track. The researcher then examined the likelihood of completing project within budget and the contribution of financial management to the success of projects and the results are given below.

Table 4.14 Likelihood of completing project within budget and extent to which financial management contributes to successful completion of projects

Factor	Variable	Frequency	Percentage
Likelihood of completing project within budget	Extremely unlikely	3	6.5%
	Unlikely	11	23.9%
	Neutral	18	39.1%
	Likely	14	30.4%
Extent to which financial management contributes to successful completion of projects	Very little extent	4	8.7%
	Some extent	12	26.1%
	Great extent	18	39.1%
	Very great extent	12	26.1%

Table 4.14 shows that 30.4% of the respondents indicated that it was likely to complete projects within budget in their various GSM companies, 39.1% were neutral, 23.9% indicated it was unlikely while 6.5% were for extremely unlikely option. These varied responses reveal the loopholes existing in the financial resource management as it shows there is a lack of commitment from the project managers to exercise prudent financial management of the project. Financial management of projects is critical in accessing historical data for financial reports, explaining budget variances, issuing checks authorizing expenditures, managing cash balances and implementing purchasing policies.

39.1% revealed that financial management contributed to successful completion of projects in the organizations, 26.1% indicated it did to some extent and very great extent. The relationship between financial planning and completion of projects within budgets resulted into the following information.

Table 4.15 Financial planning and completion of projects within budget

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.506	12	.000
Likelihood Ratio	50.383	12	.000
Linear – by – Linear Association	.613	1	.434
N of Valid Cases	46		

A significant relationship existed between how often financial planning is done and likelihood of completing projects within budget as proved in the table 4.15 with $\chi^2 = 41.506, p \leq 0.000$ at $N=46$.

The relationship between existence of awareness and completion of projects was assessed and the following results obtained.

Table 4.16 Existence of awareness on importance of financial management vs extent to which financial management contributes to successful completion of projects
Cross-tabulation

		Existence of awareness on importance of financial management				Total
		Very little extent	Some extent	Great extent	Very great extent	
Extent to which financial management contributes to successful completion of projects	Yes	0	4	18	6	28
	No	4	8	0	6	18
	Total	4	12	18	12	46

Table 4.16 shows that extent to which financial management contributes to successful completion of projects is positively related to level of awareness on importance of financial management.

4.6 Time management and project implementation

In addition to human and financial resources, there's need to also manage the project schedule which outlines when the work is expected to be completed. The project manager has to ensure the available time is allocated to the work appropriately. The study therefore investigated the time resource factor and the findings were as follows.

Table 4.17 Awareness on importance of project time management and extent to which project schedules and plans are used

Factor	Variable	Frequency	Percentage
Awareness on importance of project time management	Yes	46	100%
Extent to which project schedules and plans are used	Some extent	4	8.7%
	Great extent	24	52.2%
	Very great extent	18	39.1%

Table 4.17 shows that all the respondents who are part of project teams in the GSM companies in Kenya agreed that there's awareness about the importance of project time management in their various organizations and project management teams. This shows dedication exists among the project team members to ensure timely completion of projects. It was also revealed that project schedules and plans are used to a very great extent (39.1%) and great extent (52.2%) in their (respondents) organizations. Only a mere 8.7% indicated that project schedules and plans were used only to some extent. The study then sought to know how often network scheduling methods are being used and revealed the following.

Table 4.18 How often network scheduling methods are used

Factor	Variable	Frequency	Percentage
How often network scheduling methods are used	Never	10	21.7%
	Rarely	7	15.2%
	Sometimes	17	37%
	Often	8	17.4%
	Always	4	8.7%

Table 4.18 shows that 21.7% (10) of the respondents indicated that network scheduling methods are never used, 15.2% indicated they are rarely used, 37% specified that they are used sometimes, 17.4% specified that they were used most often, while 8.7% indicated that the network scheduling methods were used always. This is an indication that the methods are employed sparsely in the management of the projects. This might be due to the expertise skills required to make use of them and the availability of other methods other than the network scheduling methods. Most of these methods are used in determining the durations of the various activities involved in the management of the project.

