

**PROJECT MANAGEMENT PRACTICES AND SUCCESSFUL
INFORMATION SYSTEM PROJECTS: A CASE STUDY OF
SMALL AND MEDIUM ENTERPRISES IN NAIROBI CITY
COUNTY**

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DECLARATION

This research project is my original work and has not been submitted for any degree award in any other university or for any other award.

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This project has been submitted for examination with my approval as a University Supervisor.

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DEDICATION

I wish to dedicate this research to my beloved wife Susan and son Gavin for their love, inspiration and constant support throughout my study.

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ABBREVIATIONS AND ACRONYMS

GDP	Gross Domestic Product
ICT	Information Communication and Technology
IS	Information Systems
IT	Information Technology
KES	Kenya Shillings
MIS	Management Information System
MSMEs	Micro Small and Medium Enterprises
PM	Project Management
PMI	Project Management Institute
PERT	Program Evaluation and Review Technique
PMIS	Project Management Information Systems
SMEs	Small and Medium-Sized Enterprises
SPSS	Statistical Package for Social Sciences
WBS	Work Breakdown Structure
KNBS	Kenya National Bureau of Statistics

ABSTRACT

Small and Medium Enterprises contribute significantly to the economy by creating employment which in turn contributes to national wealth building. The aim of this study was to examine the project management practices of small and medium enterprises and to determine the relationship between the practices of project management and the successful implementation of information systems. The following questions guided the research study: Which project management practices were used and how project management practices impacted the success of information systems implementation? The research study was limited Nairobi City County. The population of the study was 1,000,000 which derived a sample size of 384 as outlined in the Krejcie and Morgan Table. The study applied descriptive research design. Structured questionnaires were administered to collect data. The study targeted project managers, information technology and communication managers, business owners and line managers involved in information systems projects. The majority of the respondents 66% have some level of project management training skills. There were still other factors that needed to be considered to ensure that projects are implemented successfully. Furthermore, project teams need to stay up to date with the emerging trends in project management practices as it keeps evolving day by day.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Small and medium-sized enterprises (SMEs) significantly create employment opportunities that contribute to the growth of the economy's national wealth. SMEs contribute an estimated 25% to the Gross Domestic Product (GDP), this is according to the Ministry of Industrialization and Enterprise Development (2015) report. Globally, SMEs are defined using one of three dimensions: turnover, employee numbers, or the size of the balance sheet, with differences arising from the limits each country imposes on the dimensions (Katua, 2014). SMEs in Kenya are described using the following dimensions: capital invested, annual turnover and the number of employees.

Page and Soderbom (2012) reiterate that SMEs are varied ranging from small workshops to medium manufactures of machinery. The SME sectors range from manufacturing, transport, communication, agriculture, food processing, beauty, construction, retail and wholesale, professional services among others. SMEs operate in an increasingly complex environment to have a competitive advantage. Furthermore, this is crucial and vital for SMEs as their existence is subject to their ability to produce new and better products for their organizations to achieve greater competitive advantage in existing and emerging markets, or advance the sharing of information internally and externally (Barba et al., 2007).

Therefore, for SMEs to remain sustainable, they constantly need to innovate to ensure that they thrive in a competitive business world. Some of the innovations include information systems (IS) projects. In this regard, IS projects assist organizations in carrying out their businesses in an effective and efficient manner to realize their objectives. Given the considerable influence that the IS projects play in the organizations, SMEs need to keep an eye on effective project management practices that the projects are implemented successfully (Turner & Kelly, 2009).

The SME sector in Kenya encounters high failure rates due to a number of reasons which that is not limited to competition from both small-sized, medium-sized and large organizations, limited access to funding, availability of cheap imports, insecurity, and difficulty in debt collection with past data showing that for every five SMEs

established, three collapsed after the first few months of operating (Bowen, 2009). Organizations that successfully implement of IS projects within the SME's employ a number of project management (PM) practices to realize the organizational objectives. The PM triple constraint of scope, budget, and time are commonly as recognized success measures of project management. The stakeholder theory and resource-based theories will be used to support the study as is discussed in detail in chapter two.

1.1.1 Information System Projects

The Project Management Institute (PMI) describes a project as a temporary endeavor with beginning and ending and must deliver an exclusive outcome, service or product. Information systems (IS) on the other hand are mixtures of software, hardware, and telecommunications networks that individuals and organizations practice to gather, transform and share valuable data (Prentice-Hall, 2010).

Information systems are important to SMEs in many ways, including increasing operational excellence due to improved efficiency of their operations, improved decision making for managers who are able to make decisions based on data and not guesses, improve the organization's competitive advantage over its competition as they use IS systems to be efficient among others.

The components of an IS include people, hardware, data, software, and networking communication. There are various types of information systems which include operational support at a lower level that support the daily processes of a business, support of knowledge work at the middle level that offers the facilities needed to perform tasks specific to a given profession and management support at the higher level to assist managers in decision making.

1.1.2 Project Management Practices

PMI simply describes PM as the use of skills, experience, methods, and strategies to meet the goals of the project. Dissanayaka & Kumaraswamy (2013) also state that project management practices are those essential matters inherent to a project that should be sustained to successfully execute a project. Meister (2006) states that there has been an increasing awareness on the use of PM practices to guarantee project realization, nonetheless the majority of those that have invested in project management

practices have been terrified by the complexities involved in practicing project management.

Barriere (2003) argues that project management practices have developed worldwide as the best tools for project performance in any organization that seeks professionalism. Globally, GPM (2010) report states that the high importance of projects is stated across different industries and project types. Generally, project management practices may be different globally. The significance of trust, standardization, and senior-management support also varies intensely across nations. There is a difference in almost every region between the weighted importance of project management activities and projects.

According to (PMI, 2017), project management has five process groups which include initiation process that outlines and approves a project or project segment, the planning process that describes goals and the strategies required to achieve the project needs and objectives, execution process that incorporates people with various project assets to perform project work. Monitoring and control process that continuously evaluates and controls the project progress by identifying alterations from the project plan in order to take remedial action where necessary to increase the project success. Lastly, the closing process that formalizes approval of the product and puts the project to an orderly conclusion.

1.1.3 Successful Projects Implementation

Project Success involves the projects meeting the technical specifications and objectives to be achieved, and satisfying the results of the project to the main users (Baker, Murphy & Fisher, 1988). Successful project delivery has been described as a challenge that meets its goals under the stipulated time, budget and schedule. Nonetheless, for the development projects, success goes beyond the agenda and finances goals, it entails handing over the benefits planned for and delivering expectations of stakeholders. However, describing the scopes of success is extra challenging and some can solely be evaluated many years after the challenge has been accomplished. Likewise, for many firms, these forms of reviews are difficult to execute for the lack of capital.

