FACTORS INFLUENCING IMPLEMENTATION OF INFORMATION TECHNOLOGY PROJECTS IN TELECOMMUNICATION SECTOR: A CASE OF SAFARICOM, KENYA

BY

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DECLARATION

This research project is my original work and has not been presented for academic purposes in the University of Nairobi or any other university.

Sign ……………………………………… Date: ………………………….

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L50/82771/2012

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

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DEDICATION

This research work is dedicated in the memory of my late father, James Gathumbi who inculcated in me the desire to further my education.

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LIST OF ABBREVIATIONS AND ACRONYMS

ICT　　　　Information Communication Technology

ISACA　　　Information Systems Audit and Control Association

IT　　　　　Information Technology

IVR　　　　Interactive Voice Response

PMBOK　　Project Management book of Knowledge

PMI　　　　Project Management Institute

SPSS　　　Statistical Package for Social Scientists

ABSTRACT

The high failure rate of Information Technology projects globally is a major source of concern to stakeholders. A project is considered to be successful if it meets its objectives, it's delivered on time, within the estimated cost and to the expected quality. Despite the competitive advantage information technology can provide an organization, a large number of information technology projects continue to fail, this happens even when such projects have clear requirements and specification. This study sought to examine the critical success factors that influence implementation of information technology projects. The intention of the study was to establish a set of factors that will improve the chances for success of information technology projects. The four objectives under study were; to determine how use of project management skills influence implementation of information technology projects, to determine how involvement of end users influence implementation of information technology projects, to establish how project schedule influence implementation of information technology projects and to find out how top-management support influence implementation of information technology projects. Descriptive research design was adopted for the study, with a case study methodology to analyze an institution that implements several information technology based projects. The target population was 152 project team members out of which convenience sampling method was used to select a sample size of 48. The data was collected using a questionnaire and the data collected was then analyzed using Statistical Package for Social Sciences. The findings from the research indicated that there was a high emphasis on use of project management skills, management of project schedule as well as end user involvement towards achieving successful IT project implementation at Safaricom Ltd. The study made the following conclusions; Top management support is a significant factor that influences success of IT projects at Safaricom Ltd; use of project management skills and tools, enhances and influences success of IT projects implementation; End user involvement plays a major role in implementation of IT project at Safaricom Ltd. The following recommendations were made: Top management at Safaricom Ltd should engage in consistent communication with project teams to identify their needs and progress in achieving successful implementation of IT projects. There is need to continually equip project team with project management skills and tools, this will also help in management of the project schedule thus ensuring that IT projects are delivered on schedule. Safaricom Ltd should also engage users of IT systems at all stages of project management, right from the design stage and planning stage to the implementation stage.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

This chapter presents the background information on the subject of research and covers the global, regional and local state of information technology projects.

With increased globalization, Information Technology (IT) projects have become a very important component in most organizations. For firms to survive, they have to depend on the implementation of new information technology ideas with their capital intensive nature, and a major intention to reduce time-to-market for private sector, as well as increased social benefit for public sector (Dvir, 2007). Although it is a global trend, the increased deployment of Information Technology (IT) in developing countries like Kenya remains a source of anxiety for all stakeholders especially for clients who provide funds for these investments. The source for concern arises particularly from the high rate of failure of IT projects even globally. The situation can however be attributed in part to the shortening of the product life cycles, and internet revolution (Dvir, 2007), as well as firms' success having to rely on implementation of new ideas (Lammers, 2010).

IT projects are usually capital intensive, complicated and time-to-market is of pivotal importance especially in the private sector (Cosmas Ifeanyi Nwakanma, 2013). Successful implementation of IT projects is important in the private sector where competition dictates that to survive an organization has to stay ahead of others in technology. When such projects fail, this not only leads to losses on the part of the organization but can also lead to the organization failing to fulfill its mandate and eventually run out of business. According to a study conducted by the Standish group in 2009, only 32% of all IT projects are delivered within time, on budget, with required functions and features, 44% were late, surpassed the budget and with less than the required functions and features and 24% were unsuccessful which are terminated before completion or delivered and they are not used (Standish Group International, 2009).

According to a study conducted by McKinsey & Company with the University of Oxford on five thousand four hundred large scale IT Projects (these are projects whose initial budgets is greater

than $15M) in 2012, this study established that 17% of large IT projects fail so badly that they threaten the very existence of the company (Michael Bloch, 2012). The study concluded that on the average, large IT projects run 45% above budget and 7% over time, while they deliver 56% less value than had been predicted.

Between 2010 and 2011, a software development company; Geneca interviewed six hundred people who were involved closely in software development projects, the study established that even at the commencement of an IT project, many people expected their projects to fail, 75% of project participants lacked confidence that their projects would succeed (Geneca, 2011).

According to KPMG Project Management Survey (2010), KPMG (New Zealand) conducted a survey of one hundred IT Project Management practices across a wide cross section of industries in New Zealand and discovered some truly startling results (KPMG, 2010). The survey found out that an incredible 70% of the organizations had experienced at least one project failure in the prior twelve months and 50% of the respondents also pointed out that their project had failed to consistently achieve what they had set out to achieve.

Another study that was conducted by Information Systems Audit and Control Association (ISACA) in May 2008 established that 43% of organizations had suffered a recent IT project failure and at a typical enterprise 20% of technology investments are not entirely realized (Toppenberg, 2012). A study conducted in South African companies established that 53.7% of software projects fail, with mean time overrun of 27% and mean cost overrun of 33% with mean percentage of functionality delivered of 84% (Smith, 2012).

These studies conclude that most IT projects can be considered to have partially failed since few projects meet all of their schedule, cost, quality or requirement objectives. The failures are not caused by mysterious causes, but the reasons for the failures are normally discovered post-mortem, or when it's too late to change direction (Cosmas Ifeanyi Nwakanma, 2013). Unfortunately, majority of these failed IT projects are seldom studied, even by the organizations that experience the failure. This is because after wasting so much on an unsuccessful venture, very few organizations are normally interested in investing more time or money to collect and analyze any additional data, while any data that may have been collected might be massaged or concealed to protect reputations and careers (Michael Bloch, 2012). In Kenya, for instance, little

is recorded or researched on failed IT projects both in private and public sector. One of Safaricom's flagship products is the world acclaimed M-pesa which was the world's first ever mobile money transfer service. Despite heavy investment in very costly hardware and software; the M-pesa project went through many iterations to become the success it is today (Korngold, 2014). However, what is recorded is the success and very little on the challenges experienced in the implementation of the project.

1.2 Statement of the problem

Although a number of past studies have focused on factors influencing implementation of projects in other sectors such as construction and manufacturing, little has been done in the area of information technology projects in telecommunication sector.

Safaricom is the biggest telecommunication company in the region and due to its big size, its IT projects are equally large which increases the chances of the projects failing to meet their objectives. Safaricom started operation in 2000 and since then has implemented many IT projects some of which were not successful, however in its 15 years of operation, valuable lessons have been learnt on how to increase the chances of success of IT projects. This study therefore sought to identify the lessons learnt from the failures and success of implementation of IT projects at Safaricom ltd thereby increase the success rate of IT projects.

1.3 Purpose of the study

This study sought to determine the factors that influence implementation of information technology projects in the telecommunication sector in order to improve the rate of success of the information technology projects in the telecommunication sector.

1.4 Objectives of the study

The broad objective was to investigate the factors influencing implementation of information technology projects in the telecommunication sector. The specific objectives were:

1. To determine how the use of project management skills influence implementation of information technology projects in Safaricom.
2. To examine how involvement of end users influence implementation of information technology projects in Safaricom.

3. To establish how project time management influence implementation of information technology projects in Safaricom.
4. To find out how top-management support influence implementation of information technology projects in Safaricom.

1.5 Research questions

On the basis of the objective of study and the statement of problem, the following were the research questions:

1. How does use of project management skills influence implementation of information technology projects in Safaricom?
2. How does involvement of end users influence implementation of information technology projects in Safaricom?
3. How does project time management influence the implementation of information technology projects in Safaricom?
4. What is the influence of top-management support in the implementation of information technology projects?

1.6 Significance of the study

The researcher anticipates that the findings of the study will be worthwhile to the stakeholders in the telecommunication sector. Another significance of this study is that in project management a lot of emphasis is on construction projects with little work being done in information technology projects. It is also of paramount importance to note that some factors or amalgamation of factors that might guarantee successful implementation of construction projects may not necessarily translate to guaranteed success of IT projects (Cosmas Ifeanyi Nwakanma, 2013).

The study will draw attention on the importance of applying project management principles for successful implementation of IT projects. The study will also help challenge curriculum and academic planning units of Kenyan universities to recognize the need to incorporate project management courses in the training of IT-Professionals and by extension, all professionals. The research will also highlight the need for professionals to collaborate and work together throughout the life cycle of any project. Safaricom will benefit from the study as it seeks to implement new IT projects in its attempt to retain market leadership.

In addition, both the Kenyan economy and the IT sector as well as project management practitioners will greatly benefit from this work since it will contribute to body of knowledge. Additionally, it is important for IT practitioners to appreciate the dynamics of factors influencing implementation of IT projects.

Researchers and scholars will also find an opportunity to critique the study. Thereby, basis for further research will also be established and the study will have built on the existing theories and practices thereby making a contribution to the body of knowledge.

1.7 Limitations of the study

The people who were involved were ostensibly likely to only discuss project success, while the reason for project failure would probably not be examined or only studied on a need to know basis.

The study was limited to the amount of information the participants were willing to reveal, and the responses received from the survey questionnaire.

1.8 Delimitation of the study

The focus of the study was only on formal projects and did not include any initiatives undertaken in an unofficial or unmanaged form. The study therefore did not include short tasks, operational tasks or "projects" that did not have an identified project manager or project owner. Conception and implementation of official projects was normally well documented therefore the researcher expected to get detailed information on such projects.