Other scheduling methods used apart from the ones given above as specified by the respondents include expert knowledge, Gantt charts and Prince II templates developed by Central Computer and Telecommunications Agency (CCTA) in UK among others.

Table 4.19 Importance of project schedules and plans in implementation of projects and whether activity duration estimates are prepared

Factor	Variable	Frequency	Percentage
Importance of project schedules and plans	Very important	46	100%
	Whether activity duration estimates are prepared		
	Yes	38	82.6%
	No	8	17.4%

Table 4.19 shows that all the project team members indicated that the project schedules and plans were very important. This is due to the importance of monitoring and evaluation tools in the management of projects. 82.6% indicated that activity duration estimates were being prepared while 17.4% disagreed. These are usually done to avoid slogging out. To track and monitor timelines, Microsoft excel and Microsoft project, Gantt charts, operation level agreements and project plans are used.

Table 4.20 Extent to which the above time tracking and monitoring tools are useful and the overall likelihood of timely completion of projects in the organization

Factor	Variable	Frequency	Percentage
Extent to which above tools are useful	little extent	3	6.5%
	Some extent	15	32.6%
	Great extent	11	23.9%
	Very great extent	17	37%
Overall likelihood of timely completion of projects in the organization	Extremely unlikely	3	6.5%
	Unlikely	10	21.7%
	Neutral	4	8.7%
	Likely	26	56.5%
	Extremely likely	3	6.5%

Table 4.20 above shows that project management time tracking and monitoring tools were used to a very great extent at 37%, great extent at 23.9%, some extent at 32.6% and little extent at 6.5%. Therefore the overall likelihood of timely completion of projects in the organizations was likely at 56.5%, 6.5% at extremely likely, 8.7% at neutral and extremely unlikely at 21.7%. Therefore the completion of project in time is therefore well managed. The association between effectiveness of project schedules and plans and their usefulness in meeting project deadline was analyzed the following results obtained.

Table 4.21 Effectiveness of project plans and schedules vs likelihood of successful completion of projects

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.638	12	.001
Likelihood Ratio	37.387	12	.000
Linear – by – Linear Association	4.486	1	.034
N of Valid Cases	46		

The association between the effectiveness of project schedules and plans and likelihood completion of projects is significant; that is $\chi^2 = 33.638, p < 0.001, N = 46$. Therefore usage of project plans and schedules play an essential role in ensuring projects are completed within the given timeframe. Then the relationship between preparation of activity duration estimates and their usefulness in meeting project deadline was analyzed and the following results obtained.

Table 4.22 Preparation of activity duration estimates vs the extent to which they are useful in meeting project deadline

Whether activity duration estimates are prepared	The extent you find them useful in meeting project deadline			Total
	Little extent	Some extent	Great extent	
	3	11	24	38
	0	4	4	8
Total	3	15	28	46

The association between preparation of duration estimates and their usefulness in meeting project deadlines is significant and positive as most of the respondents (24) indicated that the estimates are prepared and their usefulness is of great extent.

Table 4.23 Whether time management is important in ensuring successful completion of projects

Factor	Variable	Frequency	Percentage
Time management is important	Strongly disagree	4	8.7%
	Agree	15	32.6%
	Strongly agree	27	58.7%
Total		46	100%

The Table 4.23 above shows that most (58.7%) of the respondents strongly agreed that time management is important in ensuring successful completion of projects. 32.6% agreed on the same while 8.7% strongly disagreed.

4.7 Technology Management and project implementation

Project management involves various cycles and the use of the right technology can go all the way to ensuring that there is speed to meet the set deadlines. Technology can help improve communication given the fact that project management is team bound, help in risk assessment, controlling scheduling among other uses. The researcher therefore sought to understand the contribution of technology management on implementation of projects in GSM companies in Kenya. The results are as shown in the tables below.

The study sought to know how the project database is managed and whether project management tools or software were being used within the organizations and the results are shown in the Table 4.18 below.