Dvir et al (1998) recommends that project performance metrics for all projects are not standardized globally. Therefore, it's impractical to expect SMEs to factor in all the success factors published. Nevertheless, they should be mindful of the constraints of

practicing specific sets of performance metrics. In this study, we focused on three success factors; completion of projects in a defined time, budget and scope. The time function is the duration the project is supposed to run from inception to completion. The budget refers to the total direct and indirect costs that are to be incurred to ensure the project is achieved to the specifications defined. The scope, on the other hand, is the description of the overall project deliverables including requirements, assumptions, boundaries, and constraints.

There are many factors that impact the extent of PM use in SME including size, age, and organizational complexities. Organizations that successfully implement of IS projects within the SME's have employed various project management practices to achieve business objectives. However, this has not been achieved without challenges due to nonexistence of PM training within the managers leading SMEs, literature that inclines to large projects which look difficult and overwhelming to most manager's difficult and overwhelming Meister (2016). Because of these intricate issues, SMEs have a tendency to deliver projects in the best manner that is fit for them short of any official PM methodology.

1.1.4 Projects Implementation within Small and Medium Enterprises

The Micro and Small Enterprises Act of 2012 (The Republic of Kenya, 2012) defines micro-enterprises as businesses with an investment of smaller than Kenya Shillings (KES) 5 million, with a turnover of below Kenya Shillings 500,000 yearly and 1-9 employees. A small enterprise employs 10-50 workers has revenue of KES 500,000- KES 5 million annually and has invested more than KES 5 million in its capital. Medium enterprises have employees numbering more than 50 but fewer than 100, and annual revenue of about 5 million KES and 800 million KES.

Therefore, small and medium-sized enterprises face various difficulties factoring in the failure to implement IS projects that need to be studied in order to enable the SME sector to thrive. However, it will not be easy to achieve success in implementing the IS project without incorporating project management practices. This will ensure clear goals are set, roles and responsibilities of all project teams are well understood, project resources are well planned for, a communication plan is set to engage all stakeholders. Lastly, that project risks are identified early enough and mitigation strategies put in place can be applied in the event they occur. A combination of these project

management practices: stakeholder, schedule, communication, cost and risk management has been studied to discover how they have influenced the successful delivery of information system projects by ensuring that they are completed within the budget, scope and timeframe set. Cost is a project's monetary limitations of the project. Scope, on the other hand, is the activities needed to accomplish the project's objectives, while time is the project's roster for completion.

1.2 Problem Statement

The SME sector in Kenya has had high rate of failure due to stiff competition from both similar-sized, medium-sized and large organizations, limited access to funding, availability of cheap imports, insecurity, and difficulty in debt collection with past data showing that for every five SMEs established, three collapsed after the first few months of operating (Bowen, 2009). While thousands of SMEs are formed in Kenya every year, according to the Kenya National Statistical Bureau (KNBS) (2016), almost four hundred thousand micro, and small and medium-sized enterprises have not operated beyond their second year of operation in the last five years, creating an alarm for the sustainability of the sector. Over the last five years, including 2016, over two million SMEs have been shut down, accounting for a significant 46% of the SMEs included in the study.

The Standish Group (2016) report estimates that a staggering 31.1 percent of programs will be scrapped sooner than their expected completion time. Furthermore, the findings show that 52.7 percent of the programs will cost 189 percent of their estimated budget. These failures and cost overruns indicate that a bigger problem is in the offing. Projects completed by the biggest organizations have nearly 42 percent of the planned scope, while smaller organizations do much better. As a result, a total of 78.4 percent of their IS projects will get set up and only 74.2 percent of their planned scope. The average cost overrun is 178 percent for big organizations and 182 percent for medium organizations, and small organizations follow with 214 percent. Time overrun for big organizations is 230 percent; 202 percent for the medium establishments; and 239 percent for small organizations. The average Scope overrun for big organizations had the poorest results with just 42 percent of the requirements in the final project. Medium establishments follow with 65 percent and 74 percent for small establishments. With these numbers available, the research seeks to establish the effects of PM practices used

by SMEs in Kenya in the implementation of IS projects and the extent to which these practices are being used to guarantee overall project success.

Meister (2006) observes that most of the academic writings tend to brand project management as difficult to the majority of the managers in SMEs. While big corporations can fund full-time expert project managers, SMEs, on the other hand, are unlikely to afford it. It is therefore not realistic for the two to apply identical PM processes. This also refers to different types of projects which should not be handled the same way. As such, SMEs incline to managing projects to the best of their knowledge without any official PM methodologies. The following questions guided the research study: To determine the relationship between PM practices and project performance and analyzing approaches of project management used by SMEs?

1.3 Research Objectives

The objective of the study was to find out how the practices of project management impact the successful implementation of IS projects.

The specific objectives were to;

- i. Examine project management practices being used by SMEs.
- ii. Determine the relationship between project success and project management practices.

1.4 Value of the Study

SMEs can build knowledge and facilitate the learning of PM practices within the organizations that are necessary to ensure that project prerequisite is met to guarantee their success. This may include a clear and extensive definition of the scope, well-planned budget and time with contingencies to implement IS Projects.

With project management practices knowledge, various SMEs can develop policies, guidelines, and regulations that can guide them in their organizations to advance the performance of IS projects hence increasing the chances of the organization meeting its objectives.

The study will assist in the enlargement of PM practices for use by SMEs and the non-skilled project managers as it will not complicate the whole PM practices. The study will also inform stakeholders of the significance of PM practices in the execution of IS projects for organizational success as a whole.

The study will also add literature on practices within SMEs that can act as a reference for SMEs, scholars and higher learning institutions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter discusses origins of literature concerned with PM practices and the impact on the successful implementation of IS projects. This context will inform the study's theoretical and conceptual frameworks.

2.2 Theoretical Review

This section explores theoretical foundations of stakeholder theory and resource-based theory in explaining this research.

2.2.1 Stakeholder Theory

The stakeholder theory holds that firms should take into consideration concerns of the people and groups that might be affected or can affect the organization's activities (Gibson, 2000). Freeman (1983) proposes that shareholders form just one of the several stakeholders within a firm. The stakeholder environment includes everyone involved in or affected by the organization which includes: employees, vendors, government agencies, and more. Stakeholder theory suggests that an organization's accomplishments are vested in fulfilling the needs of all its stakeholders and not just the stockholders.

Stakeholders can be within the organization or even from outside and include suppliers, customers, employees, stockholders, contractors, non-profit community organizations, local communities and the government among many others (Bourne, 2009). The rationale behind the stakeholder's theory is that organizations that involve their entire stakeholders to the end have sustainability and good performance (Freeman & Reed, 1983).