The study only focused on IT projects implemented between 2013 and 2015, this is because the experience of the project participants was still fresh and they were likely to give accurate feedback.

1.9 Assumptions of the study

The study assumed that the figures and information received from the respondents would be accurate and that the selected sample would be representative enough of the population.

The study also assumed that the questionnaires used would also give correct data and that the element of prejudice would not come in during the process of data collection and analysis. The respondents, in this case project managers/owners were also expected to collaborate with the researcher in order for the study to be both reliable and valid.

1.10 Definitions of significant terms

The definitions listed below have been provided in order to clarify the terminologies used in the study.

Bandwidth: Bandwidth is the speed of data transfer, it is the quantity of data that can be transferred from one point to another in a given duration of time (usually a second).

End-users: An end user is the person that a software program or hardware device is designed for. This is the individual who uses the hardware or software after its full development and installation.

Hardware: This is the collection of physical elements that constitutes a computer system.

Information Technology (IT): The branch of engineering which deals with the use of computers and telecommunications to store retrieve and transmit information

IT project: The designing, development, installation and implementation of computer and telecommunication applications and systems. The term software projects will also be used to imply the same, both terms will be used interchangeably in this study.

IT project management: The process of planning, organizing and defining responsibility for the completion of organizations' specific information technology (IT) goals.

Project failure: A project is considered a failure if it fails to achieve its objectives, exceeds its original budget and/or fails to meet its time schedule.

Project management skills: These are the critical skills that make project managers successful. They include subject matter knowledge, project management tools as well as interpersonal and leadership skills.

Project schedule: This is the tool that defines the work that needs to be done, the resources of the organization that will perform the work and within what timeframes the work needs to be done.

Project success: A project is considered a success if it meets the business requirements, it is delivered and maintained on schedule, it is delivered and maintained within the budget, and it delivers the expected business value and return on the investment.

Project team: This is the group that is responsible for planning and implementing the project. The group consists of a Project Manager and varying number of Project Team members, who are selected to deliver their tasks and assignments according to the project schedule.

Project time management: This involves developing the schedule to be followed through the project life cycle, documenting the resulting plan and ensuring the project sticks to the schedule. It is a combination of all the processes required to estimate the effort duration and the sequence in order to complete the project on time.

Safaricom: Safaricom Ltd is the largest communication company in the region.

Telecommunication: This is communication over a distance by cable, telegraph, telephone, or broadcasting.

Top management: This is a team of individuals who hold the highest management positions in an organization and they are responsible for the day-to-day running of a company or corporation. They are charged with the responsibility of controlling and overseeing the entire organization.

1.11 Organization of the study

This study is organized in chapters, chapter one contains the introduction which sets the basis of the study. Chapter two contains the literature review which includes the various literature that was reviewed. Chapter three contains the methodology that was used in the conducting the research. Chapter four contains the data analysis, presentation, interpretation and discussions and chapter five has the summary of the findings, discussions, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature was sought to give a thorough appreciation of the factors influencing implementation of information technology (IT) projects. The research further focused on the challenges that are often experienced in the implementation of information technology projects and what is required to be done in order to guarantee successful implementation of these projects. The researcher borrowed heavily from experiences of IT projects in South Africa, India and USA.

The topics to be considered include historical perspective of implementation of IT projects, information technology as a business enabler, information technology projects failure and the critical success factors for IT projects which are the four variables under study.

2.2 Historical perspective of implementation of IT projects

Administering information technology (IT) projects on a large scale presents a number of challenges and opportunities, IT can drive the shift in global business strategies and enhance international coordination, similarly IT can be an obstacle to achieving globalization (Tan, 2002). As the world economy grows more interdependent and business competition continues to be more globally oriented, it has therefore brought the need to tackle the issues of IT project management from a wider global focus.

Some 33% of respondents in a recent survey singled out project management as the number one management problem for the decade, this indicates that the biggest project management challenges that IT will encounter in the years to come are global teams, project portfolios and vendor partners (Brandel, 2006). In a recent survey carried out by KPMG International, 81% of companies reported increased number of new IT projects in the past one year, and 88% reported

increase in the projects complexity (Bednarz, 2006). According to the Standish Group Report over $250 billion is spent annually on about 175,000 IT projects in the United States, and the mean cost of a project for large companies is $2,322,000. For medium companies it is $1,331,000 and for a small companies, it is $434,000 (Standish Group International, 2000). According to the same Standish Group Report, 31.1% of all projects are canceled before completion, while 52.7% of the projects cost 189% of what had been originally estimated (Standish Group International, 2000). Large IT projects that embraced formal project management practices were more likely to meet the project target dates. IT Projects which had a high degree of complexity that involved outsourcing and application of formal project management practices were more probable to meet the project target dates (Mathieu, 2005).

According to Forrester Research Inc., in 2006 the total global revenue for IT was US$1.5 trillion with most of this amount spent within project context; whether through implementation of new technology or new systems, upgrading of the existing systems or maintaining and outsourcing the current technology and systems (Bartels, 2006). An assumption can therefore be made that IT spending in Africa is also on the increase.

Information technology offers effective methods to tackle Africa's lack of international competitiveness. This is through growth of internet for access of online information and online transacting and use of computer technology to process data, to improve efficiency and to reduce transaction costs. Growth of mobile telephony in Africa has greatly improved communication and mobile payment solutions have helped in promoting trade. The literature reviewed did not reveal much on growth of IT projects in Africa with the exception of South Africa, however, based on the studies conducted in South Africa, there has been an increase in growth of IT projects in Africa.

According to a study conducted by Project Management Institute of South Africa revealed that South Africa companies experience software project failure of 53.7%, meantime cost overrun of 33%, meantime overrun of 27% and mean percentage of functionality delivered of 84% (Smith, 2012). The study concluded that the top three reasons for project failure were incomplete requirement and specification, changing requirements and specifications and lack of end user involvement.

According to a study conducted in Nigeria in 2013 a major growth in IT projects and just like the global experience, there was an alarming rate of failure of the IT projects (Cosmas Ifeanyi Nwakanma, 2013). The study conclude that; user/client involvement clear requirements and specification, realistic schedule, clear objective and goal, support from top management and effective project management methods/skills were found to have combined effect on implementation of IT-Projects in Nigeria. The study further found out that the most critical factor in implementation of IT projects is realistic schedule while the least critical factor is clear objective and goals.

In Kenya, there are a variety of ICT Initiatives and projects currently ongoing including the Laptop Programme, Business Process Outsourcing, Digital Inclusion Projects (Digital Villages/Pasha Centers, Wezesha Initiative), Local Content Programme (Open Data Portal, Tandaa Digital Content Grants), Information Security as well as other initiatives such as zero-rating taxes on imported ICT hardware, eGovernment, Konza Technology Park and Skills Programs.

In January 2006, the Ministry of Information and Communications published the Kenya ICT Policy and in February 2006, the Kenya Information and Communications Bill was enacted. The mission of the policy was to improve the livelihoods of Kenyans by ensuring that there was availability of efficient, accessible, affordable and reliable ICT services. The intention of this policy is to promote social justice and equity; poverty reduction and to facilitate sustained economic growth; empower the youth and disadvantaged groups; stimulate investment and innovation in ICT; mainstream gender in national development; and achieve universal access.

Despite the Kenyan government commitment to the growth of ICT, the literature reviewed did not reveal the rate of success of the various IT projects. Private companies also tend to report on the success of their IT projects with very little or hardly nothing being reported on the failures.

Safaricom is a leading communications company in Kenya. Safaricom provides a comprehensive range of communication services: fixed and mobile voice as well as data services on several platforms. One of its flagship products; M-pesa has received worldwide accolades and has won various international awards for being the best mobile money payment service. Safaricom continues to be at the forefront in coming up with innovative products and this has helped the

company to maintain market leadership. Appropriate use of information technology has no doubt been the driving force for the company.

2.3 Information technology as a business enabler

One of the ways in which businesses gain competitive advantage is by adopting information technology. In the highly competitive telecommunication sector, adoption of information technology is necessary in order to come up with new and innovative products. Most projects carried out in telecommunication companies are IT-based and they include the entire cellular network, Customer Relationship Management solutions and a host of other IT systems. The IT projects carried out in the telecommunication sector are also very large in scope and costly which increases their chance of failure.

Information has become a central and primary resource in addressing business problems. IT has become the primary tool used to manipulate and manage business information. The main uses of IT include eliminating cumbersome, laborious administrative work through automation of such tasks, storing huge quantities of information and making the information available fast and in a highly organized way, improving the operation of complicated organizational systems by hastening the flow of information through a chain of related activities to guarantee consistency, augments and supports the information handling ability of people by handling complex calculations as well as automating repetitive tasks (Bidgoli, 2011).

For IT to be a business enabler it must enable the business to operate and compete; IT must give the business the capacity to be competitive. IT needs to provide the company with a competitive advantage or assist the business value chain in achieving competitive advantage to be seen as a valuable component of the business (Bidgoli, 2011). However, due to complexity of IT projects, IT projects intended to be enabler can pose serious constraints.

2.3.1 Constraints that IT places on business

Although IT projects enables the business to perform certain functions and improves the process for performing other functions. IT can also place following constraints on the business, it can alienate the staff who are affected by its introduction which can lead to reduced productivity, it can also deliver more information than people are able to handle in a form that does not suit their thinking or working patterns, it can also become a barrier to change when computer systems that

support organizational processes fail to adapt as quickly as is required by the organization, it can also place human information handling abilities in a rigid and computerized procedure (Bidgoli, 2011). These constraints need to be considered when designing the relevant IT systems to support the business.

2.3.2 Information technology as a competitive advantage

Businesses can become successful if they possess some advantage over and above their competitors. Bidgoli (2011) defines competitive advantage as the edge a firm has over its competitors, this is acquired by offering customers greater value, either through providing more benefits that justify higher prices or by lowering prices (Bidgoli, 2011).