Table 4.24 Management of project database and whether any project management softwares are in use

Factor	Variable	Frequency	Percentage
How the project database is managed	Manually	35	76.1%
	Electronically	11	23.9%
Usage of project management softwares	Yes	21	45.7%
	No	25	54.3%

It was found that 76.1% of the respondents used manually managed project databases while 23.9% used electronically managed databases. It was also realized that 45.7% of the project team members used project management softwares while 54.3% didn't employ the usage of any of the tools. The use of these softwares is very important especially in planning projects, managing tasks, sharing and collaborating on documents, managing issues, tracking time among other uses.

The respondents suggested on various project management softwares that could be used and these included Microsoft project, Basecamp, Central Desktop, Dream Team among others. These tools are used depending on the primary needs of the project teams. Then the study investigated the extent to which project management softwares were effective in implementing projects and the following were the findings.

Table 4.25 Extent to which project management tools are effective in implementing projects

Factor	Variable	Frequency	Percentage
Extent to which above softwares are effective	Little extent	7	15.2%
	Some extent	8	17.4%
	Great extent	20	43.5%
	Very great extent	11	23.9%
Total		46	100%

The table above (Table 4.25) shows that 15.2% of the respondents indicated that the project management softwares were effective to a little extent, 17.4% indicated the tools were effective to some extent, 43.5% specified they were effective to a great extent while 23.9% revealed they were effective to a very great extent in implementing projects. Generally, the softwares were effective in implementing projects as they lead to decrease in costs and more adaptability.

The study then assessed whether the project teams embraced new technology and the following were the results.

Table 4.26 Whether project teams embrace new technology

Factor	Variable	Frequency	Percentage
Embrace new technology	Yes	38	82.6%
	No	8	17.4%

Table 4.26 shows that the project teams really embraced new technology as was specified by 82.6% (38) project team members. Only 17.4% (8) were not in agreement. The

positive attitude towards new technology might be due to the advancement in the technological world since the technological environment is very dynamic.

The study therefore sought to know the level of effectiveness of the following commonly used methods of communication within project teams: Group chats, Emails, Phone calls, Short Messages and other methods. The results are shown in the Table below.

Table 4.27 Level of effectiveness of commonly used modes of communication

Communication Mode	Group chats		Emails		Phone calls		Short Messages	
	Freq	%	Freq	%	Freq	%	Freq	%
Very ineffective	3	6.5%	7	15.2%	7	15.2%	6	13%
Ineffective	4	8.7%	20	43.5%	14	30.4%	3	6.5%
Average	18	39.1%	12	26.1%	0	0%	19	41.3%
Effective	11	23.9%	7	15.2%	25	54.3%	11	23.9%
Very effective	10	21.7%	0	0%	0	0%	7	15.2%

Table 4.27 reveals that group chats' were very effective at 21.7%, effective at 23.9%, average at 39.1%, ineffective at 8.7% and ineffective at 6.5%. Emails were very ineffective at 15.2%, ineffective at 43.55, 26.1%, effective at 15.2% and not very effective. Phone calls were effective at 54.3%, 30.4% ineffective and 15.2% very ineffective. Short messages were very effective at 15.2%, 23.9% effective, 41.3% average, 6.5% ineffective and 13% very ineffective.

From the findings above, the effectiveness of phone calls was better than any other mode of communication even though some members were not satisfied with the services. Group chats followed and had a good response rate being considered quite effective. Short messages (commonly referred to us texting) were also quite effective, and Emails were very ineffective. This can be attributed to their bulky nature and additional configurations and requirements to enable accessibility from a wide range of mobile

gadgets. The decision on the use of any of the mode rests with the needs of the project since some require fewer communication resources while large, multifaceted projects may require more specialized or complex tools and software.

The study then examined how often technology (e.g. software) is upgraded and the overall success rate of projects in the organizations and the following are the findings.