The stakeholder theory will assist in identifying stakeholders that are affected by any IS project that will be undertaken within the SMEs hence knowing their requirements, attitudes, concerns, interests, and expectations early enough in the project. It is also used in this research to demonstrate the impact of stakeholder involvement and the successful completion of IS projects, in that the scope will be well defined by all stakeholders, therefore there will be no or minimal scope, the budget and time can be

estimated at a very thought-out scale that will greatly reduce the chances of project failure.

2.2.2 Resource-Based Theory (RBT)

The resource-based theory suggests that firms possess mixed resources, therefore, they can execute various strategies because they have mixed resources. This view focuses on the attention of the management on the internal resources within the organization that recognizes the competencies that have the potential to create competitive advantages over other organizations (Barney, 1991). This argues that the development of higher competence with these tools would achieve a viable competitive advantage. It emerged as a response to the positioning school and its somewhat prescriptive methodology which locked the managerial attention on outside considerations, notably the industry structure. In this view, organizations select the best approach or competitive advantage that better capitalizes their in-house resources and competencies comparative to external prospects. As such, the strategic resources of organizations are characterized by a dynamic network of interrelated resources that can be tailored to achieve the optimum competitive advantage (Day, 1994).

Therefore, RBT proposes that organization assets are prized, rare, difficult to reproduce, and non-interchangeable, hence better positioning the organization for long-lasting competitive advantage. These optimal resources, therefore, offer the foundations to build the organization's competencies which may create a competitive advantage over time. These competencies should be managed and put together to exploit the resources within an organization in a fashion that maximizes value-added to consumers and creates greater competition over its opponents. The theory will assist SME's to identify their critical resources within the organizations that will guide them in aligning IS projects for realization.

2.3 Project Management Practices in SME's

Project management has five phases that include initiating the project tasks, scheduling, implementing, managing, and closing them. The PM team realizes the precise project goals that meet the requirements of the stakeholders in the specified time, scope and budget. The primary objective of project management is to accomplish set objectives within the set constraints. Stakeholder engagement comprises the identification, planning, exploration and execution of activities intended to interact with stakeholders

(PMI 2017). Stakeholders are people with concerns in the projects as they are attached to the operations of the project or are influenced by the project outcome. The majority of projects have diversity stakeholders who have various and opposing interests with substantial impact over the final realization or project downfall. Stakeholder management taps the positive impacts and minimizes the negative consequence of the project and comprises the identification of all the stakeholders, measuring their interest, power, and influences, then creating a communications plan that will engage and influence the various stakeholders (Association of project managers, 2019). Maina (2013) also emphasizes that stakeholders' engagement is vital in project development.

PMI defines schedule management as the executive part that builds up the criteria and exercises for creating, observing and controlling the project schedule. It goes further to clarify it as the posting of exercises, expectations, and achievements inside an undertaking. A timetable likewise, as a rule, incorporates the arranged beginning and finish date, length, and assets distributed to every movement. Sustainable task booking is a significant factor of effective time the executives thus fruitful venture usage.

Cost management focuses on planning monetary constraints of the project, controlling the cost and managing cost variances without any degradation in scope and performance levels (PMI, 2017). It is therefore considered as a major successful metric of project management when projects are completed within the approved budgets. Kwak and Ibbs (2002) state that the completion of the projects in the budget provided is ensured by the top management of the organization through the efficient cost management of the project.

Project communication management involves creating appropriate methods and plans for project communication purposes centered on the information needs of the various stakeholder or groups and the project needs (PMI, 2017). Communication and documentation bind the project together throughout its life-cycle and it states that sharing information makes the necessary information accessible to the stakeholders when in need. Therefore it needs to be effective and efficient (Rajkumar, 2010). As a result, the effective implementation of projects greatly rests on on how communication is managed (Kezner 2009).

PMBOK (2017) describes risk management as a procedure of inspecting, identifying, and reacting to risk. It involves capitalizing on the chances and consequences of

positive actions while decreasing the chances of actions hostile to the project's purposes. The risk management framework describes the risk management plan in the preliminary stages of the project. It contains a list of all potential risk and their groups, the impact and probability matrix, reduction strategy and possible mitigation, the emergency plan, and the risk threshold (Lavanya & Malarvizhi, 2008). Project risk management helps in evading project adversities and also in learning from the past project mistakes. This helps to expand the chances of fruitful project implementation to minimize the impact of the risks. Risk management, on the other hand, has a major concern to all firms, specifically to SMEs which are susceptible to business risks and competition (Watt, 2007).

2.4 Empirical Studies

Meister (2006) notes that the bulk of the literature today inclines to mark project management as difficult and devastating to many executives within the SMEs. It includes various methodologies, processes, knowledge areas, tools, and techniques. Whereas big organizations can provide for full-time skilled project teams, SMEs are more likely not able to provide the same skilled project teams. It is, therefore, unreasonable for two opposites to use similar PM practices and processes. This is also right for specific project types, as a result, since they are not necessarily of the same type they cannot be similarly managed. These complex issues, therefore, mean that SMEs will incline to deliver projects objectives in the best method the organization can with a likelihood of not incorporating any formal project management practices.

According to the KPMG report (2017), Just one-fifth of the projects deliver on their expected benefits reliably, while 29% of the projects deliver on budget. These outcomes signify an intense wastage of the resources in organizations. Although many projects have dedicated and involved project sponsors, just 10 percent are perceived as providing exceptionally effective management activities.

A report by Scot (2011) showed that respondents reported that Agile project development form a realization rate of 71.5 percent, while traditional projects form a 62.8 percent realization rate, and offshored software development projects form a 42.7 percent realization rate while respondents with only Agile experiences, 15 out of 586,

indicated a realization rate of 84.3 percent, respondents with traditional-only experience (164 of 586) reported a realization rate of 66.5 percent.

A study conducted in Nairobi by Kahura (2013) pursues to examine the influence of information systems towards project success. Data was analyzed on a Likert scale and research showed that using the PMIS software, performance data was generated that allowed project managers to perform their tasks more effectively, thus increasing the project's success rate. Three independent variables users influence, software quality and the quality of information was converted into one variable PMIS that had a favorable correlation of (0.954) with the progress of the project. The study further determined that using a PMIS influenced the realization of successful projects.

2.5 Conceptual Framework

According to Mugenda and Mugenda (2003), a conceptual framework is an assumed model pinpointing ideas under research besides their relations. The conceptual framework of this research was based on PM practices and successful project implementation within defined cost, budget and time.