To optimally utilize information technology to achieve low cost advantage, the firm's cost drivers need to be analyzed to examine if there exists potential for automation or probable replacement of the duties involved by a computerized system. Similarly, implementation of the already existing products and services through the use of IT gives an organization competitive advantage. Swiftness or rapid reaction as a competitive advantage involves providing products faster, accelerating new product development or improving, speedily adjusting production processes and making decisions promptly. The growth of telecommunication and internet also allows people to respond immediately regardless of where they are in the world.

The level to which a company puts focus on a narrowly defined market; market niche can also serve as competitive advantage. This focus demands that a firm understands its target market then IT can deliver advantage via decision support systems, corporate knowledge bases as well as management information systems (Bidgoli, 2011).

From a marketing point of view, organizations are able to gain competitive advantage by services differentiation, image differentiation/brand image, product differentiation and human resource differentiation. In all these IT can be applied to create the differentiation. Similarly, technology applied to benefit the business can be used to provide competitive advantage.

2.4 Challenges facing information technology projects

Despite the many standard processes available to develop software systems and the focus that these systems that have to be developed are given within an organization, the rate of success of

information technology projects is alarmingly low. Studies carried out by the Standish Group has established that only about 17% of all software projects conducted in the United States actually meet the original PCTS targets, 50% must have targets changed which implies that they are usually overspent or late and require their performance requirements to be reduced while the remaining 33% are canceled (Heagney, 2012). The studies also noted that in one year only, U.S. companies spent in excess of $250 billion on software development, this meant that $80 billion was totally lost on canceled projects while 83% of all software projects got into trouble.

The adoption of information technology projects has its challenges; information technology projects are by nature costly, complex and very involving with only few large IT projects doing well in relation to the project management constraints of time, cost and scope (Cosmas Ifeanyi Nwakanma, 2013). According to the Standish report (2010), small IT projects have more than 70% chance of performing well; on the contrary large IT projects have virtually no chance of performing well in relation to time, scope and budget (Standish Group International, 2010). Large projects have twice the chance of going over budget, being late and missing critical features compared to its smaller project counterparts. Large projects are more than 10 times likely to fail outright, this means that it will either be cancelled or it will not be used because it has outlived its usefulness prior to implementation (Standish Group International, 2010).

2.5 Critical success factors for IT projects

Several researchers have examined project implementation success factors. The Project Management Handbook by the Project Management Institute presents the following as the critical success factors: top management support: this is the willingness by the top management to avail the required resources as well as the authority/power over the project and project plan/schedule; project mission; stakeholder consultation: consultation, communication and active listening, personnel, stakeholder acceptance, technical tasks, monitoring and evaluation and trouble-shooting (Pinto, 2003). This study focused on four of those factors that are vital to the success of information technology projects in the telecommunication industry.

2.5.1 End user involvement in implementation of IT projects

Failure to explicitly involve the end users is one of the reasons that leads to project failure. A disconnect between the expectations of the business units and the solutions offered by the IT department's usually occurs because the business units normally abdicate their responsibilities of problem ownership and transfer this responsibility to the IT department. At the time when the IT department roll out the solution it is already too late in the lifecycle. It is therefore important for business units to own all their projects except for the IT infrastructure projects.

Many of the benefits that were previously assumed to result from IT actually come as a result of interaction of IT and features of the employee involvement in IT projects and the extent to which employees are involved in the implementation of IT tightens the link that exist between each of these inputs (Litwin, 2011). Litwin (2011) found out that sales representatives in telecommunication with access to new technology perform better than those without it, and that the magnitude of the performance increment is higher for the workers who report high levels of collaboration in problem-solving as well as involvement in implementation of these technologies. Litwin (2011) further notes that those workplaces that successfully involve workers in the implementation of IT projects will show better gains from the use of the new technology than the workplace that take the more traditional top-down approach.

End users are very good at articulating the issues and problems they face with their current tools and processes, as well as in identifying the value of having those problems solved. These highlighted needs of end users can then be used to prioritize the features of a project that can be developed first. End users can also be useful in validating acceptance of a project prior to its release, this is because they are the ones who validate acceptance once it is released by either using the product or not.

The critical steps to reaping benefits from end user involvement include, articulation of project objectives. If there exists issues and problems with the current tools and processes, end users can help in articulating these issues and the importance of having them solved. By focusing on the issues and problems facing the end users, the project manager is able to come up with a project whose objective is to solve these problems (Mochal, 2011).

End users can also help in prioritization of product features by helping in prioritizing which issues to solve first (Litwin, 2011). End user involvement can help solve the prioritization

problem which is often found missing according to a study carried out by the Standish Group in 2002. The survey of many software projects found that 64% of their features were "rarely used" or "never used." This means that two-thirds of the features required by project managers and the project teams labored over did not add any value. If only such projects focus on priority areas, it would lead to huge cost savings and the projects would also be delivered on time (Litwin, 2011).

End users can also help in prototyping reviews by informing the project's design phase by reviewing the prototypes of the finished product, thereby enabling the incorporation of important feedback prior to the development, thus saving money, time and morale. Involving of the end users in prototypes review results in improved system quality following from more accurate user requirements thereby avoiding costly system features that are not required by the end user leading to better levels of acceptance of the system (Mochal, 2011).

End users can also be used to carry out User Acceptance Tests (UAT), this involves a group of end users who perform specific, predetermined tests that are used to check if the product works as had been designed prior to its release. Litwin (2011) notes that engaging end users in testing the product prior to its release can prevent the product from poor adoption, this is the case if errors are found before release and it can also create project advocates who "sell" the product on your behalf. Involving end users in UATs can also result in greater understanding and appreciation of the system by the users resulting in more effective and efficient use of the system.

Some project control methods such as PRINCE II suggest specific mechanism to ensure end-user are involved in IT development projects through some form of representation.

According to Litwin (2011) some challenges of end user involvement include selection of representatives which involves determining who will represent the user population in the project team. The aim is to ensure that those who are selected are truly representative of the user population. Getting support from other users is another challenge; this is because the users' representative can only triumph with the support of all the users. The final challenge is training of all users, it is crucial to involve end users in a variety of decision related to the IT project development. To equip end users to be effective in decision-making roles require that they be provided with the relevant learning opportunities, this should be done before they are faced with

decisions. Visits to sites using similar system, demonstration of similar systems and holding discussion session are some avenues that can be explored to provide useful learning opportunities to the end user.

2.5.2 Top leadership support and implementation of IT projects

Executive support is usually prescribed as vital for fully exploiting the advantages of information technology. Since the emergence of management information systems, top leadership support has been considered crucial to fully utilize the benefits of information technology. Jarvenpaa (2011) argued that "a good IT project must begin at the top with the chief executive officer". He recommended to top executives that they "take an active personal interest: learning what advantages the computer can offer their organization, recruiting talented specialists for the technical staff, encouraging communication and interaction between technical and 'line' personnel, and putting the new system to use in their own daily activities". He also noted that the successful execution of IT projects rely on the active and informed involvement of executive management (Jarvenpaa, 2011).

Top leadership support is participation and involvement of the executive in implementation of IT projects. Mochal (2011) notes that executive involvement is concerned with executives' behaviors in relation to the planning, development, and implementation of information systems. Such behaviors are as diverse as leading an executive steering committee, approval of a new company-wide office automation system or requesting for progress report for an important project. Executive involvement entails the executives' investing their time and effort in IT project issues, additionally, executive participation is interested in the psychological state of the executives, and this reflects the degree of significance that the chief executive places on the IT project. (Richman, 2011). Participation refers to the executives' attitudes and perceptions regarding the particular IT project, i.e. the extent to which the executives regard the IT project as being critical to an organization's success. Jarvenpaa (2011) notes that to be involved, the executives do not need to take an active role in guiding the implementation of the IT project, i.e. by spending their personal time in managing the IT project. On the contrary, the involved top leadership needs to only view the IT project as a contributor to the firm's success.

Jarvenpaa (2011) further notes that "in every leading company, top management time is spent in reviewing the plans and programs for the IT project efforts and then in following up on the results achieved". In less successful companies, he established that top management were actively involved in the successful launching of IT projects, however they failed to provide the critical and continuous "dynamic, momentum and a sense of direction." He further argues that "Recent history demonstrates that the chief executive who actively participates in and, in fact, directs first hand, the implementation of technology can provide his firm with substantial competitive leverage." Jarvenpaa (2011) interviewed top IT managers from 33 organizations and concluded that organizations that have been more successful with MIS development are more than twice likely (55% vs. 23%) to make use of an executive steering committee to issue top management guidance than firms that have had less MIS development success. In relation to 93 small businesses, Jarvenpaa (2011) established that "If the small business is to succeed in its computer use, the chief executive must be willing to commit substantial personal energy to the realization of that aim" He, however, found from a sample of seventeen companies that a high degree of positive covariation existed between IT project success and top-management involvement in the design, implementation and audit phases when viewed through the eyes of information systems management, but not when viewed from the perspective of the end users of the systems.

There are other researchers who favor a chief executive who directly intervenes than for a CEO who merely creates an enabling environment for support of systems initiatives. According to Jarvenpaa (2011), the supportive CEO is seen to take a back seat by blessing the IT manager's strategies, signaling the importance of information technology to the line management, and possibly providing a general business direction, and not being involved personally in the decisions and activities related to information technology. Excitement and interest, rather than personal action from the top executives in the organization is the most critical factor for successful implementation of IT projects (Jarvenpaa, 2011).