Table 4.28 How often technology is upgraded and the overall success rate of projects

Factor	Variable	Frequency	Percentage
How often technology (e.g. software) is upgraded	Sometimes	4	8.7%
	Often	32	69.6%
	Always	10	21.7%
Overall success rate of projects	Poor	4	8.7%
	Fair	3	6.5%
	Good	12	26.1%
	Very good	24	52.2%
	Excellent	3	6.5%

The project team members revealed that technology is upgraded sometimes at 8.7%, often at 69.6% and always at 21.7%. due to the continuous change in technology, it is essential to upgrade the softwares and other technological staff to ensure compatibility is maintained and to remain relevant in the current environment being on the competitive edge. The overall success rate of the projects was 6.5% at excellent, 52.2% had a very good success rate, 26.1% was good, 6.5% was fair while 8.7% was poor. This success rate level (about 55%) is quite recommendable but more needs to be done to achieve success rate of over 70%. For those who employed use of the project management tools,

the relationship between the extent to which tools are effective and the overall success rate of projects is given below.

Table 4.29 Technology advancement Vs Project success rate

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.904	9	.000
Likelihood Ratio	32.561	9	.000
Linear – by – Linear Association	1.169	1	.280
N of Valid Cases	28		

Table 4.30 shows that the association between advancement of technology and the overall success rate of projects is significant i.e. $\chi^2 = 30.904$, $p < 0.000$.

The project team members suggested other factors contributing to the high success rate of projects in the organizations which included automation of organizational processes, adoption of best practices, clear scope and procurement process, availability of equipment and other resources, financial commitment, proper planning by all stakeholders, risk management, senior management support, implementation of staff motivation measures among others.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings of the study, conclusions, discussions and recommendations arrived at. The first section sought to determine the influence of human resource management on implementation of projects in GSM companies. The second section then established influence of financial management on implementation of projects; then third section examined the influence of time management and fourth section established influence of technology management on implementation of projects in GSM companies in Kenya.

5.2 Summary of Findings

This section presents a summary of the findings as per the research objectives and the data presented in chapter four. The summary is arranged according to research objectives and questions.

5.2.1 Human resource management and project implementation

The study found that most of the respondents were aware of the importance of human resource management to their organizations and project team members. It was revealed that role appointments were done to a certain extent based on skill requirements of the project position.

The study also exposed that the roles and responsibilities of project team members were clearly defined and communicated. Most of the respondents agreed that members received adequate and relevant training aligned to changing needs of business and market. It was discovered that there existed incentive plans to award and recognize performing project team members to keep them motivated. Also the performance of team

members was being tracked regularly. The findings exposed the fact that human resource management contributed to successful completion of projects to an extent.

5.2.2 Financial management and project implementation.

The findings showed that there was awareness on the importance of financial management to the organization and project team members. It was revealed that sometimes financial planning was done that led to project budget generation prior to project commencement. Enough efforts to control the project budget to ensure that money is spent appropriately as planned and with proper authorization were made.

The project team members suggested practical controls be put in place by the organization to ensure that projects conform to specified budgets which included implementing a change management board to manage scope hence control costs, use of sign offs to specific budgets, business cases and project contracts. Some respondents indicated that committees are sometimes put in place to manage budgets for instance capex and pre-capex governance. Project schedules and plans are also used.

The findings revealed that many respondents agreed that financial auditing and reporting were conducted on ongoing projects. It was discovered that financial management contributed to successful completion of projects in the organizations.

5.2.3 Time Resource management and project t implementation.

The study found that there was awareness about the importance of project time management in their various organizations and project management teams. The findings confirmed that project schedules and plans were used to a great extent. The findings also showed that network scheduling methods are sometimes used.

It was discovered that project schedules and plans were very important. Findings also showed that activity duration estimates were being prepared. According to the findings, project management tools to track and monitor timelines were being used to a very great extent. The study found that there was a likelihood of timely completion of projects in the organizations. Most of the respondents also strongly agreed that time management is important is ensuring successful completion of projects.

5.2.4 Technology Management and project implementation.

The study revealed that most of the organizations used manually operated databases. It was correspondingly discovered that some project teams used project management softwares while others didn't employ their usage.

The respondents suggested various project management tools/softwarees that could be used and these included Microsoft project, Basecamp, Central Desktop, DreamTeam among others.