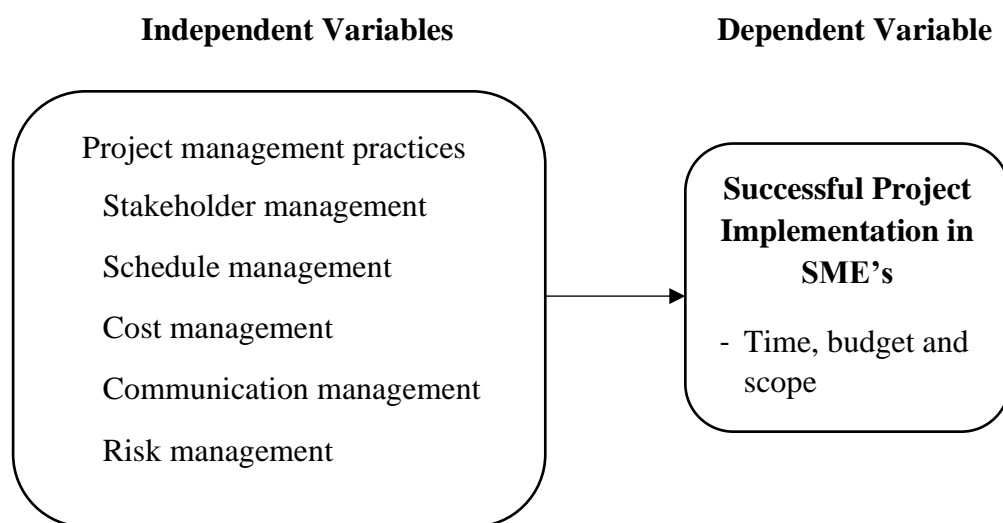


Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review

This chapter looks at the literature review by other scholars relating to this study and its objectives. It also presents the theoretical foundation of the stakeholder theory and

the resource-based theory to explain how they are used in this research proposal. It also explains in detail the conceptual framework that the researcher has come up with.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section outlines the research methodologies applied in the research in terms of layout, target population, sample size, data collection and analytical techniques.

3.2 Research Design

The study applied a cross sectional and descriptive research design. This is because a descriptive research aims to identify the answers to what, where, who, and how to answer the questions (Zikmund, 2000). This was also fitting because it defined the characteristics of the studied population (Bryman & Bell, 2003).

3.3 Population of the Study

The UNDP report on SMEs (2016) estimates that there are about 7.41 million SMEs in Kenya, whereas only 1.56 million are licensed, 5.85 million are not. The population of the study was 1,000,000 SMEs in Nairobi City County.

3.4 Sample Design

The Research used a population size of 1,000,000 SMEs in Nairobi City County and derived a sample size of 384 SMEs as presented in the Krejcie and Morgan Table, attached in Appendix I. For their response, one questionnaire was given to each SME.

3.5 Data Collection

Data collection is defined by Cooper and Schindler (2014), as the practice of gathering data for analysis purposes in order to make inferences from the data. The research study collected primary data through a structured questionnaires. This were administered to project managers, information technology managers, business owners, and line managers within the SMEs.

The questionnaires consisted of three sections with the first section comprising demographic data seeking to find the age, years and level of management. The second section seek to discover PM practices used by SMEs. The third section assessed the relationship that existed between project management and successful projects.

3.6 Validity and Reliability

3.6.1 Validity

A validity test is the extent to which a measure's evidence reflects the parameter to which it is anticipated. Face and content validity instruments were used to validate the research. Techniques relating to the content determined the extent to which questions asked mirrored the detailed areas of project management practices in SMEs. Face validity was also achieved by asking questions from the respondent about the use of PM techniques within SMEs to execute IS projects.

3.6.2 Reliability

Reliability, on the other side, there is the uniformity, dependability or durability of the experiment Nachmias and Nachmias (1996). Interrater reliability which measures the degree of agreement between different individuals evaluating the same entity was accomplished by administering the same questionnaires to respondents where they were required to give ratings of the different variables being studied.

3.7 Data Analysis

The descriptive analysis used Microsoft Excel and Statistical Package for Social Sciences (SPSS) version 23. Central tendency measures; mean, mode, median, standard deviation and variance quantified the variability of the PM activities used by SMEs. Analysis of variance (ANOVA) was used to evaluate the variables' relationships: Stakeholder, schedule, resource, communication and risk management against the dependent variable of successful project execution. The study adopted a linear regression to study how PM practices affect successful implementation of IS projects within SMEs.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where Y= Successful Implementation

β_0 = intercept

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = coefficients

X_1 = Stakeholder management

X_2 = Schedule management

X_3 = Cost management

X_4 = Communication management

X_5 = Risk management

ε = error term

3.8 Ethical Considerations

Ethics ensures that none of the respondents is affected or adversely affected by research undertakings. Before gathering data, the aim of the study was communicated to participants hence their participation in the study was, thus, on informed consent and voluntary. Information collected remained confidential and was intended for academic purposes only. The identity of the correspondents was also not captured anywhere on the questionnaire.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the research findings. The research was conducted to analyze the methods of PM used by SMEs and to study the relationships between PM practices and the successful implementation of IS projects.

The researcher administered 384 questionnaires to various SMEs. Only 41.67 % of the responses were received out of the questionnaires administered as displayed in Table 4.1.

Table 4.1: Response Rate

		Percent
Questionnaires Administered	384	
Responses	160	41.67%

4.2 Demographic Information

Respondents were requested to specify their demographics which included age, sex, and management level among others. The information is presented as shown;

4.2.1 Years of Business Operation

Table 4.2: Classification of Organizations by Years of Business Operation

Year(s) of Business Operation	Frequency	Percent
Below 5 years	64	40.0%
6 to 10 years	53	33.1%
11 years and above	43	26.9%
Total	160	100%

Findings in Table 4.2, 40.0% of SMEs had been established for less than 5 years, 33.1% had been established for 6 to 10 years, while 26.9% had been operating for over 11 years.

4.2.2 Classification of Respondents by Age

Table 4.3: Classification of Respondents by Age

Classification by Age	Frequency	Percent
Below 25	6	3.75%
25 to 35	71	44.38%
36 to 50	78	48.75%
50 and Above	5	43.1%
Total	160	100%

Table 4.3 shows most of respondents range between the ages of 25 to 50 years, with 44.38 % ranging from 25 to 35 years of age to 48.75 % ranging from 36 to 50 years of age, as shown in

4.2.3 Gender Distribution

Table 4.4: Respondents Gender Distribution

Gender	Frequency	Percent
Male	91	56.9%
Female	69	43.1%
Total	160	100%

Table 4.4 findings on the respondent's gender distribution show 56.9% were male and 43.1% were female.

4.2.4 Level of Management

Table 4.5: Respondents Level of Management

Management Level	Frequency	Percent
Upper-Level	91	56.9%
Middle-Level	60	37.5%
Lower-Level	9	5.6%
Total	160	100%

Table 4.5 informs that 56.9% of respondents were managers at the upper level, while 37.5 % were managers at the middle level and 5.6% were managers at lower levels. It

means that projects with top management support are likely to be successful than those that are not endorsed by top management.

4.2.5 Project Management Training

Table 4.6: Classification of Respondents by Project Management Training

Project Management Training	Frequency	Percent
Yes	106	66.3%
No	54	33.8%
Total	160	100%

Table 4.6 findings show that 66.3% had project management training while 33.8% had no project management training this indicates that most respondents adopted PM techniques to influence success in IS project execution.

4.2.6 Stakeholder Management

Respondents were asked to specify the levels at which the stakeholders were engaged in the organization's implementation of IS projects.

Table 4.7: Stakeholder Management

Stakeholder Management metrics	Frequency/ Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Stakeholder register created at the project kicks off	Frequency	3	3	22	97	35
	Percent	1.9%	1.9%	13.8%	60.6%	21.9%
Stakeholder influences and power noted in the stakeholder register	Frequency	2	3	23	94	38
	Percent	1.3%	1.9%	14.4%	58.8%	23.8%
Stakeholders engagement during project execution	Frequency	3	3	17	94	43
	Percent	1.9%	1.9%	10.6%	58.8%	26.9%

Source: (Research Primary Data, 2019)

Findings from Table 4.7 show that 21.9% of the respondents strongly agreed on creation of stakeholder register at the project kickoff, and 60.6% agreed while 13.8% were neutral. 1.9% disagreeing and strongly disagreed simultaneously. This shows that the majority (21.9% and 60.6%) respondents created the stakeholder register at the start of the projects to identify all the people who were affected or who would affect the outcomes of the IS projects within the organizations.

The findings from Table 4.7, show that 1.3% of the correspondents strongly disagreed with not considering the stakeholder's influences and power on the stakeholder's register while 1.9% disagreed. 14.4% of the correspondents were neutral as 58.8% agreed to note the stakeholder's influences and power on the stakeholders register while 23.8% strongly agreed. It can be concluded that the majority of the correspondents (58.8% and 23.8%) take note of the stakeholder's influences and power on the stakeholder's register. This is crucial in understanding the competing needs of all the stakeholders during the project to be able to manage them adequately.

Table 4.7 indicates that most of the correspondents engaged their stakeholders during project execution with 26.9% strongly agreeing and 58.8% agreeing this shows the importance of stakeholder engagement during project execution which influences project success by knowing the changing and various needs and requirements of the various stakeholders during project execution. Also, 10.6% of respondents were neutral, 1.9% disagreed to engaging their stakeholders and another 1.9% strongly disagreed with engaging stakeholders during the project execution.

4.2.7 Project Schedule Management

Respondents were requested to rank the levels of project schedule management in the execution of IS projects within the organization. The findings were presented in the tables;

Table 4.8: Project Schedule management plan

Schedule management plan metrics	Frequency/ Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Project Schedule management plan created at project kickoff	Frequency	2	1	12	91	54
	Percent	1.3%	0.6%	7.5%	56.9%	33.8%
Project timelines and milestones set	Frequency	3	2	11	91	53
	Percent	1.9%	1.3%	6.9%	56.9%	33.1%
Project scope defined	Frequency	2	0	13	81	64
	Percent	1.3%	0%	8.1%	50.6%	40%

Source: (Research Primary Data, 2019)

Findings from Table 4.8, indicate that most of the respondents managed the schedule plan appropriately with 33.8% of the respondents strongly agreeing, 56.9% agreeing with only 7.5% being neutral, 0.6% disagreeing and 1.3% of the respondent strongly disagreeing. This shows that managing the schedule ensures only approved changes are included in the plan to avoid scope creep that may lead to additional time and cost.

The findings from Table 4.8, indicate that a huge number set milestones for the various projects with 33.1% strongly agreeing, 56.9% agreeing and just 6.9% being neutral, with 1.3% disagreeing and 1.9% strongly disagreeing. This shows that setting milestones enables the project team to set clear objectives to enable project success.

The findings from Table 4.8, show that the largest part defined the project scope with only 1.3% strongly disagreeing, none disagreeing and 8.1% of the respondents being neutral. 50.6% agreed to define the project scope and 40% strongly agreed. This shows

that defining the scope enables the team to set a schedule that they can be able to plan with the limited resources available.

4.2.8 Project Resource and Cost Management

During the execution of IS projects within the organization, respondents were requested to specify how they managed the project resources and costs. The findings were as shown in the tables below;

Table 4.9: Project Resource and Cost Management

Project Resource and Cost Management metrics	Frequency/ Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Resources needed for project identified and planned for	Frequency	2	3	16	85	54
	Percent	1.3%	1.9%	10%	53.1%	33.8%
Procurement of resources done when needed	Frequency	3	4	15	78	60
	Percent	1.9%	2.5%	9.4%	48.8%	37.5%

Source: (Research Primary Data, 2019)

Findings from Table 4.9 indicate that majority of the respondents planned for the resources way ahead with 33.8% strongly agreeing, 53.1% agreeing and 10% being neutral. Only 1.9% disagreed and 1.3% strongly disagreeing indicating the importance of resource management in ensuring that projects are implemented successfully within the SMEs.

Findings from Table 4.9 show that while procuring resources for the project when needed only 1.9% strongly disagreed and 2.5% disagreed. 9.4% were neutral with the majority 48.8% agreeing and 37.5% strongly agreeing to procure resources when needed. This indicated the importance of resource management in ensuring that projects

are implemented successfully within the SMEs when resources are provisioned for the IS project implementation.

4.2.9 Communication Management

Respondents were asked to indicate how they managed to conduct and plan project communication during the execution of IS projects within the firms. The results were as shown;

Table 4.10: Communication Management

Communication Management metrics	Frequency/ Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Communication plan set at project kickoff	Frequency	3	2	13	87	55
	Percent	1.9%	1.3%	8.1%	54.4%	34.4%
Management and update of communication plan	Frequency	1	2	16	84	57
	Percent	0.6%	1.3%	10%	52.5%	35.6%

Source: (Research Primary Data, 2019)

Findings from Table 4.10 show that majority agreed that they set the communication plan at project kickoff with 34.4% strongly agreeing and 54.4% agreeing, 8.1% were neutral and just 1.3% disagreed while 1.9% strongly disagreed. This shows the prominence of planning communication to ensure all channels of communication are set and that everyone is aware of their roles in the project.

Table 4.10 findings show that most respondents agreed to manage and update the communication management plan as needed during project execution, with 35.6% agreeing strongly and 52.5% agreeing. 10% Neutral, 1.3% disagreed, while 0.6% disagreed strongly. This ensures that changing prerequisites of the stakeholders are updated and any changes in stakeholders are updated with proper communication channels being set to satisfy the needs of all stakeholders.

4.2.10 Risk Management

Respondents were asked to indicate how risk was handled during the execution of IS projects. The results were as presented;

Table 4.11 Risk Management

Risk management metrics	Frequency/ Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Risk register in place to track all risks and the needed risk responses metrics	Frequency	3	4	19	91	43
	Percent	1.9%	2.5%	11.9%	56.9%	26.9%
Risks identified at project kickoff	Frequency	1	1	18	88	52
	Percent	0.6%	0.6%	11.3%	55.0%	32.5%
Risk mitigation planned in case they occur	Frequency	3	3	21	87	46
	Percent	1.9%	1.9%	13.1%	54.4%	28.7%
Risk responses being implemented	Frequency	2	1	22	93	42
	Percent	1.3%	0.6%	13.8%	58.1%	26.3%
Project team documents lessons learned	Frequency	4	2	24	70	60
	Percent	2.5%	1.3%	15%	43.8%	37.5%

Source: (Research Primary Data, 2019)

Findings from Table 4.11, the most of the respondents created a risk register with needed risk responses with 26.9% respondents strongly agreeing and 56.9% agreeing. 11.9% were neutral, 2.5% disagreeing while 1.9% and one strongly disagreed. This

shows that risks were factored in with possible responses to ensure they were able to control the risks to some extent ensuring that the projects were successful.

Table 4.11 indicates that 0.6% of the respondents strongly disagreed with identifying risks at project kickoff while another 0.6% disagreed. The majority of the respondents identified project risks at the initial stages of the project with 32.5% strongly agreeing while 55% agreeing and 11.3% were neutral and only three disagreed. This indicates that project risks were identified in good time and this could be helpful in ensuring project success by enabling the project teams to create time and budgetary buffers. It is also helpful as the scope can be adjusted early enough and not interfere with other scheduled tasks or make the project impossible to complete.

The findings from Table 4.11 indicate that most of the respondents planned risk mitigation strategies with 28.7% strongly agreeing to create risk mitigation measures in case they occur. 54.4% agreed. 13.1% of the respondents were neutral as 1.9% disagreeing and just 1.9% strongly disagreeing. This concludes that risk strategies to combat project risks to minimize the risks to the IS projects and maximize the chances of project success.

The findings from Table 4.11 show that 26.3% of the respondents strongly agreed that they implemented the risk response strategies set in place as 58.1% agreed. 13.8% were neutral and 0.6% disagreed while 1.3% strongly disagreed. While the planned risk responses might change later in the project due to other unforeseen factors, the findings conclude that risk responses were implemented to minimize the threats to the projects while maximizing the chances of success.

The findings from Table 4.11 show that the most of the respondents documented lessons learned with 37.5% and 43.8% strongly agreeing and agreeing respectively. 15% of the respondents were neutral with 1.3% disagreeing and 2.5% strongly disagree. This is of importance as the project teams will be able to avoid mistakes made in the previous projects and adopt better practices from the previous projects. In the end, this enables the team to have an advantage as they are able to refer to the documentation of previous projects gather information.

4.2.11 Project Management Tools and Techniques

Respondents were requested to specify the use of various PM tools and techniques during the execution of IS projects within the organization. The findings were as shown;

Table 4.12: Project Management Tools and Techniques

PM Tools and Techniques used metrics	Frequency/ Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Gantt Chart	Frequency	8	33	50	41	17
	Percent	5.0%	20.6%	31.3%	25.6%	17.5%
Program Evaluation Review Technique (PERT) Chart	Frequency	5	39	46	52	18
	Percent	3.1%	24.4%	28.7%	32.5%	11.3%
Project management information system (PMIS)	Frequency	3	33	33	59	31
	Percent	2.5%	20.6%	20.6%	36.9%	19.4%
Change request document	Frequency	8	8	31	68	45
	Percent	5.0%	5.0%	19.4%	42.5%	28.1%
Network Diagrams	Frequency	5	37	35	55	28
	Percent	3.1%	23.1%	21.9%	34.4%	17.5%

Source: (Research Primary Data, 2019)

Table 4.12 indicate that 17.5% of the respondents strongly agreed to the use of a Gantt chart as 25.6% agreed. 31.3% were neutral while 20.6% disagreed and 5% strongly disagreed.

Findings of Table 4.12 on the use of the Program Evaluation and Review Technique indicate that 11.3% strongly agreed and 32.5% agreed. 28.7% were neutral, while 24.4% disagreed strongly with only 3.1%.

The findings from Table 4.12 on the use of a PMIS show that 19.4% of the respondents strongly agreed that they used a project management information system and 36.9% agreeing. 20.6% were neutral and 20.6% disagreed with only 2.5% strongly disagreeing. This shows the importance of documenting the project documents for today's and future references.

The findings from Table 4.12 shows that most respondents used a change request document with 28.1% of the respondents strongly agreeing and 42.5% agreeing. 19.4% were neutral while 5% disagreeing and another 5% strongly disagreeing. This shows the importance of controlling the scope to match the limited resources as all changes must be controlled and approved before being implemented.

The findings from Table 4.12 show that 17.5% of the respondents strongly agreed that they used network diagrams while planning their projects and 34.4% agreed. 21.9% were neutral and 23.1% disagreed and 3.1% strongly disagreed with using network diagrams in their projects.

4.2.12 Project Management Practices and IS Projects

Respondents were requested to indicate to what extent project management practices have successfully influenced the implementation of IS Projects. The findings were as shown;

Table 4.13: Project Management Practices and IS Projects

Project Management Practices Influence of on IS Projects metrics	Frequency /Percent	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Completing projects in time	Frequency	4	14	19	96	27
	Percent	2.5%	8.8%	11.9%	60%	16.9%
	Frequency	1	18	29	88	21

Completing projects in set Budget	Percent	2.5%	11.3%	18.1%	55.0%	13.1%
Completing projects in scope	Frequency	1	3	21	100	35
	Percent	0.6%	1.9%	13.1%	62.5%	21.9%
Better stakeholder management	Frequency	2	4	20	89	45
	Percent	1.3%	2.5%	12.5%	55.6%	28.1%
Better project communication	Frequency	1	2	23	95	39
	Percent	0.6%	1.3%	14.4%	59.4%	24.4%
Meeting quality specifications	Frequency	1	3	20	81	55
	Percent	0.6%	1.9%	12.5%	50.6%	34.4%
Better resource management	Frequency	1	1	20	83	55
	Percent	0.6%	0.6%	12.5%	51.9%	34.4%

Source: (Research Primary Data, 2019)

Findings from Table 4.13 show that 16.9% of the respondents strongly agreed that they completed their projects in set time using project management practices and 60% agreed. 11.9% were neutral and 8.8% of the respondents disagreed while 2.5% strongly disagreed that project management practices enabled the complete IS projects in a set time.

Findings from Table 4.13 on completion of their projects in a set budget using project management practices show that 13.1% of the respondents strongly agreed and 55% agreed. 18.1% were neutral and 11.3% disagreed while 2.5% of the respondents strongly disagreed that project management practices enabled the complete IS projects in set Budget.

The findings from Table 4.13 show that 21.9% of the respondents strongly agreed that they completed their projects in a set scope and 62.5% agreed. 13.1% were neutral and 1.9% of the respondents disagreed while 0.6% strongly disagreed that project management practices enabled the complete IS projects in scope. This shows that the

majority of the respondents completed their project in scope showing the importance of managing the scope in implementing projects.

The findings from Table 4.13 on stakeholder management show that 28.1% of the respondents strongly agreed that they had better stakeholder management while planning their projects and 55.6% agreed. 12.5% were neutral and 2.5% of the respondents disagreed while 1.3% strongly disagreed that project management practices positively affected stakeholder management in IS their projects.

The findings from Table 4.13 on better project communication show that 24.4% of the respondents strongly agreed that they had better project communication while planning their projects and 59.4% agreed. 14.4% were neutral and 1.3% of the respondents disagreed while 0.6% strongly disagreed that project management practices positively affected project communication there IS projects.

The findings from Table 4.13 on meeting quality specifications show that 34.4% of the respondents strongly agreed that they were able to meet quality standards using project management practices in managing their projects and 50.6% agreed. 12.5% were neutral and 1.9% of the respondents disagreed and 0.6% strongly disagreed with meeting the quality standards set.

The findings from Table 4.13 on better management of resources show that 34.4% managed their resources well by using the project management practices as 51.9% agreed while 12.5% were neutral. 0.6% of the respondents disagreed and 0.6% strongly disagreed. This indicates that majority of the respondents agreed that they managed their resources well.

4.4 Descriptive Statistics

Table 4.14: Descriptive Statistics

	Mean	Std. Deviation	Variance	Skewness	Kurtosis
Risk Management	4.0437	.81145	.658	-1.225	2.754
Stakeholder Management	3.9875	.77693	.604	-1.201	3.100
Communication Management	4.1812	.78405	.615	-1.442	3.902
Resources Management	4.1625	.77612	.602	-1.190	2.730
Schedule Management	4.0562	.84858	.720	-.983	1.352

The mean of the findings was close to the mode showing that the distribution of the data was not heavily scattered. The standard deviation from the mean of all the dependent variables was low showing that the data points incline to the mean of the data sets. All the outcomes have a negative skewness showing that the majority of the data have a steep gradient on the left side of the slope. There is a positive kurtosis

4.5 Correlation Analysis

Table 4.15: Correlation Analysis

	Scope Management	Stakeholder Management	Communication Management	Resources Management	Schedule Management	Risk Management	Time Management	Cost Management
Scope Management	1							
Stakeholder Management	.338**	1						
Communication Management	.474**	.324**	1					
Resources Management	.441**	.474**	.608**	1				
Schedule Management	.242**	.364**	.325**	.285**	1			
Risk Management	.265**	.480**	.432**	.430**	.380**	1		
Time Management	.298**	.077	.395**	.169*	.047	.250**	1	
Cost Management	.308**	.063	.388**	.238**	.033	.253**	.777**	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

Results of the Pearson correlation indicated that there was a significant positive association between project scope management and the independent variables at the 0.01 level since the significance level (0.000) is less than 0.01.

Results of the Pearson correlation showed that there was a significant positive association between Resources needed for the project identified and planned for and Better resource management at the 0.05 level since the significance level (0.000) is less than 0.05.

4.6 Regression Analysis and Hypotheses Testing

The study runs linear regression test to establish the impact of the project management practices in the implementation of IS projects. The ANOVA test was done by getting the mean of the dependent variables. The findings are as shown in the model summary, ANOVA and coefficient

Table 4.16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526 ^a	.276	.253	.59591

There is a perfect positive correlation ($R = 0.526$) between project management practices and successful implementation of the project within time, scope and budget. The five independent variables studied explain that only 27.6% of the project management practices influence the implementation of IS projects in SMEs are represented by R Square. This, concludes that other influences not considered in this research contribute 72.4% of the PM practices on implementation of IS projects in SMEs. Therefore, more research study should be directed to investigate the other factors (72.4%) that affect the successful execution of IS projects in SMEs.

Table 4.17: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.863	5	4.173	11.751	.000 ^b
	Residual	54.686	154	.355		
	Total	75.549	159			

Table 4.17 show the $F(1, 5) = 11.751$, $p = .000$. This p -value is much smaller than 0.05, this concludes that our regression line is significant at predicting the use of project management practices and successful implementation of the project within time, scope and budget.

Table 4.18: Coefficients

Model	Unstandardized Co-efficients		Standardized Co-efficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.666	.347		4.794	.000
Stakeholder management	-.057	.080	-.065	-.714	.476
Risk management	.098	.071	.115	1.366	.174
Schedule management	.004	.099	.004	.038	.970
Communication management	.382	.071	.435	5.365	.000
Cost management	.089	.094	.093	.944	.347

Table 4.18 shows the results of regression analysis conducted to determine the extent to which project management practices influence the implementation of IS projects in SMEs within Nairobi County. The findings show that the only relation was on communication management as the significance was 0.000 which is less than the p-value of 0.05. While the other variables were not significant as the p-value was above 0.05.

The results were applied to the regression equation;

$$Y = (\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon)$$

$$Y = (1.666 + 0.328 X_4)$$

According to the regression equation defined and taking communication management constant at zero, the implementation of IS projects in SMEs will be 1.666 which is shown by the β_0 value.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusion, and limitations of the study on project management practices and the successful implementation of IS projects within SMEs, recommendations, and suggestions for further studies.

5.2 Summary

The general objective of the research study was to find out how the practices of project management influence the successful implementation of IS projects and the specific objectives were; to examine project management practices being used by SMEs and to determine the relationship between project management practices and project success.

5.2.1 Project Management Practices used by SMEs

The study revealed that most of the SMEs used various project management practices in the execution of their IS projects. With the majority of the respondents 66.3 % having some level of project management training skills. Overall most of the correspondents highlighted using at least one of the project management practices to influence the success of the IS projects within their organizations. The study found out that 66.3% of the respondents had project management training while 33.8% had no project management training, this depicts that the majority of the respondent's sort to using project management practices to influence success in the implementation of an IS project. On managing stakeholders the study found out that majority (21.9% and 60.6%) respondents agreed that they created the stakeholder register at the start of the projects to identify all the people who were affected or who would affect the outcomes of the IS projects within the organizations. The majority of the respondents (33.8% and 56.9%) managed their schedule plan appropriately to ensure that only approved changes are included in the plan to avoid scope creep that may lead to additional time and cost. The findings show that the majority of the respondents planned for their resources way ahead with (33.8% and 53.1%) agreeing. This indicated the importance of making resources available to ensure that projects are implemented successfully within the SMEs.

5.2.2 Relationship between Project Management Practices and Project Success

From the findings, it can be summarized that the majority of the organizations that used the project management practices indicated that they were able to achieve their project within the set budget, time and cost. The study summarizes that understanding the needs of all the stakeholders will lead to creation of a well thought of scope, which in turn enables the project team to create a reliable schedule, cost and time for its implementation. Management of the other factors of the project like project risks, project resources also play a critical role in ensuring IS project success.

The study established that (16.9% and 60%) respondents agreed that they completed their projects in the set time using project management practices. Furthermore, (13.1% and 55%) of the respondents agreed that they completed their projects in a set budget using project management practices and agreed project management practices enabled the complete IS projects in the set budget. Regarding scope management, (21.9% and 62.5%) agreed that they completed their projects in a set scope indicating that scope definition assisted in understanding the project boundaries and constraints.

5.3 Conclusion

Project management practices use within SMEs have the potential to optimize and influence the successful implementation of IS projects. This study discovered that the majority of the SMEs that use these practices indicated a high level of their projects succeeding due to the organization and preparations put in place for the projects. Nevertheless, the study also showed that there was some significant level of dependency between the project management practices and the successful implementation of IS projects.

5.4 Recommendations

From the study, there is a need to adopt PM practices in the implementation of IS projects within SMEs. Nonetheless, there are still many factors that need to be weighed in to ensure that the projects are successfully implemented within the organizations as the significance of R square accounted for only 27.6 % of the successful implementation of the project suggesting that there are other factors that still affect successful implementation.

Project teams need to stay up to date with the emerging trends in project management for ease of their work as there are a variations of PM tools and techniques being released frequently that have outgrown the legacy project management information systems and allow collaboration globally.

5.5 Limitations of the Study

The research study was limited to SMEs in Nairobi County. The research was also limited to time in collecting data. The study used a structured questionnaire and this limited some respondents from participating as it was not personalized to specific SMEs.

5.6 Suggestions for Further Research

Project management practices keep changing and there is a need for project teams to keep improving their skills. Technology is also a major contributor to this transition through the implementation of new tools and techniques to make project management friendlier. Globalization is also another issue that needs to be addressed with project teams working from different locations. It's therefore important for a study to be undertaken on the emerging trends of project management.

From the study, the five independent variables studied explained 98.3 per cent of the scope, 96.8 per cent of the time and 96.8 per cent of the budget represented by R2 project management practices had an impact on the success of IS projects in small and medium-sized enterprises, showing that 1.3 percent of the scope, 3.2 percent of the time and 3.2 percent of the budget had been contributed by another factor.

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APPENDICES

Appendix 1: Questionnaire

IMPORTANT NOTE:

This is an academic research questionnaire that seeks to establish project management practices and successful implementation of information system projects and information provided will be confidential. All answers will be considered right.

INSTRUCTIONS:

- i. Names should not be written on the questionnaire.
- ii. Answer all the questions.

SECTION A: GENERAL INFORMATION

1. Name of Organization
.....(Optional)
2. How many years has the organization been in operation?
Below 5 years 6 to 10 years 11 years and above
3. Number of employees; 0-10 10-50 50-100
4. **Position** held in the Organization.....(mention)
5. **Gender:** Male Female
6. **Age in years:** Below 25 25 to 35
36 to 50 50 and Above
7. What level of management are you representing?
i. Lower-level ii. Middle-level iii. Upper-level
8. Do you have project management training: YES NO
9. Does the organization use any project management information software:
YES NO

SECTION B: PROJECT MANAGEMENT PRACTICES USED WITHIN SME'S

11. Please indicate by ticking in the numeric variable what represents your opinion regarding the use of project management practices within SMEs. Use the scale 1-5; Strongly Disagree -1, Disagree-2, Neutral - 3, Agree -4, strongly Agree -5.

Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Stakeholder Management	1	2	3	4	5
Stakeholder register created at the project kicks off					
Stakeholder influences and power noted in the stakeholder register					
Stakeholders engagement during project execution					
Project schedule management	1	2	3	4	5
Schedule management plan created at project kickoff					
Project timelines and milestones set					
Project scope defined					
Work breakdown structure (WBS) defined before the project starts					
Project management plan defined					
Project schedule control management					
Change management plan in place					
Project resource management	1	2	3	4	5
Resources needed for the project identified and planned for					

Procurements of resources done when needed					
Communication management	1	2	3	4	5
Communication plan set in advance					
Management and update of communication plan					
Risk management	1	2	3	4	5
Risk register in place to track all risks and the needed risk responses					
Project risks identified at the start					
Risk mitigations planned in case they occur					
Risk responses being implemented					
Project team documents lessons learned					

12. Please indicate by ticking in the numeric variable the frequency of use of project management tools within SMEs. Use the scale 1-5; **Very Frequently -5, frequently - 4, occasionally- 3, rarely -2, Never-1.**

How frequently are the following tools and techniques used within the organization?	Very Frequently	Frequently	Occasionally	Rarely	Never
i. Gantt Chart					
ii. PERT Chart					

iii.	PMIS					
iv.	Change Request					
v.	Network Diagrams					

SECTION C: IMPACT OF PROJECT MANAGEMENT PRACTICES IN THE IMPLEMENTATION OF IS PROJECTS

13. In your own opinion, to what extent do you agree or disagree that project management practices have successfully influenced the implementation of IS Projects, Please Tick appropriately?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
Completing projects in time					
Completing projects in set Budget					
Completing projects in scope					
Better stakeholder management					
Better project communication					
Meeting quality specifications					
Better resource management					

Thank you for your time and participation!

Appendix 11: Krejcie and Morgan Table

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note: *N* is population size and *S* is the sample size

Source : Krejcie, R. V., & Morgan, D.W., (1970)