Jarvenpaa (2011) in conclusion notes that CEOs heading big organizations do not need to be personally participative in IT project management. Alternatively, if the firm is to be advanced in its utilization of IT, the CEO needs to send the right supportive signals concerning IT to their organization. CEOs' personal involvement tends to be short and temporary, this can be either

through attending the quarterly progress meetings or by the CEO devoting some time regularly to discuss project progress with the IT project manager. The reason for this is because the CEOs do not have the time or the expertise to be deeply participative in IT projects. Chief executives mainly set broad guidelines and it is within these guidelines that the firm operates. This however does not mean that chief executive do not greatly impact organizational decisions indirectly by determining the context in which they are made.

2.5.3 Use of project management skills in implementation of IT projects

The PMBOK Guide defines project management as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management is accomplished through the application and integration of the 42 logically grouped project management processes comprising the 5 Process Groups: initiating, planning, executing, monitoring and controlling, and closing" together with the nine general knowledge areas (Project Management Institute, 2013).

Project management is purposed to provide intensified, sustained and integrated management of complicated ventures. Project management involves focusing a substantial portion of the total organizational resources on specific objectives, highly interdependent specialized activities and relatively severe constraints with respect to cost, time, and performance of end product (Gardiner, 2008).

According to Heagney (2012), study conducted by the Standish group indicated notable improvement in project success. This study established that time overruns considerably decreased to 163 percent compared to 222 percent, cost overruns decreased to 145 percent compared to 189 percent, required features and functions went up to 67 percent compared to 61 percent, out of U.S. projects 78,000 were successful compared to 28,000 and 28 percent of IT projects succeeded compared to 16 percent. One of the major reason that was cited for being responsible for increase in successful projects was the use of better skilled project managers and better management processes.

According to Verma (2013), a study conducted in India by KPMG in 2012 found out that project management helps in efficient project delivery. The study further noted that there was general acceptance of the Project Management Office (PMO) concept charged with independent

reporting and assuring project management excellence. About 86 percent of the respondents concurred that PMO could be an effective approach of monitoring projects. The study also found out that the Indian government had also realized the significance of project management potential and the government planned to focus on improvement of project management skills countrywide to get better yield from public investment (Verma, 2013).

According to Heagney (2012), the project management approach had been proved to considerably improve the chances of success of IT projects. The project management approach involves relying more on resources management, processes and infrastructure, coping with greater internal as well as external competition, delivering the outcomes in a proficient way as expected and improving effectiveness and efficiency. According to the Chaos Manifesto (2013), the CHAOS report of 2012 results indicated a rise in software project success rate, with 39 percent of all projects being successful (delivered on budget, on time and with the required features and functions); 43 percent were challenged (over budget, late and/or with less than required features and functions); and 18 percent failed (either cancelled before completion or delivered but never used). One of the reason that was credited to having led to the improvement in the success rate was applying project management skills in implementation of software projects (Standish Group International, 2013).

The realization of the importance of project management has led to major decisions being made by IT projects owners. Effective October 1, 2005, the USA Department of State Foreign Affairs established an IT Project Manager Program, which highlights the qualifications and continuing education prerequisite for project managers who are responsible for managing both prime and minor IT projects. This program ensures continuing progress of IT project manager expertise with a qualifications baseline, this is followed by progressive education requirements and professional development, additionally IT Project managers are required to meet the requirements stipulated in the Project Management Program (U.S. Department of State Foreign Affairs, 2005).

A number of public and private companies worldwide have identified specific project management methodologies to be used in implementation of IT projects in their companies. Some of the methodologies being widely used include; agile software development, lean software development, scrum software development, extreme Programming (XP) software

development methodology and Kanban which is a lean approach to agile software development (Kniberg, 2011).

Cosmas Ifeanyi Nwakanma (2013) recommends that experts in Information and Communication Technology (ICT) sector should adopt project management methodologies and technology skills. This will go an extra mile in complementing the role of system analyst and IT-experts as project managers. It is only IT-experts with good project management training or competence who can come up with a realistic schedule for a project and be able to get the support of top management. The organizations should start deploying project management technology experts in project management issues and stop assuming that anyone can plan.

2.5.4 Project time management in implementation of IT projects

The ultimate goal for project time management is developing the project schedule, manage the developed schedule and ensuring that the project completes within the allocated timeframe. Project time management is one of the ten PMBOK knowledge areas and includes all the processes necessary for estimating effort duration and sequence for timely completion of a project. It comprises of five project management processes: activities definition, activities sequencing, activities duration estimating, development of the schedule and schedule control (Project Management Institute, 2013).

According to Verma (2013), a study conducted in India in 2012 by KPMG found out that shortage of project managers who are skilled emerged as the main reason for cost and time overruns in a project lifecycle. 79 percent of the respondents concurred that shortage of project managers with the prerequisite capability resulted in schedule/time overruns.

According to PMBOK (2013), estimation of project schedule involves developing the work activities schedule and the associated activities dependencies and relationships that will be required for the organization to implement the project or otherwise supply the service, product, or system deliverables. This exercise provides the core concepts and technique guidance for project schedule estimation. This exercise enables the project manager to designate estimated values for work effort time scale to project work elements. Consequently, the duration (i.e. the project schedule) is able to be controlled and tracked against those estimates. Project schedule

estimation is mainly conducted during project planning, though, schedule estimates should be reviewed continuously and updated as is necessary throughout the project (Hill, 2010).

Another important activity in project time management is project schedule control. According to PMBOK (2013), schedule control is the process of ensuring that the project will produce its required deliverables and solutions on time. The activities in this process include tracking the actual start and finish of activities and milestones against the planned timeline, and updating the plan so that the comparison to the plan is always current. Schedule control also involves looking for opportunities where time can be saved and allocating the time to activities that are time constrained.

According to Richman (2011), various tools and techniques are used to develop a project schedule; schedule network analysis is a technique that employs a schedule model and various analytical techniques, such as critical path method, critical chain method, what-if analysis, and resource leveling to develop the schedule. Automated scheduling tools are used to expedite the scheduling process by generating start and finish dates based on the inputs of the activities, network diagrams, resources and activity durations. Project Management Software for scheduling provides the ability to track planned dates against actual dates, and to forecast the effects of changes to the project schedule. Project time management is possible when the timeframe is realistic, however, most IT projects come with time constraints and project managers are required to deliver the project by a given date. Projects with fixed end dates present a different type of planning challenge for project managers where they are forced to plan backwards from the expected completion date.

When faced with time constraint, schedule compression can be applied. According to Hill (2010), schedule compression is the method of shortening the project schedule without changing the scope. This involves crashing which is adding more resources to activities on the critical path to complete the project earlier. However, crashing almost always result in increased cost. Many options are considered and the option with maximum compression with minimum cost impact is selected. According to Hill (2010), fast tracking is also used in schedule compression, in this; critical activities that would normally be done in sequence are allowed to be done in parallel or with some overlap. Hill (2010) further notes that the schedule can also be adjusted by changing the relationship among activities until the critical path is shorter.

2.6 Theoretical framework on project organization

The role of the project manager is an important one and fundamental to the success of any project. Organizations make huge investments in projects and should make corresponding investments in the people they call upon to manage those projects.

The project manager for any project should be appointed as early as possible in the life of the project, ideally in the conception phase.

Project management is first of all team management. If the project is a consortium project, the team members may come from different cultures so that the acceptance of the team as the driving force by all its members is very important. Successful project managers must possess the following capabilities; they must be true leaders, and those who are being led must respect their honesty, integrity and vision. They will need to demonstrate drive, enthusiasm and dedication, and a willingness to support their staff (Lockyer & Gordon, 1996).

The size of the project team will be related to the size of the project. When the project grows in size, so does the team. This continues until a complete team structure emerges. If the project gets larger, it is the numbers in the team that change, not the structure.

Even with a full project team, assistance from the functional specialists may be needed for many aspects of the project. As a project of any size progresses, the project team membership changes as the functional specialists enter and leave team according the changing technical demands of the project. It is an important part of the project manager's job to make sure that the integration of these people into the project team is smooth, to progress the work harmoniously.

As with the project manager, in addition to their technical skills, the personal skills of the team members are of a great importance. The project manager should therefore be involved in selection and appointment of the team. The team should be assembled from people that: are innovative when needed and generally adopt a problem-solving approach, openly discuss ideas before they are adopted, communicate freely between functions, sell the ideas and work of the team, obtain cooperation from people outside the team, ensure that work is progressed at an acceptable level, assess their own and other people's work pragmatically and remain cohesive as

a group even when things go wrong. The team must be aware of the need for good communications both within the group and with others.

2.7 Conceptual framework

A conceptual frame work is a hypothetical model identifying the concepts under study and their relationship between the independent and the dependent variables. The section provides a structural description of the relationship between the variable forming the concepts of the study on IT projects.

From the conceptual framework (figure 1), the successful implementation of IT projects is linked to the four independent variables, moderating variable and intervening variable. It illustrates how the four independent variables, involvement of end-users, top leadership support, project management skills and project time management relate to each to influence implementation of IT projects. The indicators under involvement of end-users include consultation, project participation, UATs & prototyping reviews and training. The indicators under top leadership support are active personal interest, participation and involvement, reviewing the plans and programs for the IT project and sending the right supportive signals. Project management skills indicators include skilled project managers, Project Management Office (PMO) and project management. Project time management key indicators include project schedule estimating and project schedule control.

The moderating variable in the study is Project team participation with the following key indicators; positive attitude, high motivation and commitment to success.

The intervening variable is the technical characteristics and the key indicators include hardware and bandwidth.

Moderating Variable

Project team participation

- Positive attitude
- High motivation
- Commitment to success

Independent Variables

Involvement of End-users

- Consultation
- Project participation
- UATs & prototyping reviews
- Training

Top Leadership support

- Active personal interest
- Participation and involvement
- Reviewing the plans and programs for the IT project
- Sending the right supportive signals

Project Management Skills

- Skilled project managers
- Project Management Office (PMO)
- Project management

Project time management

- Project schedule estimating
- Project schedule control

Dependent variable

Successful implementation of IT projects

- Completed on time, scope and within the budget.
- Meet business requirements.
- Meets the end user's requirements.
- Deliver the expected business value and return on investment.