The findings also showed that project management tools/softwarees were effective to a very great extent in implementing projects. It was also found that project teams indeed embraced new technology. The commonly used modes of communication were phone calls, group chats, short messages (texting), and Emails arranged in the order of usage due to their effectiveness.

The findings disclosed that technological tools and softwarees were being constantly upgraded to conform to the current technology. The success rate of the projects was good. Other factors suggested by the respondents that contributed to the high success rate of projects in the organizations included automation of organizational processes, adoption of best practices, clear scope and procurement process, availability of equipment and other resources, financial commitment, proper planning by all stakeholders, risk management, senior management support, implementation of staff motivation measures among others.

5.3. Discussion of the results

This section focuses on a detailed discussion of the major findings of the study which also entails comparing the study findings to the literature.

5.3.1 Human resource management and project implementation

The study found that most of the respondents were aware of the importance of human resource management to their organizations and project team members. In addition, role appointments were done to a certain extent based on skill requirements of the project position.

It was revealed that the roles and responsibilities of project team members were clearly defined and communicated with a percentage rating of 84.7%. 80.4% of the respondents agreed that members received adequate and relevant training aligned to changing needs of business and market. It was clear that there existed incentive plans to award and recognize performing project team members to keep them motivated. 69.6% of the respondents also agreed that performance of team members was being tracked regularly. The study also revealed that there was a relationship between human resource management and successful completion of projects. This is in agreement with Koca & Uysal (2009) who found out that HRM practices have a strong relationship with project performance.

The results also concur with Lee, (2006), that project managers empowered with real-time financial and acuity data can ensure that the right number of employees with the right skills are on the job and can head off potential budget overruns. This explains their importance. The role played by project managers is therefore very critical and leadership in nature. This was supported by Yukl (2002) and Hyväri (2006) who investigated leadership factors in the success of projects, the factors contributing to making project management effectiveness and the characteristics of effective project managers.

5.3.2 Financial management and project implementation.

The study exposed that there was awareness on the importance of financial management to the organization and project team members with 60.9% of the respondents agreeing to this. It was revealed that sometimes financial planning was done that led to project budget generation prior to project commencement. Enough efforts to control the project budget to ensure that money is spent appropriately as planned and with proper authorization were made.

The project team members suggested practical controls put in place by the organization to ensure that projects conform to specified budgets which included controlling the project scope, using fixed-price agreements rather than time and materials agreement, use of sign offs to specific budgets, business cases and project contracts.

The findings also revealed that many respondents agreed that financial auditing and reporting was conducted on ongoing projects and that financial management highly contributed to successful completion of projects in the organizations. This is supported by ideas advanced by (Madison 2009) who suggested that, one systematic approach for attaining effective management performance is financial planning, budgeting and that sustainability of any project lies in effective financial management right from the implementation stage to post implementation phase. It is also supported by (Kiogora, 2009), who argued that sustainability of any project lies on a good plan and budget for the amount of money received.

5.3.3 Time Resource management and project implementation.

Awareness about the importance of project time management in the organizations and project management teams existed as per the study with 100% of the respondent fully assenting. It was revealed that project schedules and plans were used to a great extent. The findings also show that network scheduling methods are sometimes used.

It was revealed that project schedules and plans were very important as 100% of the respondents consented. Findings also showed that 82.6% of the respondents prepared activity duration estimates. Project management tools and techniques were being used to a very great extent, this concurred with PMI, (2007) that “Scheduling is an important issue that needs to be tightly controlled in a project, as even with meticulous planning tasks may not always occur when they should, with delays affecting the entire project timeline. The remaining tasks may need to be reexamined and the timing adjusted several times during the project.”

The study found that there was a likelihood of timely completion of projects in the organizations though not to admirable standards. Most of the respondents strongly agreed that time management is important in ensuring successful completion of projects. The project manager therefore has to consider time among other factors in project management as supported by PMI, (2007) stating that time management is considered the most important component in achieving the project goals since 80% of the total projects

offer minimum timeline for the completion and this is where a project manager's competence is judged.