Technical characteristics

- Hardware
- Bandwidth

Intervening Variable

Figure 1: Conceptual Framework

2.8 Summary and knowledge gap

In this chapter, the researcher has given an overview of factors influencing implementation of information technology projects globally, in Africa and locally. From the literature reviewed, it is evident that the rate of failure of IT projects is alarmingly high. This is largely because of the complex nature of IT projects and lack of application of project management skills in the implementation of IT projects. A lot of IT projects are implemented in a haphazard manner by IT personnel who have no training in project management; the end result is a product that over-runs time, budget and fail to meet the expected specification.

The literature reviewed also highlight the importance of IT projects in improving productivity in organizations. It's therefore expected that IT projects will continue being common in most organizations hence the need to improve the success rate of these projects. Project schedule is another factor that has been noted to impact greatly on the success rate of IT projects. To improve on the success rate of IT projects, it is important to allocate a realistic time schedule. Similarly, the top leadership needs to accord their unwavering support to IT projects; they must make it clear that the IT projects being implemented are vital for the overall success of their organization. Involvement of end user is paramount for the IT project to be successful. The end users can variously be involved through the various phases of the project to improve on their buying in and ultimately improve the acceptance of the end product. The literature reviewed noted the various ways the end user can be involved to ensure the success of the IT projects.

An issue that came up prominently from the literature reviewed is that very few large IT projects perform well to the project management constraints of cost, time, and scope. According to the Standish report (2010), small IT projects have a greater than 70% chance of performing well; on the contrary a large IT project has virtually no chance of coming in on time, on budget, and within scope (Standish Group International, 2010). A large project has twice the chance of being late, over budget, and missing critical features than its smaller project counterparts. A large project is more than 10 times more likely to fail outright, meaning it will be cancelled or will not be used because it outlived its useful life prior to implementation (Standish Group International, 2010).There is need to establish if there is need for large IT projects and if breaking up of large IT project into a series of small projects that can be done in parallel if necessary can help increase the success rate of IT projects.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents key methodological issues that were followed to conduct this research study and provides a general framework for this research. The chapter presents details of the research design, target population, sampling procedures, methods of data collection, validity and reliability of instruments, data collection process, methods of data analysis and ethical considerations while conducting the study.

3.2 Research design

A research design is a plan, structure and strategy of investigation to obtain answers to research questions and control variance (Ogula, 2005). The researcher adopted a descriptive research design. This design is a process of collecting data in order to test hypothesis or to answer the questions of the current status of the subject under study (Mugenda, 1999). The main feature of survey research design is to describe specific characteristics of a large group of persons, objects or institutions, through questionnaires (Jaeger, 1988). Descriptive research design was chosen because it enabled the researcher to generalize the findings to a larger population. This type of research design presents facts concerning the nature and status of a situation, as it exists at the time of the study (Creswell, 2014). It also brings out relationships and practices that exists, beliefs and processes that are ongoing, effects that are being felt or trends that are developing.

3.3 Target population

According to Ogula, (2005), a population refers to any group of institutions, people or objects that have common characteristics. A population in this study formed a basis from which the subjects or samples for the study were drawn. This is the entire group a researcher is interested in or the group which the researcher wishes to draw conclusion from. The study targeted five information technology projects undertaken by Safaricom between 2013 and 2015. The study sought respondents from the Project Office which comprises of a Project Manager and the project team derived from the Customer Care, Technology, Consumer Business Unit, Enterprise

Business Unit and Financial Services. The population of the study was 152. The five departments were targeted because all project teams are required to comprise members from the five sections.

3.4 Sample size and sampling procedure

The sample was drawn from 5 divisions in Safaricom who form the projects team. The researcher had a sample of at least 30% of the target population which is representative enough to allow for generalization of characteristic under investigation (Borg, 2003). The researcher studied 48 respondents. These 48 respondents were selected using convenience sampling technique to select various level managers who oversee the various new projects being implemented. The researcher used his personal judgment to select those respondents that were best suited for the purposes of the study and those that were believed to have the information being sought. The sample size was selected proportionately as per table 3.1.

Table 3.1: Sample Design

Division	Population	%of Population	Sample size
Project Manager	1	0.66%	1
Customer Care	42	27.63%	13
Technology	32	21.05%	10
Consumer Business Unit	33	21.71%	10
Enterprise Business Unit	25	16.45%	8
Financial Services	19	12.50%	6
TOTAL	**152**	**100%**	**48**

3.5 Research instrument

A questionnaire was used to collect data. The sampled individuals were requested to respond to a questionnaire and the responses recorded for analysis. The researcher used self-administered questionnaire where the respondents completed the questionnaire by themselves. This is because all respondents were literate.

The questionnaire was divided into six sections, section one had demographic data, section two had top leadership support and its influence on IT project implementation, section three had

Project management skills influence on IT Project Management, section four had involvement of end-user and its effect on implementation of IT projects, section 5 comprised of project schedule effect on implementation of IT projects while section 6 had critical success factors.

3.5.1 Piloting of the research instrument

Before administering the questionnaire the researcher conducted pilot test involving conducting a preliminary test of data collection tools and procedures to identify and eliminate problems, allowing programs to make corrective changes or adjustments before actually collecting data from the target population. The researcher conducted a pilot test among 8 members of the target population in order to identify inconsistencies with the research instruments in regard to the research questions and research techniques which were then adjusted and modified. This method was chosen because it is very economical and fairly accurate.

3.5.2 Validity of the research instrument

Validity is the appropriateness, correctness and meaningfulness of the specific references which are selected on research results (Wallen, 2004). It is the degree to which results obtained from the data analysis actually represent the phenomenon under study. Validity refers to the degree to which evidence and theory support the interpretation of test scores entailed by use of tests. The validity of instrument is the extent to which it does measure what it is supposed to measure. According to Mugenda (1999), validity is the accuracy and meaningfulness of inferences, which are based on the research results. It is the degree to which results obtained from the analysis of the data actually represent the variables of the study. Content validity instrument provides adequate coverage of the topic under study (Kothari, 2004). On the validity of the instrument, the researcher sought supervisor's guidance and approval on its applicability, appropriateness and adequacy of the instrument. In addition, the sample selected was representative enough.

3.5.3 Reliability of the research instrument

Reliability is the ability of a research instrument to consistently measure characteristics of interest over time. It is the degree to which a research instrument yields consistent results or data after repeated trials. If a researcher administers a test to a subject twice and gets the same score on the second administration as the first test, then there is reliability of the instrument (Mugenda,

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1999). Reliability is concerned with consistency, dependability or stability of a test (Frankfort-Nachmias, 1996). Reliability can be tested using the split-half form, where items are grouped into two and then correlated with the Spearman-Brown formula. This involved the researcher carrying out a pilot study and then carrying out the above test. The pilot was done with a sample that was not involved in the final data collection process. The researcher measured the reliability of the questionnaire to determine its consistency in testing what it was intended to measure. Reliability of the data collection instrument was done using the split half method (Gay, 2006) then calculated using Spearman Brown correlation formulae to get the whole test reliability. If the sum scale is perfectly reliable, we would expect that the two halves are perfectly correlated (i.e., r = 1.0)

$$r_2 = \frac{nr_1}{1+(n-1)\,r_1}$$

Where:

r2= corrected reliability

r1 = uncorrected reliability

n= number of parts (e.g. for halves n=2)

The result of the test was 0.92 indicating strong correlation between the two halves which implies that the research instrument was reliable.

3.6 Data collection process

Prior to the commencement of data collection, the researcher obtained all the necessary documents. Upon getting clearance, the researcher in person distributed the questionnaires to the sampled individuals. Use of questionnaires was expected to ease the process of data collection as all the selected respondents were reached. During the distribution of the instruments, the purpose of the research was explained.

3.7 Operational definition of variables

The operational definition of variables describes the independent and dependent variables as well as their sub-variables as measurable indicators of the study as shown in table 3.2.

Table 3.2: Operational definition of variables

Variables	Indicators	Measuring Scales	Tool of Analysis
Independent Variable Project time management	• Project schedule estimating • Project schedule control	Interval Ordinal Nominal	Mode Mean
Dependent variable Successful project implementation	• Project completed on budget, time, specification and quality (exceeds expectation).		
Independent Variable End-user involvement	• Consultation • Project participation • UATs & prototyping reviews • Training	Interval Ordinal Nominal	Mode Mean
Dependent variable Successful project implementation	• Project completed on budget, time, specification and quality (exceeds expectation).		
Independent Variable Top Leadership support	• Active personal interest • Participation and involvement • Reviewing the plans and programs for the IT project • Sending the right supportive signals	Interval Ordinal Nominal	Mode Mean
Dependent variable Successful project implementation	• Project completed on budget, time, specification and quality (exceeds expectation).		
Independent Variable Project Management Skills	• Skilled project managers • Project Management Office (PMO) • Project management approach / methodologies.	Interval Ordinal Nominal	Mode Mean

3.8 Data analysis

Both quantitative and qualitative data was collected and analyzed using tables. Quantitative data from the questionnaire were coded and entered into the computer for computation of descriptive statistics. The Statistical Package for Social Sciences (SPSS) was used to run descriptive statistics such as frequency, mean and standard deviation so as to present the quantitative data in form of tables based on the major research questions. The qualitative data generated from open ended questions were categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation. The qualitative data was used to reinforce the quantitative data.

3.9 Ethical considerations

The researcher explained to the respondents about the research and that the study was for academic purposes only. It was made clear that the participation was voluntary and that the respondents were free to decline or withdraw any time during the research period. Respondents were not coerced into participating in the study. The participants had informed consent to make the choice to participate or not. They were also guaranteed that their privacy would be protected by strict standard of anonymity.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the analysis of data collected and a discussion of the findings on the factors influencing successful information technology projects implementation at Safaricom Ltd. The data analysis, presentation and interpretation are in the form of tables that show frequency and percentages.

4.2 Demographic information

The study sought to examine the demographic information of the respondents. The data sought included gender, age, education and working experience with Safaricom Ltd. The results are as presented in the following sections.

4.2.1 Gender of respondents

The study sought to establish the gender of respondents selected for the study.

Table 4.1: Gender of respondents

Gender	Frequency	Percent (%)
Male	25	56.82
Female	19	43.18
Total	**44**	**100.00**

The respondents gender distribution was 25 (56.82%) male and 19 (43.18 %) female as indicated in Table 4.1.

4.2.2 Age of respondents

The study also sought to find the age of the respondents as represented in Table 4.2 below

Table 4.2: Respondents age

Age	Frequency	Percent (%)
20 - 25 years	3	6.82
26 - 30 years	17	38.63
30 – 35 years	14	31.82
36 – 40 years	8	18.18
Over 40 years	2	4.55
Total	**44**	**100**

This implies that the majority of the workforce is between the ages of 26 – 30 years i.e. 31.82%.

4.2.3 Education level of respondents

The education level of the respondents was also sought as depicted in Table 4.3

Table 4.3: Education level of respondents

Education Level	Frequency	Percent (%)
Diploma	5	11.36
Undergraduate	16	36.36
Postgraduate	23	52.28
Total	**44**	**100**

As depicted in table 4.3, 11.36% of the respondents were diploma holders, 36.36% were undergraduates and 52.28% were post-graduates.

4.2.4 Experience of respondents at Safaricom Ltd

The study sought to examine the number of years the employees had worked at Safaricom. As shown in Table 4.4.

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Table 4.4: Experience of respondent

Number of Years	Frequency	Percent (%)
Less than 1 year	2	4.55
2 – 5 years	13	29.55
6 – 10 years	19	43.18
More than 10 years	10	22.72
Total	**44**	**100**

As depicted in table 4.4 majority of the respondents (43.18%) had 6 to 10 years working experience with a standard deviation of 0.834 from the mean.

4.3 Top leadership support and its influence on IT project implementation

Jarvenpaa (2011) consistently identified top leadership support as the most important and crucial factor in successful implementation of projects. This study sought to determine the influence that top leadership support had on the implementation of projects within Safaricom ltd. The results of this analysis are presented in table 4.5

Table 4.5: Level of top leadership support

Level of support	Frequency	Percent (%)
Low	4	9.1
Medium	10	22.7
High	29	65.9
Not sure	1	2.3
Total	**44**	**100.0**

As seen from the table, 65.9% rated level of top leadership support as high while 22.7% rated the support as medium with a standard deviation of 0.689. The study findings imply that the project teams find the support from top management as sufficient, in ensuring project implementation.

4.3.1 Involvement and commitment of top management

The involvement and commitment of top management to projects contributes immensely to the success of the projects. The involvement and commitment of top management ensure that the

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project is well funded and the resources required are provided. Such an engaged top management ensure that the organization works towards ensuring the project is successful. The study therefore examined the respondents' opinion on the involvement and commitment of top management, as presented in table 4.6

Table 4.6: Top management involvement and commitment

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a) Projects initiated are well funded and enjoy sufficient resources for implementation	43.2%	29.5%	9.1%	11.4%	6.8%
b) There's a clarity in the vision, mission and values of the organization	50.0%	36.4%	2.3%	6.8%	4.5%
c) The organizational structure complements the project implementation process	34.1%	25.0%	11.4%	18.2%	11.4%
d) There's a clear channel of communication between the project team and top management	52.3%	27.3%	2.3%	13.6%	4.5%

As observed from the table, 72.7% of the respondents agreed that projects are well funded, 86.4% agreed that there is clarity vision, mission and objectives of the organization while 59.1% agreed that the organization structure complements the project implementation process and 79.6% agreed that there is a clear channel of communication between the project team and top management.

4.3.2 Additional support from top management

The respondents were asked what additional support they required from top management. Their responses are presented in table 4.7

Table 4.7 Additional support

Additional support	Frequency	Percent (%)
Training support	15	34.1
Enough time for project implementation	12	27.3
Ensure the project team is well staffed	14	31.8
Additional staff in PMO office	3	6.8
Total	**44**	**100.0**

34.1% of the respondents indicated that they needed additional training in project management while 31.8% indicated that the top management needed to ensure that there were enough numbers when the project team is being formed. 27.3% of the respondents felt that the time allocated for implementation of projects was not adequate while 6.8% of the respondents felt that the PMO office was understaffed and needed additional staff.

4.3.3 Challenges and opportunities for top management support

The study sought to identify the challenges that hindered top management from providing support to project teams and opportunities that could be explored to bridge this gap. The responses are depicted in table 4.8

Table 4.8 Challenges and opportunities

Additional support	Frequency	Percent (%)
Team working from different locations	16	36.4
Lack of space in the head office	13	29.5
Lack of support from functional heads	10	22.7
Organization structure not aligned to projects	5	11.4
Total	**44**	**100.0**

From the responses, 36.4% felt that it was challenging for the project teams to work from different locations, 29.5% indicated that lack of space in the head office for the project team was another challenge. 22.7% of the respondents said that did not receive adequate support from their functional heads while 11.4% felt that the organization structure was not suited for projects.

4.4 Project management skills influence on Project Management

According to Heagney (2012), the project management approach has been proved to significantly improve the likelihood of success of IT projects. The study sought to find out the influence of project management skills in project implementation.

Table 4.9 Formal training in project management

Formal training	Frequency	Percent (%)
No	11	25
Yes	33	75
Total	**44**	**100**

As depicted on table 4.9, 75% of the responded had formal training in project management while 25% did not have any training.

The study further sought to establish the level of training of the 33 respondents, the results are depicted in table 4.10

Table 4.10 Level of formal training

Level of training	Frequency	Percent (%)
Certificate	2	6.1
Diploma	7	21.2
Degree	5	15.2
Professional course	19	57.6
Total	**33**	**100**

From the responses, 57.6% of the respondents had undertaken a professional course in project management. This is a strong indication that the company recognizes the importance of training in project management.

4.4.1 Application of project management approach or methodology

The study further sought to find out if the respondents had applied any project management approach or methodology in the implementation of IT projects. The results are depicted in table 4.11.

Table 4.11 Application of project management approach or methodology

Application of approach or methodology	Frequency	Percent
To a very large extent	25.0	56.8
Significantly	13.0	29.5
Insignificantly	4.0	9.1
Not sure	2.0	4.5
Total	**44**	**100**

From the responses, majority of the respondents, 56.8% admitted to have applied a project management approach or methodology in the implementation of IT projects. This implies that even those without formal training were applying project management approaches or methodologies possibly acquired through experience.

The study further sought to establish the approaches and methodologies used by the respondents in the process of project implementation. The results are presented in table 4.12.

Table 4.12 Approaches and methodologies used

Approach or methodology	Frequency	Percent (%)
PRINCE2 (Projects in Controlled Environments)	25	83.3
Agile Project Management	3	10.0
Rapid Application Development (RAD)	2	6.7
Total	**30**	**100**

The results indicate that 83.3% of the respondents have used PRINCE2 in the implementation of project management. PRINCE2 also happens to be the methodology favored by the company.

The study went on to establish if the projects the respondents were involved in became successful in meeting the intended purpose. The results are presented in table 4.13

Table 4.13 Projects that met intended purpose

Project met intended purpose	Frequency	Percent (%)
Yes	21	70.0
No	7	23.3
Not sure	2	6.7
Total	**30**	**100**

From the responses, 70% of the respondents felt that the project they were involved in became successful.

The study then sought to find out to what extent the success of the projects could be attributed to the application of the project approach/methodology. The results are depicted in table 4.14

Table 4.14 Successful projects

Attributed to project approach/methodology	Frequency	Percent (%)
To a very large extent	9	42.9
Significantly	5	23.8
Insignificantly	5	23.8
Not sure	2	9.5
Total	**21**	**100**

From the responses, 66.7% of the respondents attributed the success of the projects they were involved in to application of project management approach or methodology in the implementation of the project.

4.4.2 Formal project management training

The study sought to find out the respondents' attitude to the suggestion that Safaricom should make it a mandatory requirement for all project managers to possess formal project management training. The responses are depicted in table 4.15

Table 4.15 Project management training a mandatory requirement

Formal project training mandatory	Frequency	Percent (%)
No	3	6.8
Yes	41	93.2
Total	**44**	**100**

93.2% of the respondents felt that formal project management training should be made mandatory for all project managers.

The study then sought to find out the reasons for such an overwhelming affirmation of the idea of making formal project management training mandatory for project managers and the results are presented in table 4.16

Table 4.16 Reasons for making formal project management training mandatory

Why project training should be mandatory	Frequency	Percent (%)
Skills acquired necessary for project success	21	47.7
To gain newer and better skills	13	29.5
To increase chances of project success	7	16.0
Experience is more important	3	6.8
Total	**44**	**100**

From the responses, 47.7% of the respondents felt that the skills acquired were necessary for project success, 29.5% felt that formal training in project management would equip the project managers with newer and more efficient skills while 16% were of the opinion that equipping project managers with project management skills would increase the chances of project success. However, 6.8% of the respondents felt that formal project management should not be made mandatory for project managers because experience is more important that formal training.

4.5 Involvement of end-user and its effect on implementation of IT projects

According to (Litwin, 2011), one of the reasons for project failure is lack of explicit involvement of end users. The study sought to find out the influence of end user support involvement in the implementation of IT projects.