5.3.4 Technology Management and project implementation.

It was established that most of the organizations used manually operated project databases with 76.1% of the respondents consenting. The study revealed that some project teams used project management tools and softwares while others didn't employ their usage. The findings also disclosed that project management tools were effective to a very great extent in implementing projects. Various project management tools that could be used included Microsoft project, Basecamp, Central Desktop, Dream Team among others. Embracing the use of project management softwares is therefore important and supported by the Price Waterhouse Coopers' 2007 survey that the EVM software contributed to high performance across the key indicators proved useful in countries like the United States.

It was revealed that project teams indeed embraced new technology especially in communication with 82.6% agreeing. The commonly used modes of communication were phone calls, group chats, short messages (texting), and Emails arranged in the order of usage due to their effectiveness.

Most of the respondents (91.3%) were affirmative that technology is constantly being upgraded. The findings indicated that tools and softwares were being constantly upgraded to conform to the current technology and help the company remain on the competitive edge. The success rate of the projects was good. Other factors suggested by the respondents that contributed to the high success rate of projects in the organizations which included automation of organizational processes, adoption of best practices, clear scope and procurement process, availability of equipment and other resources, financial commitment, proper planning by all stakeholders, risk management, senior management support, implementation of staff motivation measures among others. The findings were also supported by Zwikael et al (2006) whose literature offers several technical tools for

forecasting the final project cost. Namakwa (2012) observes that businesses are increasingly reliant on technology to gain and retain a competitive edge.

5.4 Conclusion of the Findings

The study found that resource management influenced the implementation of projects in GSM companies in Kenya. The study concluded that Human resource management greatly influences implementation of projects. There was a significant relationship between role appointments based on skills and clear definition of roles and responsibilities. The study also concluded that financial management has a significant contribution to effective implementation of projects. The study further concludes that technology management prominently influences implementation of projects. Proper time management has also been proven to contribute immensely towards effective implementation of the projects ensuring business objectives and customer satisfaction are achieved.

5.5 Recommendations of the Study

From the study, it's proven that human, financial, time and technological management factors influence implementation of projects. Therefore the researcher would like to recommend the following to ensure proper arrangement and deployment of resources available to a given project.

1. The management team should be realistic about the project scope, timelines and resources required to carry out the project activities and offer support throughout the project life cycle to ensure projects succeed.
2. There is a great need for GSM companies in Kenya and Africa at large to invest in project management softwares with due diligence in order to offer globally competitive services.
3. There should be clear and consistent objectives which align to the organizations goals and strategy to minimize the risks of project failure. These will ensure project team members understand their roles effectively and remain focused on achieving the goals and objectives of the project hence increasing the chances of success of the projects.

4. Project organizations should have an effective change management process for the inevitable "just one more thing" discussions, which will limit or postpone changes until after project delivery, the single biggest reason for cost overruns.
5. There is need of quality training and motivation for the entire project management fraternity to equip the teams with more skills to turn around the success rate of projects to admirable levels.
6. Project organizations should consider setting up a business council to define priorities, control resources, oversee projects, and measure (and communicate) project success across business units. This group must, of course, have the courage to cancel projects when that becomes necessary; not everything that starts must finish. In addition to this, put together a technical council to develop guidelines and principles for technology standards and practices.

5.6 Suggestions for Further study

1. Project management is an essential endeavor in today's world as it is designed to produce unique products, services or results undertaken to meet unique goals and objectives, that bring about beneficial change or added value. This study focused on four facets of resources (human, financial, time and technological resources) influencing implementation of projects in order to bridge the knowledge gap that existed. More research should be undertaken to unearth other factors influencing success rate of projects other than resource management and the common triple constraint of scope, cost and time.
2. This study also recommends that in future similar researches should be replicated in other organizations across the country other than the GSM companies in order to develop generalizations of the study findings. The findings may be enlightening by pointing out the importance of effective resource management leading to effective implementation of projects thus adding value to the business.

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APPENDICES

APPENDIX I: TRANSMITTAL LETTER

Emily Ochieng
P.O Box 51687-00100
Nairobi,
10th June 2014.