4.5.1 Important stage for end-user involvement

The study sought to find out at what project phase the end users were involved. The results are presented in table 4.17

Table 4.17 Project phase and end-user involvement

Project phase	Frequency	Percent
Design	8	18.2
Planning	15	34.1
Implementation	20	45.5
Monitoring and evaluation	1	2.3
Total	**44**	**100**

According to the responses, 45.5% of the respondents felt that the most important stage for end user involvement is implementation phase, 34.1% selected planning phase and 18.2% selected design phase while 2.3% selected monitoring and evaluation.

4.5.2 Training of end-users

The study then sought to find out if training opportunities were available for the end-users of the IT projects. The responses are tabulated in table 4.18

Table 4.18 End-user training opportunities

Training opportunities	Frequency	Percent (%)
Always	24	54.5
Rarely	15	34.1
Never	3	6.8
Not sure	2	4.5
Total	**44**	**100**

54.5% of the respondents indicated that training opportunities for end users were accorded always, 34.1% indicated that training opportunities for end users were rare, 6.8% indicated that training opportunities for end users were never availed while 4.5% were not sure.

The study went on further to establish the channels by which the training for end users is done. The results are presented in table 4.19

Table 4.19 Modes of training for end users

Modes of training	Frequency	Percent (%)
Formal classroom training	14	36.8
Online training	11	28.9
On the job training	8	21.1
Fliers and educational materials	5	13.2
Total	**38**	**100**

From the results, the respondents selected formal classroom training as the most common mode of training at 36.8%, 28.9% selected online training and 21.1% said on the job training while 13.2% said fliers and educational materials.

4.5.3 Effect of end-users involvement in the implementation of IT projects

The study sought to find out the effect of effect of end-users involvement in the implementation of IT projects in Safaricom. The results are presented in table 4.20.

As observed from the table, 88.60% of the respondents agreed that education and training is accorded to the end users, 79.60% agreed that projects are initiated after consultation with the end-users, 70.40% agreed that project leaders are in constant communication with the end users, 86.30% agreed that end-users are involved in carrying out UATs and 86.30% agreed that users have an opportunity to participate in the monitoring and evaluation of projects.

Table 4.20 Effects of end users involvement

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a) Education and training is accorded to the end users	54.50%	34.10%	0%	6.80%	4.50%
b) The projects are initiated after consultation with the end-users.	43.20%	36.40%	9.10%	4.50%	6.80%
c) Project leaders are in constant communication with the end users.	38.60%	31.80%	9.10%	11.40%	9.10%
d) End-users are involved in carrying out UATs.	47.70%	38.60%	6.80%	2.30%	4.50%
e) Users have an opportunity to participate in the monitoring and evaluation of projects	47.70%	38.60%	6.80%	2.30%	4.50%

4.6 Project schedule and its effect on implementation of IT projects

Project time management is one of the ten PMBOK knowledge areas and includes all the processes required to estimate effort duration and sequence in order to complete the project in a timely manner (PMBOK, 2013). For a project to be completed on time, scheduling is necessary to ensure the project manager assigns estimated values for work effort duration to project work elements and in turn, the duration (i.e. the project schedule) can be tracked and controlled against those estimates.

4.6.1 Effects of project scheduling on the implementation of IT projects

The study sought to establish the influence of project schedule in the implementation of IT projects. The results are presented in table 4.21.

As depicted in the table, 75% of the respondents felt that project scheduling always affect implementation of IT projects, 15.9% of the respondents felt that project scheduling rarely affected implementation of IT projects, 6.8% of the respondents said that project scheduling never affected implementation of IT projects while 2.3% were not sure.

Table 4.21 Effects of time schedule

Effect of time schedule	Frequency	Percent (%)
Always	33	75
Rarely	7	15.9
Never	3	6.8
Not sure	1	2.3
Total	**44**	**100**

4.6.2 Project scheduling and the implementation of IT projects

The study sought to find out how project scheduling is done in the implementation of IT projects. The results are presented in table 4.22.

Table 4.22 Project scheduling

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
a) Project scheduling is done before implementation begins.	27.30%	52.30%	2.30%	13.60%	4.50%
b) Effort is made to ensure adherence to the project schedule.	25%	54.50%	6.80%	11.40%	2.30%
c) Enough time is allocated for project implementation.	25%	50%	4.50%	11.40%	9.10%
d) Projects are usually completed within the allocated time frame.	13.60%	47.70%	2.30%	27.30%	9.10%

As observed from the table, 79.6% of the respondents agreed that project scheduling is done before implementation begins, 79.5% agreed that effort is made to ensure adherence to the project schedule, 75% agreed that enough time is allocated for project implementation while 61.3% of the respondents agreed that projects are usually completed within the allocated time frame.

4.6.3 Tools used for project scheduling

The study sought to establish if tools and techniques were used in developing project schedule. The results are presented in table 4.23.

Table 4.23 Use of tools and techniques in developing schedule

Tools and techniques used	Frequency	Percent (%)
Always	25	56.8
Rarely	14	31.8
Never	2	4.5
Not sure	3	6.8
Total	**44**	**100**

As observed from the table, 56.8% of the respondents said that tools and techniques were always used in developing schedule, 31.8% said they were rarely used, 4.5% said they were never used while 6.8% were not sure.

The study further went on to establish which tools and techniques were used in developing project schedule. The results are presented in table 4.24

Table 4.24 Tools and techniques used in developing project schedule

Tool used	Frequency	Percent (%)
GANTT Chart	39	35.14%
Critical Path Method	31	27.93%
PERT (Program Evaluation and Review Technique)	17	15.32%
Schedule Compression	15	13.51%
Schedule Network Analysis	9	8.11%
Total	**111**	**100**

From the results, the respondents do not strictly use one tool/technique but they use a combination of the tools/techniques with GANTT chart being the most common at 35.14%, critical path at 27.83%, PERT (Program Evaluation and Review Technique) at 15.32%, schedule compression at 13.51% and schedule network analysis at 8.11%.

4.7 Critical factors for implementation of IT projects

The study finally sought to establish the factors that the respondents felt were critical to the implementation of IT projects. The results are presented in table 4.25

Table 4.25 Critical factors

Critical Success factors	Very Important	Important	Undecided	Not very important	Not Important
a) Project team participation.	38.60%	59.10%	2.30%	0%	0%
b) Risk management	43.20%	54.50%	2.30%	0%	0%
c) Defined success measurements	31.80%	65.90%	0%	2.30%	0%
d) Adequate appropriate resources	68.20%	31.80%	0%	0%	0%
e) Frequent feedback from end-users	34.10%	56.80%	0%	6.80%	2.30%
f) Adequate control procedures	38.60%	50%	6.80%	4.50%	0%
g) Organizational structure suited to projects	38.60%	45.60%	4.50%	6.80%	4.50%

As observed from the table, project team participation, risk management and defined success measurement were all rated as critical with 97.7% of the respondents saying they are important while all the respondents (100%) felt that adequate appropriate resources is important. 90.9% of the respondents felt that frequent feedback from end-users is important, 88.6% felt that adequate control procedures is important while 84.2% felt that organization structure suited to projects is critical to implementation of IT projects.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter will focus on summarizing the findings in Chapter four with an aim of aligning them to the objectives of the study. It includes the discussion of results while also giving the summary and conclusions of the study. Areas of further research are also included as well as the study's recommendations.

5.2 Summary of findings

This section presents the key findings of the study which is organized according to the four independent variables of the study.

From the study, top management support for project team was rated as high with 65.9% of the respondents indicating this with clarity in the vision, mission and values of the organization being the most significant attribute of top management support with 86.4% of the respondents indicating so. However, on the question of the organizational structure complements the project implementation process was rated lowest with 59.1% of the respondents agreeing. The respondents also highlighted the additional support they would require from top management with 34.1% indicating training support and 31.8% highlighting the need to ensure that the project team is well staffed. The study also identified several challenges that hindered top management from providing support to project teams with project teams working from different locations ranking highest with 36.4% of the respondents indicating this.

From the study, 75% of the respondents had formal training in project management. Majority of the respondents who had formal training had completed professional courses in project management (57.6%). This is attributed to the company's recognition of the significance of project management skills in project implementation. From the findings, 86.3% of the respondents indicated that they had applied a project management approach or methodology in the implementation of IT projects with PRINCE2 (Projects in Controlled Environments) ranking as the most common approach/methodology with 83.3% of the respondents indicating so. The

study also attributed the success of projects to application of project management approach or methodology with 66.7% of the respondents indicating so.

From the study, 45.5% of the respondents identified the implementation phase as the most important stage for end user involvement while 34.1% of the respondents identified the planning phase. On the issue of training of end users, 54.5% indicated that there was always training of end users with 45.5% holding contrary view. Among several ways of end user involvement, constant communication between project leaders and end users ranked lowest with 70.4% of the respondents agreeing.

On the issue of project scheduling, 75% of the respondents felt that project scheduling always affect implementation of IT projects. Among several characteristics of project scheduling, 'project scheduling is done before implementation begins' ranked highest with 79.6% of the respondents agreeing while 'projects are usually completed within the allocated time frame' ranked lowest with 61.3% of the respondents indicating so. The study further established that tools and techniques are always used in developing project schedule with 56.8% of the respondents indicating so with GANTT chart being the most common tool/technique at 35.14%. The study also established that the respondents use a combination of tools/techniques for project scheduling.

5.3 Discussion of findings

Findings from the study indicate that top management support for project teams was in the form of providing guidance and clarifying how the objectives of the project fits into the overall company objectives. A project that has the support of the top management will generally be accepted by the rest of the staff members hence the need for active top management support. According to Jarvenpaa (2011), successful implementation of IT projects depends on the active and informed participation of executive management. From the findings, the least number of respondents felt that the organization structure complements the project implementation process this is compared to other factors such as communication and funding of projects. At the time of the research, the company had a functional organizational structure even though there was a PMO office which used to get staff from other departments to form project teams.

Use of project management skills increase the chance for success of a project. According to Heagney (2012), the project management approach has been proved to significantly improve the likelihood of success of IT projects. From the study findings, majority of the respondents possessed formal training in project management and they also confirmed to have applied project management approach or methodology in the implementation of IT projects with majority of them also attributing success of IT projects to application of project management approach or methodology. The respondents also felt that it is important for the company to make formal project management training mandatory for all project managers.

Involvement of end users in the implementation of IT projects is vital for the success of the project. One of the reasons for project failure is lack of explicit involvement of end users (Litwin, 2011). The study found out that end users were involved in the implementation of IT projects. Their involvement was mainly in the implementation phase where they were trained on how to use the developed IT system. End users were also involved in conducting UATs (user acceptance tests) to ensure that the systems developed met the needs of the end users.

PMBOK (2013) lists project time management as one of the ten PMBOK knowledge areas and includes all the processes required to estimate effort duration and sequence in order to complete the project in a timely manner. The study found out that project time scheduling is done using various tools and techniques, this ensure that enough time is allocated for project implementation. One of the biggest and most complex projects that Safaricom has ever done was the relocation of Mpesa servers from Germany to Kenya – a process that lasted between 11pm on April 17th 2015 and 11:30am on April 19th 2015 after years of meticulous planning (Nation, 2015). The project was delivered 30 minutes earlier than had been projected.

5.4 Conclusion

The study concludes that top management support is necessary for success of IT projects. Top management support is required in ensuring that the organizational structure complements the project implementation process. There is also need to ensure free communication flow between the top management and the project team. Jarvenpaa (2011) notes that to be involved, the executives do not need to take a "hands-on" role in managing the IT project, i.e. to spend his or

her personal time in the IT project. Rather, the involved top leadership only needs to view the IT project as contributing to the firm's success.

The study also concludes that there is need for all project managers to be equipped with project management skills. A study conducted in India by KPMG in 2012 found out that use of project management skills helps in efficient project delivery (Verma, 2013). There is need for applying project management approaches and methodologies in the implementation of IT projects to increase their success rate.

There is need to involve the end users throughout all project phases from design, planning, implementation as well as monitoring and evaluation. End users also need to be involved in carrying out UATs. Litwin (2011) notes that having end users test the product prior to release can save the product from poor adoption if errors are found prior to release. Training of end users is also important, training enable users to be effective in decision-making role regarding the efficacy of the product of the IT project.

There is need for organizations to make use of tools and techniques for project scheduling. Project Management Software for scheduling provides the ability to track planned dates against actual dates, and to forecast the effects of changes to the project schedule. Organizations also need to give enough time for projects since project time management is only possible when the timeframe is realistic. When faced with time constraints, schedule compression can be applied which is the method of shortening the project schedule without changing the scope (Hill, 2010).

5.5 Recommendations of the study

Based on the findings, the study makes the following recommendations;

1. The top management at Safaricom should consider changing the organizational structure from functional structure to matrix organizational structure which allows flexibility by dividing authority both by functional area and by project. The top management also needs to ensure they are in constant communication with the project team in order to identify their needs as well as to check the progress of the project.

2. The study also recommends that end users should be involved at all project phases. Training of end users should also be done to enable users give informed recommendations that will increase the success rate of the projects.

5.6 Areas of further research

The researcher recommends another study analyzing other critical factors for implementation of IT projects. The following are some of the factors that can be considered for study:

1. Project team participation and its effect on implementation of IT projects.

2. Risk management and its effect on implementation of IT projects.

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APPENDICES

APPENDIX I: LETTER OF TRANSMITTAL

Peter Mathenge Gathumbi,
University of Nairobi,
School of Continuing & Distant Education
P.O Box, 30197-00100
Nairobi.
August 2014

Dear Sir/Madam,
RE: RESEARCH PROJECT DATA COLLECTION EXERCISE

I am a postgraduate student undertaking a Master of Arts in Project Planning and Management (MAPPM) degree program. I am required to submit as part of my course work assessment of a research project report on **Factors influencing implementation of information technology projects in Telecommunication sector: A case of Safaricom; Kenya**.

You are hence requested to provide the requested information by kindly filling out the accompanying questionnaire. The information you will provide will be used exclusively for academic purposes and I assure you that it will be treated with strict confidence. A copy of the same will be availed upon request.

Thank you.

Yours faithfully,
Peter Mathenge Gathumbi
Reg no: L50/82771/2012
Mobile: 0721 330920
Email:pemathenge@gmail.com

APPENDIX II: QUESTIONNAIRE

This questionnaire is designed to collect information from the staff of Safaricom Call Center with an aim of establishing the factors that affect successful implementation of IT projects. Please complete each section as requested. The information will be treated with confidence.

Section 1: Demographic Data

1. Gender?

      Male   ( )

      Female   ( )

2. Age bracket?

      20 - 25 years   ( )

      26 - 30 years   ( )

      31 – 35 years   ( )

      36 – 40 years   ( )

      Over 40 years   ( )

3. What is your highest level of education?

      Diploma   ( )

      Undergraduate   ( )

      Post-Graduate   ( )

4. Which is your division?

      Project Management   ( )

      Customer Care   ( )

      Consumer Business Unit ( )

      Enterprise Business Unit ( )

      Technology   ( )

      Financial Services   ( )

5. How long have you worked in your current position within Safaricom?

      Less than 1 year   ( )

      2-5 years   ( )

      6-10 years   ( )

      More than 10 years   ( )

Section 2: Top leadership support and its influence on IT project implementation

7. How would you rate level of support from top leadership towards project implementation?

        Low   ( )

        Medium   ( )

        High   ( )

        Not sure   ( )

8. The following statements relate to the commitment and involvement of the top leadership in the implementation of projects within Safaricom. Please indicate with a (√) to the statement with a rating on the scale of 1 to 5. (1= Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree)

Statement	1	2	3	4	5
a) Projects initiated are well funded and enjoy sufficient resources for implementation					
b) There's a clarity in the vision, mission and values of the organization					
c) The organizational structure complements the project implementation process					
d) There's a clear channel of communication between the project team and top management					

9. In your opinion, what kinds of additional support do the project teams need from top management?

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……………………………………………………………………………………………………

10. What are some of the challenges or opportunities that you would identify regarding the support of the top management in project implementation?

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………………………………………………………………………………………………….

Section 3: Project management skills influence on IT Project Management

11. (a) Have you ever received any formal training in project management? Please select appropriately

        Yes   ( )

        No   ( )

(b) If yes, what is the level of your training?

        Certificate   ( )

        Diploma   ( )

        Degree   ( )

        Professional course ( )

        Other (Specify) ………………

12 (a) In the implementation of IT projects, did you apply any project management approach or methodology?

            To a very large extent   ( )

            Significantly   ( )

            Insignificantly   ( )

            Not sure   ( )

  (b) Specify the approach or methodology used if any

    ………………………………………………………………………………………………..

  (c) Did the project you were involved in become successful in meeting its intended purpose?

            Yes   ( )

            No   ( )

            Not Sure   ( )

  (d) If the project was successful, to what extent do you attribute the application of the project approach/methodology to the success of the project?

            To a very large extent   ( )

            Significantly   ( )

            Insignificantly   ( )

            Not sure   ( )

13 (a) In your opinion, do you feel that Safaricom should make it a mandatory requirement for all project managers to possess formal project management training?

Yes   ( )

No   ( )

  (b) Give the reason for your answer

……………………………………………………………………………………

………………………………………………………………………………………………

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Section 4: Involvement of end-user and its effect on implementation of IT projects

12. At what stage of the project process do you think is the most important for end-user involvement?

Design   ( )

Planning   ( )

Implementation   ( )

Monitoring and Evaluation ( )

13. (a) Do you provide training opportunities for the end-users of the IT projects?

Always   ( )

Rarely   ( )

Never   ( )

Not Sure   ( )

(b) What are the channels by which this is done?

………………………………………………………………………………………………

14. The following statements refer to the effect of end-users involvement in the successful implementation of IT projects in Safaricom Call center. Please rate the factors on a scale of 1 to 5 by placing a (√) in the box that best reflects your opinion. (1= Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, 5= Strongly Disagree)

Statement	1	2	3	4	5
a) Education and training is accorded to the end users					
b) The projects are initiated after consultation with the end-users.					
c) Project leaders are in constant communication with the end users.					
d) End-users are involved in carrying out UATs.					
e) Users have an opportunity to participate in the monitoring and evaluation of projects					

Section 5: Project schedule effect on implementation of IT projects

15 (a) Does time schedule affect successful implementation of IT projects?

Always ( )

Rarely ( )

Never ( )

Not Sure ( )

(b) Give reason for your answer

…………………………………………………………………………………………..

16. The following statements refer to the effect of time schedule in the successful implementation of IT projects in Safaricom Call center. Please rate the factors on a scale of 1 to 5 by placing a (√) in the box that best reflects your opinion. (1= Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, 5= Strongly Disagree)

Statement	1	2	3	4	5
a) Project scheduling is done before implementation begins.					
b) Effort is made to ensure adherence to the project schedule.					
c) Enough time is allocated for project implementation.					
d) Projects are usually completed within the allocated time frame.					

17 (a) Do you use any tools and techniques in developing project schedule?

Always ( )

Rarely ( )

Never ( )

Not Sure ( )

(b) If any, which tools and techniques do you use?

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Section 6: Critical success factors

Below are some critical factors for project success. Please rate the factors on a scale of 1 - 5 by placing a tick (√) in the box that best fits your opinion. 1 = Very Important, 2 = Important, 3 = Undecided, 4 = Unimportant, 5 = Not Important)

Critical Success factors	1	2	3	4	5
a) Project team participation.					
b) Risk management					
c) Defined success measurements					
d) Adequate appropriate resources					
e) Frequent feedback from end-users					
f) Adequate control procedures					
g) Organizational structure suited to projects					