Dear Respondent,

RE: **DATA COLLECTION**

I am a student at the University of Nairobi. I am currently doing a research study to fulfil the requirements of the Award of Master of Project Planning and Management on **Influence of resource management on implementation of projects in Global System of Mobile Communications (GSM) companies in Kenya.**

You have been selected to participate in this study and I would highly appreciate if you assisted me by responding to all questions in the attached questionnaire as completely, correctly and honestly as possible. Your response will be treated with utmost confidentiality and will be used only for research purposes of this study only.

Thank you in advance for your co-operation.

Yours faithfully,

Emily Ochieng
Researcher

APPENDIX II: STRUCTURED QUESTIONNAIRE

Instructions: Please respond to the following questions and where applicable, mark the relevant box with a tick (✓).

Confidentiality: The responses you provide will be strictly confidential. No reference will be made to any individual(s) in the report of the study.

SECTION A: BACKGROUND INFORMATION

1. Name of Respondent (Optional)

2. Name of Organization

3. Gender

Male ()

Female ()

4. Age

Under 25 years ()

26 – 35 years ()

36 – 45 years ()

46 – 55 years ()

Over 55 years ()

5. Marital status

() Married

() Single

() Separated

() Widowed

6. Position in the organization

- | | | | |
|---------------------|-----|-----------------------|-----|
| Project Manager | () | Project Administrator | [] |
| Project Coordinator | () | Project support | () |
| Project Team member | () | Engineer | () |
| Technician | () | Other | () |

7. Duration with the organization

- | | | | |
|------------------|-----|---------------|-----|
| Less than 1 year | () | 1 – 5 year | () |
| 6 – 9 years | () | Over 10 years | () |

8. Do you have any of the Project Management Certifications?

- | | | | |
|-----|-----|----|-----|
| Yes | () | No | () |
|-----|-----|----|-----|

9. If Yes in (8) above, please select which one (Choose all that apply).

- | | | | |
|----------|-----|------------------------------|-----|
| CPM | () | PMP | () |
| PRINCE 2 | () | PgMP | () |
| CAPM | () | Others (Please specify)..... | |

10. If No in (8) above, please state your qualifications.

SECTION B: HUMAN RESOURCE MANAGEMENT

11. Is there awareness on importance of human resource management to the organization and project team members?

- | | | | |
|-----|-----|----|-----|
| Yes | () | No | () |
|-----|-----|----|-----|

12. To what extent are role appointments done based on the skill requirements of the project position?

- 1: Not at all ()
- 2: Limited Extent ()
- 3: Not sure ()
- 4: Certain extent ()
- 5: Large extent ()

13. The roles and responsibilities of each project team member are clearly defined and communicated.

- 1: Strongly disagree ()
- 2: Disagree ()
- 3: Neither agree nor disagree ()
- 4: Agree ()
- 5: Strongly agree ()

14. The project team members often receive adequate and relevant training aligned to the changing needs of the business and the market.

- 1: Strongly disagree ()
- 2: Disagree ()
- 3: Neither agree nor disagree ()
- 4: Agree ()
- 5: Strongly agree ()

15. There exists an incentive plan to award and recognize performing project team members to keep them motivated.

- 1: Strongly disagree ()
- 2: Disagree ()
- 3: Neither agree nor disagree ()
- 4: Agree ()
- 5: Strongly agree ()

16. Is performance of team members tracked regularly and feedback provided?

Yes ()

No ()

17. To what extent does human resource management contribute to successful completion of projects?

1: Very Little Extent ()

2: Little Extent ()

3: Some Extent ()

4: Great Extent ()

5: Very Great Extent ()

SECTION C: FINANACIAL MANAGEMENT

18. Is there awareness on importance of financial management to the organization and project team members?

Yes ()

No ()

19. How often is a financial planning done that leads to a project budget generation prior to project commencement?

1: Never ()

2: Rarely ()

3: Sometimes ()

4: Often ()

5: Always ()

20. Is there any effort to control the project budget to ensure that money is spent appropriately as planned and with proper authorization?

1: No effort ()

2: Little effort ()

3: Not sure ()

4: Just enough effort ()

5: High effort ()

21. What are the practical controls put in place by your organization to ensure that projects conform to specified budgets?

22. Budgeting and Budgetary control mechanisms help to eliminate waste and serves as a performance monitoring tool?

- 1: Strongly disagree ()
- 2: Disagree ()
- 3: Neutral ()
- 4: Agree ()
- 5: Strongly agree ()

23. How often is financial auditing and reporting conducted on ongoing projects?

- 1: Never ()
- 2: Rarely ()
- 3: Sometimes ()
- 4: Often ()
- 5: Always ()

24. What is the likelihood of completing of projects within budget in your organization?

- 1: Extremely unlikely ()
- 2: Unlikely ()
- 3: Neutral ()
- 4: Likely ()
- 5: Extremely likely ()

25. To what extent does financial management contribute to successful completion of projects?

1: Very Little Extent ()

2: Little Extent ()

3: Some Extent ()

4: Great Extent ()

5: Very Great Extent ()

SECTION D: TIME RESOURCE MANAGEMENT

26. Is there awareness about the importance of project time management in your organization and project management team?

Yes ()

No ()

27. To what extent are project schedules and project plans used in your organization?

1: Very Little Extent ()

2: Little Extent ()

3: Some Extent ()

4: Great Extent ()

5: Very Great Extent ()

28. How often are Network scheduling methods (such as CPM, or PERT) used?

1: Never ()

2: Rarely ()

3: Sometimes ()

4: Often ()

5: Always ()

29. What other methods of scheduling are used in your organization apart from the two mentioned in question 28 above?

30. How would you rate the importance of project schedules and plans in implementation of projects?

- 1: Unimportant ()
- 2: Of little importance ()
- 3: Moderately important ()
- 4: Important ()
- 5: Very important ()

31. Are activity duration estimate prepared?

- Yes ()
- No ()

32. What tools do you use in your organization to track and monitor timelines?

33. To what extent do you find them useful in efforts to meet project deadlines?

- 1: Very Little Extent ()
- 2: Little Extent ()
- 3: Some Extent ()
- 4: Great Extent ()
- 5: Very Great Extent ()

34. What is the overall likelihood of timely completion of projects in your organization?

- 1: Extremely unlikely ()
- 2: Unlikely ()
- 3: Neutral ()
- 4: Likely ()
- 5: Extremely likely ()

35. Time management is important in ensuring successful completion of projects

- 1: Strongly disagree ()
- 2: Disagree ()
- 3: Neither agree nor disagree ()
- 4: Agree ()
- 5: Strongly agree ()

SECTION E: TECHNOLOGY MANAGEMENT

36. How is the project database managed?

Manually () Electronically () Other specify).....

37. Are there any project management tools/Soft wares currently in use within your organization Yes () No ()

38. If answer to the above is Yes, please name them

39. To what extent are they effective in the implementation of projects?

- 1: Very Little Extent ()
- 2: Little Extent ()
- 3: Some Extent ()
- 4: Great Extent ()
- 5: Very Great Extent ()

40. Do the project teams embrace new technology in ensuring effective and efficient communication?

Yes () No ()

41. Below is a list of common methods of communication within project teams. Please rate their level of effectiveness by ticking (√) in the space provided.

No.	Mode of Communication	Very ineffective 1	Ineffective 2	Average 3	Effective 4	Very effective 5
1	Group Chats					
2	Emails					
3	Phone calls					
4	Short Messages					
5	Others (Specify)					

42. How often is technology (e.g. software) upgraded in your organization?

- 1: Never ()
- 2: Rarely ()
- 3: Sometimes ()
- 4: Often ()
- 5: Always ()

43. What is the overall success rate of projects in your organization?

- 1: Poor (30% and below)
- 2: Fair (31- 49%)
- 3: Good (50%- 69%)
- 4: Very good (70% - 89%)
- 5: Excellent (90% and above)

44. What other factors in your opinion would contribute to a high success rate of projects in your organization

THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION