



UGANDA MANAGEMENT INSTITUTE

**DETERMINANTS OF ICT PROJECTS' SUCCESS IN UGANDA COMMUNICATIONS  
COMMISSION**

**By**

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**11/MMS PPM/24/034**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF MANAGEMENT SCIENCES IN  
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MANAGEMENT INSTITUTE**

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## **DECLARATION**

I, Susan Magdalene Nakanwagi, Reg. No. 11/MMS PPM/24/034, hereby declare that this dissertation titled “Determinants of ICT Projects’ Success in Uganda Communications Commission” is my original work and has never been presented to any university or institution of higher learning for any academic award.

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## APPROVAL

This dissertation titled “Determinants of ICT Projects’ Success in Uganda Communications Commission” is an original work of Ms. Susan Magdalene Nakanwagi and was done under our supervision and has been submitted for examination with our approval as supervisors.

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Date:.....

Signature:.....

Ms. Pross Oluka

Date: .....

## **DEDICATION**

This research is dedicated to my parents, husband and children.

## **ACKNOWLEDGEMENT**

I thank the almighty God for enabling me complete this study. At the same time, I wish to acknowledge the contributions made by various individuals who played different roles towards the accomplishment of this work. My sincere thanks go to Dr. Gerald Karyeija and Ms. Pross Oluka, my supervisors for their guidance and professional advice in polishing up this work. I wish also to express my gratitude to other members of staff in Uganda Management Institute for their distinguished guidance and support. I wish to pay special tribute to my course mates especially those with whom we used to hold discussions. I thank them for their great contribution towards this work. I also extend my heartfelt appreciation to the respondents who provided the data and information I needed for this study and gave me their time whenever I approached them. May God reward you for your tireless efforts and fruitful contributions you exhibited during my research study. None of the acknowledged individuals is responsible for any errors or omissions in this study. I take full responsibility

## TABLE OF CONTENTS

DECLARATION.....	i
APPROVAL.....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENT .....	iv
TABLE OF CONTENTS .....	v
LIST OF TABLES .....	x
LIST OF FIGURES .....	xii
LIST OF ABBREVIATIONS .....	xiii
ABSTRACT.....	xiv
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
1.1 Introduction.....	1
1.2 Background to the Study.....	1
1.2.1 Historical Perspective .....	1
1.2.2 Theoretical Perspective.....	4
1.2.3 Conceptual Perspective.....	6
1.2.4 Contextual Perspective.....	9
1.3 Statement of the Problem.....	10
1.4 Purpose of the Study .....	11
1.5 Objectives of the Study.....	11
1.6 Research Questions.....	11
1.7 Hypotheses of the Study .....	12

1.8	Conceptual Framework.....	12
1.8	Significance of the Study .....	14
1.10	Justification of the Study .....	14
1.11	Scope of the Study .....	15
1.11.1	Geographical scope.....	15
1.11.2	Time scope .....	15
1.11.3	Content Scope .....	15
1.12	Operational Definitions.....	16
	<b>CHAPTER TWO: LITERATURE REVIEW .....</b>	<b>17</b>
2.1	Introduction.....	17
2.2	Planning and Project Success.....	17
2.3	Organizing and Project Success.....	20
2.4	Controlling and Project Success .....	21
2.5	Summary of the Literature Review.....	23
	<b>CHAPTER THREE: METHODOLOGY.....</b>	<b>24</b>
3.1	Introduction.....	24
3.2	Research Design.....	24
3.3	Study Population.....	24
3.4	Sample Size and Selection .....	25
3.5	Sampling Procedure and Techniques .....	25
3.6	Data Collection Methods .....	26
3.6.1	Questionnaire Survey method.....	26

3.6.2	Interview method .....	27
3.7	Data Collection Instruments .....	27
3.7.1	Self administrated questionnaire.....	27
3.7.2	Interview guide .....	28
3.8	Data Quality Control.....	29
3.8.1	Validity .....	29
3.8.2	Reliability.....	30
3.9	Data Collection Procedure .....	31
3.10	Data Analysis .....	31
3.10.1	Quantitative data analysis .....	31
3.10.2	Qualitative data analysis .....	32
3.11	Measurement of Variables.....	32
3.12	Ethical Considerations .....	33

## **CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION**

	<b>OF RESULTS .....</b>	<b>34</b>
4.1	Introduction.....	34
4.2	Response Rate.....	34
4.3	Results on the Background Characteristics of Respondents.....	35
4.3.1	Description of respondents by age .....	35
4.3.2	Description of respondents by gender.....	36
4.3.3	Description of respondents by marital status .....	36
4.3.4	Description of respondents by academic qualification .....	37
4.3.5	Description of respondents by duration of work with UCC .....	37



4.4	Dependent Variable: Project Success .....	38
4.4.1	Cost .....	38
4.4.2	Time .....	44
4.4.3	Quality.....	50
4.4.4	Overall Project Success Index .....	56
4.5	Description of the independent Variable: Determinants .....	58
4.5.1	Planning .....	58
4.5.1.1	Testing Hypothesis One .....	65
4.5.2	Organizing.....	67
4.5.2.1	Testing Hypothesis Two.....	74
4.5.3	Controlling .....	77
4.5.3.1	Testing Hypothesis Three.....	83

## **CHAPTER FIVE: SUMMARY, DISCUSSION, CONCLUSION**

### **AND RECOMMENDATIONS ..... 86**

5.1	Introduction.....	86
5.2	Summary of the Study .....	86
5.2.1	Planning and project success .....	86
5.2.2	Organising and project success .....	86
5.2.3	Controlling and project success .....	87
5.3	Discussion.....	87
5.3.1	Planning and project success .....	87
5.3.2	Organizing and project success.....	88
5.3.3	Controlling and project success .....	90

5.4	Conclusions of the Study .....	91
5.4.1	Planning and project success .....	91
5.4.2	Organising and project success .....	92
5.4.3	Controlling and project success .....	92
5.5	Recommendations of the Study .....	92
5.5.1	Planning and Project Success.....	93
5.5.2	Organising and Project Success .....	93
5.5.3	Controlling and Project Success .....	94
5.6	Contributions of the Study .....	94
5.7	Areas Recommended for Future Research .....	94
	<b>REFERENCES.....</b>	<b>95</b>
	<b>APPENDICES .....</b>	<b>i</b>
	Appendix A: Self-Administered Questionnaire .....	i
	Appendix B: Interview Schedule .....	i
	Appendix C: Reliability Analysis – Cronbach Alpha.....	i
	Appendix D: Introductory Letter .....	i

## LIST OF TABLES

Table 1:	Sample population .....	25
Table 2:	Reliability indices for the respective sections of the questionnaire.....	30
Table 3:	Response Rates .....	34
Table 4:	Respondents by age .....	35
Table 5:	Respondents by gender .....	36
Table 6:	Respondents by marital status .....	36
Table 7:	Respondents by academic qualification .....	37
Table 8:	Respondents by period of work with UCC.....	38
Table 9:	Descriptive statistics on respondents' self-rating on cost .....	39
Table 10:	Common summary descriptive statistics on respondents' self-rating on costs.....	43
Table 11:	Descriptive statistics on respondents' self-rating on time.....	45
Table 12:	Common summary descriptive statistics on respondents' self-rating on time.....	49
Table 13:	Descriptive statistics on respondents' self-rating on quality.....	51
Table 14:	Common summary descriptive statistics on respondents' self-rating on quality....	55
Table 15:	Common summary descriptive statistics on respondents' self-rating on project success .....	57
Table 16:	Descriptive statistics on respondents' self-rating on planning.....	59
Table 17:	Common summary descriptive statistics on respondents' self-rating on planning.	63
Table 18:	Pearson's linear correlation coefficient between planning and project success.....	66
Table 19:	ANOVA results on regression of planning on the project success .....	66
Table 20:	Regression of project success on planning .....	67
Table 21:	Descriptive statistics on respondents' self-rating on organizing.....	68

Table 22:	Common summary descriptive statistics on respondents' self-rating on organizing .....	73
Table 23:	Pearson's linear correlation coefficient between organizing and project success...	75
Table 24:	ANOVA results on regression of organizing on project success.....	76
Table 25:	Regression of project success on organizing .....	76
Table 26:	Descriptive statistics on respondents' self-rating on controlling .....	78
Table 27:	Common summary descriptive statistics on respondents' self-rating on controlling.....	82
Table 28:	Pearson's linear correlation coefficient between controlling and project success ..	84
Table 28:	ANOVA results on regression of controlling on project success .....	85
Table 29:	Regression of project success on controlling.....	85

## LIST OF FIGURES

Figure 1: Conceptual framework showing how planning, organizing and controlling relate to project success .....	13
Figure 2: Histogram and curve showing normal distribution on costs.....	44
Figure 3: Histogram and curve showing normal distribution on project time .....	50
Figure 4: Histogram and curve showing normal distribution on project quality .....	56
Figure 5: Histogram and curve showing normal distribution on project success.....	58
Figure 6: Histogram and curve showing normal distribution on planning.....	64
Figure 7: Scatter graph showing correlation between planning and project success.....	65
Figure 8: Histogram and curve showing normal distribution on organizing.....	74
Figure 9: Scatter graph showing correlation between organizing and project success .....	75
Figure 10: Histogram and curve showing normal distribution on controlling.....	83
Figure 11: Scatter graph showing correlation between controlling and project success.....	84

## LIST OF ABBREVIATIONS

CVI	Content Validity Index
ICTs	Information and Communication Technologies
MCT	Multi-purpose Community Tele-centres
MTN	Mobile Telecommunication Network
NBI	National Backbone Infrastructure
NBI/EGI	National Backbone and E-Government Infrastructure
NGOs	Non-Government Organizations
PEAP	Poverty Eradication Action Plan (PEAP)
PMI	Project Management Institute
POP	Internet points of presence
RCDF	Rural Communication Development Fund
SAQ	Self-Administrated Questionnaires
TV	Television
UCC	Uganda Communications Commission
UTL	Uganda Telecommunications Limited

## ABSTRACT

The purpose of the study was to establish the relationship between planning, organizing, controlling and success of information and communication technology projects in Uganda Communications Commission (UCC). The study was guided by three objectives, that is; to determine the relationship between planning and project success, to find out the relationship between organizing and project success, and to examine the relationship between controlling and project success. A co-relational research design was employed using both qualitative and quantitative research approaches. A sample of 84 respondents participated in the study by answering the questionnaire and interview guide. Questionnaires and interview guides were used to collect quantitative and qualitative data. Frequencies and percentages were used to show the distribution of staff on different items. Pearson's Linear Correlation Coefficient ( $r$ ) was used to determine the degree of relationship between the variables. The study findings showed that; planning, organizing and controlling have a positive relationship with project success in UCC, with Pearson correlation results showing; 0.555\*\*, 510\*\* and 728\*\*, respectively. From the study findings, the researcher concluded that planning helps to ensure that project implementation is done within the established timeframe and within the stipulated budget; organising helps to ensure that people with the right experience and expertise are identified to run the projects; while controlling helps to ensure that there is effective monitoring and supervision of the projects, all of which would translate into project success. Thus, the researcher recommends that as part of planning, UCC needs to ensure the right infrastructure is in place and that the performance outcomes are stated clearly from the onset. In organising, UCC needs to pay attention to accountability, reliability and transparency, while effective controls should be ensured such that the established plans can be realized.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Introduction**

Information and Communication Technologies (ICTs) play a significant role in the social and economic development in developing countries. In line with this, the Government of Uganda takes ICTs as a priority in its development plans. The study attempted to explore the determinants of ICT projects' success in Uganda Communications Commission (UCC). In this study, determinants are conceptualized as the independent variable while ICT projects success as the dependent variable. Determinants were measured in form of planning, organizing and controlling. ICT projects success was measured in form of project cost, quality and project completion time. This Chapter presents the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions and the hypotheses of the study. It also presents the conceptual framework, significance of the study, justification of the study and the scope.

#### **1.2 Background to the Study**

The background was made up of four systematically linked perspectives namely; a historical perspective which gives a past overview of the study variables, theoretical perspective which gives the theory which underpins the study, conceptual perspective which gives definitions of key variables and the contextual perspective which shows the problem on the ground that motivated this study.

##### **1.2.1 Historical Perspective**

Globally, project success has gained importance due to the failure of many projects to achieve



the intended objectives. The importance of defining and measuring project success was identified as long ago as 1986 by the Project Management Institute (PMI). In that year, the Annual Seminar and Symposium was devoted to this topic (Baccarini, 1999). Since the late 1960s, project management researchers have been trying to discover the factors that lead to project success, and have reached conclusions that have been widely reflected in literature written for project management practitioners. Traditional views of project success hinge around the iron triangle (Time, Cost, and Scope), which view is challenged by modern professional project management, with an example of the Millennium Doom public construction project in London which is considered a white elephant, despite 100% delivery of scope on time and within the budget (Smith, 1999).

Project management has been practiced for thousands of years, dating back to the Egyptian epoch, but it was in the mid 1950s that organisations commenced formal project management tools. Cost, time and quality, over the last 50 years have become inextricably linked with measuring the success of a project (Toney & Powers, 1997). This is not surprising, since over a long period those criteria are usually included in the description of project management. Time and costs are at best only guesses, calculated at a time when least is known about the project (Crawford, 2007). Quality is a phenomenon which is an emergent property of people's different attitudes and beliefs, which often change over the development life-cycle of a project. Traditionally, project management has dealt only with managing the project planning and implementation process. This view of project management specifically views the project as a task or process that needs to be completed following the specifications, budget and time given. This approach has provided universally accepted metrics of cost, schedule and performance to evaluate the success of the project (Chan, et al, 2004). In addition to the above traditional project

metrics, the industry professionals have also recognized that on some projects, safety performance can be the primary determinant of success, regardless of the outcome of the other classical metrics.

Since the 1970s, new technologies of the internet and wireless mobile phones have emerged as excellent communication tools with several advantages that include: reduced costs, national and global coverage, permanent availability and interactivity (Aldag & Kuzuhara, 2002). Many of the benefits from the modern ICTs are to be found in the urban areas, because of well-developed infrastructure, high levels of education and skills. In other words, there is a digital divide between the urban and rural population. The use of ICTs such as mobile phones, fixed telephone lines and internet connections, has increased dramatically over the last 10 years (Uganda Telecommunications Limited, 2000). The recent trend of focusing more on modern ICTs and forgetting about the traditional ICTs seems to be of limited benefit to developing countries, as the largest population in these countries is rural based. For instance in Uganda, eighty percent of the population of 32 million people is rural based (Atkinson, 1999).

The printing of national identity cards for Ugandans was a project that probably should have been concluded by December 2011. However, the Daily Monitor newspaper of 1<sup>st</sup> December 2011 reported that after payment of Ugandan shilling 230 Billion to a German company Muhlbauer, only a few identity cards were printed. It is hard to determine if this project was a success or a failure since by July 2014 the majority of Ugandans do not have National Identity Cards. The National Backbone and E-Government Infrastructure (NBI/EGI) projects were carried out in phases in Uganda to ensure development of ICT infrastructure in Uganda (Adnanes & Clothilde, 2004). The first phase of these projects was concluded in June 2008, but up to date

it has never been operationalized, making it hard to determine if it was a success or a failure. It was against this background that this study sought to establish the determinants of project success among information and communication projects in Uganda Communications Commission with a view of suggesting solutions.

### **1.2.2 Theoretical Perspective**

The study was guided by the theory of project management cited in Jugdeu and Muller (2005) which conceptualizes the project as a transformation of inputs into outputs. This theory embraces both the project theory (product oriented theory) and the theory of management (project management process) (PMBOK Guide, 2004). The theory of project management helps in the identification of the factors that lead to successful projects which are planning, organizing and controlling. Jugdeu and Muller (2005) illustrated the theory or implementation of work in that it should be planned completely before a single move is made, that a route sheet which shows the names and order of all operations which are to be performed should be clear and instruction cards should be clearly written for each operation. They further observed that lack of planning at the start, incomplete instructions of coordinating departments and routing of work throughout each operation result in a congestion of unfinished work at many points.

Organizing is the function of management which follows planning. It is a function in which the synchronization and combination of human, physical and financial resources takes place. All the three resources are important to get results. Therefore, the organizational function helps in the achievement of results which in fact is important for the functioning of a concern. Organizing is a function by which the concern is able to define the role positions, the jobs related and the coordination between authority and responsibility (Musaazi, 1982). Hence, a manager always has

to organize in order to get results. Historically, humanity has always tried to organize itself. The organizing of information can be seen since the time humans began to write. Prior to that, history was passed down through song and word. Organising is not only history but also helps communicate history, be it with religion, books and spoken word, science, through journals and studies, or in many other ways. Writing ideas in a book, as opposed to verbally communicating with someone, and more specifically cataloging ideas and thoughts, is also an attempt to organize information.

Controlling consists of verifying whether everything occurs in conformity with the plans adopted, instructions issued and principles established. Controlling ensures that there is effective and efficient utilization of organizational resources so as to achieve the planned goals (Armstrong, 2006). Controlling measures the deviation of actual performance from the standard performance, discovers the causes of such deviations and helps in taking corrective actions. Controlling is a systematic exercise which is a process of checking actual performance against the standards or plans with a view to ensure adequate progress and also recording such experience as is gained as a contribution to possible future needs (Cleland & Baker, 2008).

Literature contains vast numbers of project success factors that can be classified into traditional (or universal) factors and non-traditional (or soft) factors (Crawford, 2002). The multidimensional and non-universal approach suggests that project successes “are not universal for all projects” and that “different projects exhibit different sets of success factor” (Dvir et al., 1998). Similarly, project success can be measured “in different ways at different times” by different people and that “project success is multidimensional.”

In construction industry, Ashley (1987) identifies five dimensions of project success which include; budget performance, client satisfaction, functionality, contractor satisfaction and project manager/team satisfaction. Lim and Mohamed (1999) view project success using two approaches, namely, micro viewpoints and macro viewpoint. Micro viewpoints include smaller components which are parties involved with the final part to achieve the objective in the construction process. While, macro viewpoint include time taken to complete the project and is affected by factors for example, economy, management or weather (Curtis & Hunsaker, 1994). They described measurement of project success through four dimensions: the period of execution, upon completion of project, after project is delivered to the client and assessment 1-5 years after the completion of the project. In contrast, project success can be categorised into four stages (square root), the iron triangle (cost, time and quality), benefits to the organization, benefits to the stakeholders, project performance and meeting project objectives (Atkinson, 1999). Another set of dimensions of project success forwarded were meeting the design goals, benefit to the development of the company and country, and benefit to end user. Others viewed project success from “the perspective of the individual owner, developer, user and general public” (Lim and Mohamed, 1999 cited in Chan and Chan, 2004).

### **1.2.3 Conceptual Perspective**

A project has been defined differently by different studies. The American National Standard defines a project as a temporary endeavour undertaken to create a unique product or service or result. Munns & Bjeirmi (1996) consider a project as the achievement of a specified objective, which involves a series of activities and tasks that consume resources. According to the PMBok Guide (2004), a project is defined as a temporary endeavour undertaken to create a unique product or service. They also define success as favorable outcome or the gaining of fame or

prosperity. Morris and Hough (1987) consider success as an intangible perceptive feeling, a measuring criterion that varies with management expectations and varies among persons and with the phases of the project.

Project success has also been defined differently by different authors. The traditional definition of project success means meeting the time (duration), cost (budget) and quality (specification and performance) (Nguyen et al. 2004). Cleland and Baker (2008) suggested that project success is meaningful only if considered from two vantage points: the degree to which the project's technical performance objective was attained on time and within budget; and the contribution that the project made to the strategic mission of the enterprise. Freeman and Beale (1992) went ahead and provided an interesting example of the different points of view of people: "An architect may consider success in terms of aesthetic appearance, an engineer in terms of technical competence, an accountant in terms of dollars spent under budget, a human resources manager in terms of employee satisfaction, and chief executive officers rate their success in the stock market."

Most of the earlier studies (in the 1980s and 1990s), which were concerned with project success are determined on the basis of time, cost and quality (Chan and Chan, 2004; Turner, 1999). Much earlier studies hold that the definition of project success is based on cost, schedule, quality, safety and satisfaction of the customers (Ashley et al., 1987; Nguyen et al., 2004). An example of the definition is that the project is successful if it is "completed on time, within budget, according to specification of customers and stakeholders" (Nguyen et al, 2004). At the project level, project success is defined as duration, monetary cost and performance (Belassi and Tukel, 1996; Atkinson, 1999).

Projects can be considered to be successful if they obtain better results in terms of the “cost, schedule, quality, safety, and satisfaction of participants” (Ashley et al., 1987 cited in Sanvido et al., 1992; Nguyen et al., 2004). According to Kerner (2006), project success is defined as the degree of achievement of a certain effort or undertaking which relates to the prescribed goals or objectives that form the project parameters. Project success is measured by product and quality, timeliness, budget compliance, and degree of customer satisfaction. In this study, project success referred to cost, time and quality.

The independent variable in the study is determinants. Determinants are those occurrences whose presence or absence determines the success of a project. Pinto and Trailer (1998) define them as drivers or enablers that can cause failure or success to any activity. According to Pinto and Slevin (1988a), determinants are a set of circumstances, facts, or influences which contribute to project success. In this study, determinants are conceptualized as planning, organizing and controlling.

Planning is a process for accomplishing purposes. It is a blue print of business growth and a road map of development. It helps in deciding objectives both in quantitative and qualitative terms. It is the setting of goals on the basis of objectives and keeping in the resources. In this study, planning is conceptualized as definition of scope, identification of resources, identifying all key roles and scheduling. However, organizing is conceptualized as management, implementation, communication and coordination. According to Robbins (2005), controlling is the process of ensuring that actual activities conform to the planned activities. It helps managers to measure the effectiveness of their planning, leading, and organizing. It involves establishing standards of performance, measuring current performance, comparing these standards of performance to established standards and taking corrective actions (Armstrong, 2006). In this study, controlling was operationalised as monitoring, evaluation, and reporting.

#### **1.2.4 Contextual Perspective**

The study took place in the Uganda Communication Commission (UCC) where ICT project success is reported to be very low. For example, it is estimated that 78% of ICT projects fail to meet their original set aims, goals and objectives. According to the UCC Rural Communication Development Fund (RCDF) Policy report (2010/2011), many projects implemented are over budgeted, lacking in functionality or ultimately never delivered. The report further observed that project participants become anxious to begin work, organizational leaders want quick returns on investment and resources are often limited due to conflicting priorities. The failure of these projects is not because they are intrinsically bad but mainly because of poor upfront planning, controlling and organizing, implementation, as well as management of the projects. This has resulted into wastage of funds and other resources. Since the 1990s, there have been several initiatives globally, to apply ICT to address issues of poverty in developing countries. For instance, in Uganda, there has been the Acacia project that extended the Internet to various rural based schools and communities; the liberalisation of the communication industry that brought in many players; and the MTN village phone project in Uganda that sold mobile phones to rural women in more than ninety percent of the districts of Uganda among many other projects.

However, at present nothing has been done to determine the success of the above mentioned projects. ICT is also highlighted in the Poverty Eradication Action Plan (PEAP) as a cross-cutting issue. ICT is defined as consisting of computers, Internet, radios, Television (TV), telephone among many others, plus the procedures, and processes that support the processing, storage and dissemination of the information. Information is vital for economic development. Radios, TV and telephone have traditionally been utilized as communication tools to address various issues in developing countries. UCC has tried to overcome some of the challenges



through continuous monitoring and evaluating of the ICT projects but nothing has changed. While there could be several contributory factors leading to low levels of project success in UCC, planning, organizing and controlling could have played a major role. Therefore, in this study, it is hypothesized that determinants like planning, organizing and controlling are related to project success.

### **1.3 Statement of the Problem**

Most of the projects that appear in the media are either over budget, late or are simply not good enough and still different lobbies of people claim that these projects have been successful. Neither the practitioners nor the academicians seem to agree on what constitutes project success. The Uganda Government, Nongovernment Organizations (NGOs) and Donors have introduced and funded various Information and Communication Technology (ICT) projects like National Backbone Infrastructure (NBI), Internet points of presence (POP), Internet cafes, ICT training centres, Public payphones, District web portals, Multi-Purpose Community Tele-centres (MCT), Post code System, School ICT laboratories, Health ICT facilities, Voice network sites, Content development projects to address the digital divide problem among the least developed rural areas in order to reduce the levels of access to and usage of ICT services. Although UCC had implemented 5,482 ICT projects in underserved areas in Uganda by end of financial year 2010/11, many projects have not performed as expected (RCDF annual report 2009/2010) and many rural areas still remain underserved in terms of ICT services access (RCDF annual reports 2010/2011 and 2012/2013). However, little is known about what determines the success/failure of projects aimed at ensuring access to and usage of ICT services in Uganda. Information on predictors of project success among ICT projects implemented in underserved areas is limited. The main puzzle remains as to what the factors that account for ICT project success are.

Therefore, this study attempted to explore the main determinants of project success among ICT projects implemented by UCC in the underserved area. If the problem is not addressed, it is unlikely that ICT projects continuously implemented in the rural areas will succeed and with that, the level of access and usage of ICT services in Uganda may remain stagnant.

#### **1.4 Purpose of the Study**

The purpose of this study was to establish the relationship between planning, organizing, controlling and success of information and communication technology projects in Uganda Communications Commission.

#### **1.5 Objectives of the Study**

The specific objectives of the study were;

- (i) To determine the relationship between planning and ICT project success in Uganda Communications Commission.
- (ii) To find out the relationship between organizing and ICT project success in Uganda Communications Commission.
- (iii) To examine the relationship between controlling and ICT project success in Uganda Communications Commission.

#### **1.6 Research Questions**

The research sought answers to the following questions;

- (i) How does project planning relate with the ICT projects success in Uganda Communications Commission?

- (ii) To what extent does organizing relate with the ICT projects success in Uganda Communications Commission?
- (iii) How does controlling relate with the ICT projects success in Uganda Communications Commission?

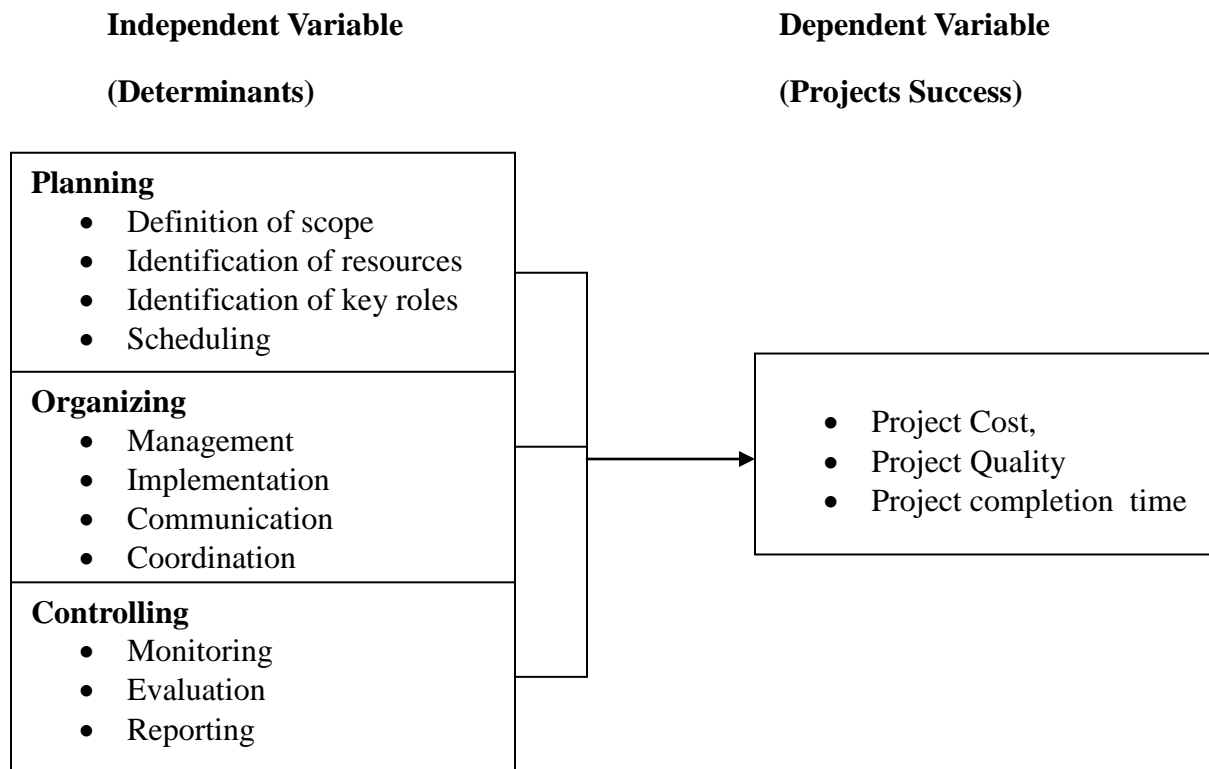
### **1.7 Hypotheses of the Study**

The study was guided by the following hypotheses;

- (i) Planning positively relates with ICT projects success in Uganda Communications Commission.
- (ii) Organising has a positive relationship with ICT projects in Uganda Communications Commission.
- (iii) Controlling positively relates with the ICT projects success in Uganda Communications Commission.

### **1.8 Conceptual Framework**

This subsection provided the conceptual framework showing the relationship between planning, organizing, controlling and project success in UCC.



**Fig. 1:** Conceptual framework showing how planning, organizing and controlling relate to project success

**Source:** Adapted from Atkinson (1999). Project management: Cost, time and quality, two best guesses and a phenomenon, it's time to accept other success criteria. *International Journal of Project Management*, 17, 337-342.

The Framework in Figure 1 suggests that the independent variable (determinants) is conceptualized into three elements namely; planning, organizing and controlling while the dependent variable, project success is conceptualized as project cost, quality and completion time. All concepts of the independent and dependent variables are further conceptualized as shown in Figure 1. For example; planning was further conceptualized as definition of scope, identification of resources, identification of key roles and scheduling. Organizing was conceptualized as management, implementation, communication and coordination while controlling was conceptualized as monitoring, evaluation and reporting. Figure 1 further hypothesizes that all determinants have a positive relationship with project success.

## **1.8 Significance of the Study**

It was worthwhile exploring the factors of success as it could enhance competencies in project management and, thus, ensure project success (Crawford, 2007). It was hoped that the findings of this study would highlight the determinants of ICT projects' success in Uganda Communications Commission (UCC) and will recommend mitigation measures against the unsuccessful projects implemented by other public organization. The study was also intended to benefit UCC in managing the ICT projects it implements to enable attainment of intended project objectives. The research findings are hoped to be of use to different organs, stakeholders, donors, and policy makers concerned with successful projects. A great many projects exceed their budgets, run late and fail to meet their objectives. It furnished project managers, clients and other project stakeholders' useful information to enable them implement projects successfully. This study would be used by project owners, funders and implementers in different projects to identify successful determinants.

## **1.10 Justification of the Study**

Success is always a debatable topic. Many researchers have been able to distil the factors of project success but there is no general agreement concerning common factors for all projects (Chan et al., 2004). The reason being that each project is different from other projects and that "one size does not fit all projects" (Shenhar, 1998). Likewise different projects display different factors of success (Dvir et al., 1998). Projects can differ "in terms of technology, size, complexity, risk" and other factors or variables (Shenhar et al., 2001). In the many industries, time, cost and quality have long been defined as the basic criteria of measuring success. However, different ideas have emerged in the last decade. Therefore, a comprehensive review of determinates of project success is essential. The study was aimed at finding the possible causes

of project success in order to guide other project implementers to successfully complete their projects. An understanding is necessary in identifying the key determinants of project success which will provide policy makers, project funders, implementers' and managers with information to effectively plan future interventions. The study sought to add to the existing body of knowledge in the area of project evaluation.

## **1.11 Scope of the Study**

### **1.11.1 Geographical scope**

The study was conducted on Information and Communication Technology (ICT) projects in Uganda Communications Commission (UCC). UCC is responsible for regulating and promoting the developments in the communications industry and ensuring access to communication services by all Ugandans. In content, emphasis was put on examining the effect of planning and organizing on project success as well as the effect of controlling on project success among ICT projects implemented in UCC in order to promote access and usage of ICT services in the underserved areas.

### **1.11.2 Time scope**

This study covered projects implemented after 2003 to 2012. It was during this period that Uganda Communications Commission (UCC) started implementation of ICT projects in underserved areas under the Rural Communication Development Fund (RCDF).

### **1.11.3 Content Scope**

Determinants were looked at in terms of planning, organizing and controlling. Project success was looked at in terms of cost, time and quality.

## 1.12 Operational Definitions

**Determinants** are drivers or enablers that can cause failure or success to any activity. They are those occurrences whose presence or absence determines the success of a project. In this study, determinants referred to planning, organizing and controlling.

**Planning** is a process for accomplishing purposes. It is a blue print of business growth and a road map of development. In this study, planning is conceptualized as definition of scope, identification of resources, identifying all key roles and scheduling.

**Controlling** is the process of ensuring that actual activities conform to the planned activities. In this study, controlling was referred to as monitoring and evaluation, and reporting.

**Organizing** is a function of management that involves synchronization and combination of human, financial and physical resources in order to get results. Organizing was conceptualized as management, implementation, communication and coordination.

**A project** is defined as a temporary endeavour undertaken to create a unique product or service.

**Success** refers to intangible perceptive feeling, a measuring criterion that varies with management expectations and varies among persons and with the phases of the project.

**Project success** means meeting the time (duration), cost (budget) and quality (specification and performance). In this study project success referred to project cost, quality and completion time.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents a review of related literature to highlight the gaps in the existing body of knowledge that relate to determinants of project success. The literature was organized mainly along three themes; planning and project success, organizing and project success, and controlling and project success. However, this literature was not only related to ICT project success and also project success in other fields.

#### **2.2 Planning and Project Success**

Planning is one of the first tasks that need to be performed on a project. Planning in organizations and public policy is both the organizational process of creating and maintaining a plan; and the psychological process of thinking about the activities required to create a desired goal on some scale (Aldag and Kuzuhara, 2002). Planning is a process for accomplishing purposes. It is a blue print of business growth and a road map of development. It helps in deciding objectives both in quantitative and qualitative terms. It is setting of goals on the basis of objectives and keeping in the resources. Planning generally enhances the gathering, evaluating and interpreting of foundation data and information in order to generate knowledge for good decision and policy making in the government. A familiar maxim says, 'if you cannot plan it, you do not do it'. Another maxim says, 'I never planned to fail, I just failed to plan' (Armstrong, 2006). Generally, planning enhances the gathering, evaluating and interpreting of foundation data and information in order to generate knowledge for good policy making in the government. In order to ensure that a project is completed successfully, project plans need to be updated regularly. The planning phase is part of the Project Life Cycle. Therefore, in this study, it is



hypothesized that planning and project success are positively co-related. To achieve successful projects, it is the planning phase which has the critical control over the project performance especially in the aspects of project schedule and cost according to Yates and Eskander (2002).

Several past researchers have attempted to relate planning to project success in different contexts. For example, Dov, et al, (2003) in a study about an empirical analysis of the relationship between project planning and project success concluded that project success is insensitive to the level of implementation of management processes and procedures, which are readily supported by modern computerized tools and project management training. On the other hand, project success is positively correlated with the investment in requirements' definition and development of technical specifications. Adnanes and Clothilde (2004) researched on factors influencing project success, the impact of human resource management and came to a conclusion that for three distinct structures (functional, project-based and planning), the management support and trouble-shooting variables were positively significantly correlated with project success.

Similarly, Munns and Bjeirmi (1996) researched on the role of project management in achieving project success. They argued that the role of different project management techniques to implement projects successfully has been widely established in areas such as the planning and control of time, cost and quality. They concluded that there is a positive relationship between planning and project success (Stuckenbruck, 1986). Most authors agree that a project is a unique endeavor, a special task that has not been done before. Consequently, it is very difficult or even impossible to know precisely at the initial planning stage what are all the activities that need to be carried out in order to complete the project, and what their cost and duration parameters are

(Verma, 1996). The issue is even more severe when the kind of activities that should be undertaken depends on the outcome of earlier activities. For that reason some might even jump to a conclusion that planning is not necessarily helpful or even desirable. Andersen proposes to replace the standard planning approach with milestone planning and, where a milestone is defined as a result to be achieved. Since a milestone describes what is to be done, but not the way it should be done, milestone planning promotes result-oriented thinking rather than activity-oriented thinking (Ward, 1995).

Bart points out that the traditional approach of planning and controlling of R&D projects tend to fail mainly because of too much formal control which curtails creativity from playing a crucial role in execution of the project. Bart proposes to reduce the formal control and keep only a minimum required level (Verma, 1995). Even if we agree with Bart and keep planning to a minimum level, there is no argument as to the contribution of complete and accurate capture of end-user requirements to successful project completion. This is because the output of the requirements analysis stage will most likely determine the output of the entire development process.

Posten (2010) found that 55% of all defects in R&D projects occur during requirement analysis and specification whereas 43% of all defects are not found until after the testing stage. The importance of the initiation phase stands out relative to other phases in the project life cycle and. Dvir et al (2009). In a recent study of development projects in Israel indicate that the origination and initiation phase, in which major decisions are made, such as deciding the project's objectives and planning the project's execution, has the most influence on the project's success. They also found that although the preparation of formal design and planning documents has a strong positive effect on meeting the project's time and budget objectives, it also contributes

significantly to the customer's benefits from the end-product (Toney & Powers, 1997). While all the above studies showed a positive correlation between planning and project success, none was specifically to Uganda Communication Commission (UCC). To contribute to the closure of these gaps, the researcher hypothesized that planning has positive influence on project success in UCC. The findings in chapter four of this report confirmed the hypothesis, showing that indeed, as literature from the various scholars showed, planning significantly contributes towards project success.

### **2.3 Organizing and Project Success**

Historically, humanity has always tried to organize itself. The organizing of information can be seen since the time humans began to write. Prior to that, history was passed down through song and word. Organizing not only is history, but also helps communicate history (Curtis and Hunsaker, 1994). Writing ideas in a book, as opposed to verbally communicating with someone, and more specifically cataloging ideas and thoughts, is also an attempt to organize information. Anything is commonly considered organized when it looks like everything has a correct order or placement. According to Jennifer and Garelh, (2002) organizing is a function by which the concern is able to define the role positions, the jobs related and the coordination between authority and responsibility. Organizing is the managerial function of arranging people and resources to work towards a goal (Koontz and Weihrich, 1988). Once plans are created the manager's task is to see that they are carried out. Given a clear mission, core values, objectives, and strategy, the role of organizing is to begin the process of implementation by clarifying jobs and working relationships. It identifies who is to do what, who is in charge of whom, and how different people and parts of the organization relate to and work with one another (Mullins, 2002). In this study, it was hypothesized that organizing and project success are positively correlated. Results proved the hypothesis true, as presented in Chapter four of this report.

McKeen, et al, (1994) in the study about the relationship between user participation and project success empirically established that organizing plays a major in project success. They argue that the manager tries to combine and group similar and related activities into units or departments. Adnanes and Clothilde, (2004) in their research on factors influencing project success observed that once the departments are made, the manager likes to classify the powers and its extent to the managers. This activity of giving a rank in order to the managerial positions according to them was called hierarchy. The top management is into formulation of policies, the middle level management into departmental supervision and lower level management into supervision of foremen. The clarification of authority helps in bringing efficiency in the running of a concern. Erik and Gobeli (2002) looked at organizing for product development projects and concluded that organizing is the major key factor in influencing project success. Verma (1995, 1996) writes that communication, teamwork, and leadership are vital components of effective management of project human resources and are necessary to accomplish project objectives successfully. While all the above studies showed a positive correlation between organizing and project success, none was specifically relating to Uganda Communication Commission (UCC). To contribute to the closure of these gaps, the researcher hypothesized that organizing positively influences project success in UCC. Results showed that there was a significant relationship between organizing and project success, serving to confirm the stated hypothesis.

#### **2.4 Controlling and Project Success**

Controlling is aimed at achieving defined goals within an established timetable, and usually understood to have three main components; setting standards, measuring actual performance and taking corrective action. According to Cole (2004), controlling ensures that travelers know how well they are progressing along the route, how correct their map is and what deviations if any,

they need to make to stay on course. Controlling is one of the managerial functions like planning, organizing, staffing and directing. It is an important function because it helps to check the errors and to take the corrective action so that deviation from standards are minimized and stated goals of the organization are achieved in desired manner. According to Curtis and Hunsaker (1994), controlling is the process of ensuring that actual activities conform to the planned activities. It helps managers to measure the effectiveness of their planning, leading, and organizing. Control therefore is an essential factor in regulating the activities of the organization and in achieving the targets of the organization. According to modern concepts, control is a foreseeing action whereas earlier concept of control was used only when errors were detected. Control in management means setting standards, measuring actual performance and taking corrective action.

A few past studies have attempted to relate controlling to project success. Munns and Bjeirmi (1996) researched on the role of project management in achieving project success and advised that without regulation, organizations have no indication of how well they perform in relation to their goals. They therefore established that controlling and project success are positively related. Relatedly, Mullins (2002) proposed that at the organizational level management needs to exercise control over behavior and actions of the staff in order to ensure satisfactory level of success. Onen (2002) observes that effective controlling is a very important aspect of management which helps to bind together all individual and group efforts and direct them towards a common goal. He concluded that poor controlling, at Gulu extra-mural regional centers contributed to the kind of negative attitude of participants towards the courses offered at the center. Kerner (2009) looked at project management and revealed that to achieve the set goals and objectives, the project managers have to control their followers. Cleland and Baker (2008) researched on factors affecting project success and came to the finding that controlling positively affects project

success. While all the above studies showed a positive correlation between controlling and project success, none was specifically related to Uganda Communication Commission (UCC). To contribute to the closure of these gaps, the researcher hypothesized that controlling as positively influencing project success in the UCC.

## **2.5 Summary of the Literature Review**

According to Crawford (2002) project success is an important project management issue, it is one of the most frequently discussed topics and there is a lack of agreement concerning the criteria by which success is judged (Pinto and Slevin 1988; Freeman and Beale 1992; Shenhar, Levy, and Dvir 1997; Baccarini 1999). A review of the literature further reveals that there is, in fact, a high level of agreement with the definition provided by Baker, Murphy, and Fisher (1988), that project success is a matter of perception and that a project will be most likely to be perceived to be an “overall success” if: .....the project meets the technical performance specifications and/or mission to be performed, and if there is a high level of satisfaction concerning the project outcome among key people on the project team, and key users or clientele of the project effort. There is also a general agreement that although schedule and budget performance alone are considered inadequate as measures of project success, they are still important components of the overall construct. Quality is intertwined with issues of technical performance, specifications, and achievement of functional objectives and it is achievement against these criteria that are most subject to variation in perception by multiple project stakeholders. The researcher made headway in this direction with focus on ICT projects in Uganda Communications Commission.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methodology that was used in the study. The chapter presents the research design, study population, sample size and selection, sampling techniques and procedure, data collection methods, data collection instruments, validity and reliability, procedures used in data collection, how the data were analyzed and how the variables were measured.

#### **3.2 Research Design**

In particular the study was a co-relational, cross-sectional survey. It was correlational in that it was interested in relating planning, organizing and controlling to project success in UCC (Charles, 1995). The study was a cross-sectional survey since it gathered data from a sample of respondents at a particular time to reduce costs. The study employed both the quantitative and qualitative approaches and paradigms. The study took a quantitative approach in that it involved the collection of numerical data in order to explain, predict, and control phenomena of interest, data analysis being mainly statistical (Amin, 2005). The qualitative aspect helped in promoting a deeper understanding about the current trend of factors affecting project success in the ICT industry (Amin, 2005).

#### **3.3 Study Population**

The target population in the study constituted of 97 respondents of different categories, who were knowledgeable and involved in the in the management and implementation of ICT projects in Uganda Communications Commission (UCC). The study concentrated on the following

categories; project managers, project engineers, project implementers, project partners. The study population was deemed to include all the staff involved in the ICT projects at UCC.

### 3.4 Sample Size and Selection

Of the target population in UCC, Krejcie and Morgan (1970)'s Table of Sample Size Determination, suggests a minimum sample size of respondents as shown in Table 1:

**Table 1: Sample population**

Category of respondents	Study Population	Sample Size	Sampling Technique used
UCC staff directly involved in the ICT projects	55	48	Simple random sampling
UCC staff indirectly involved in the ICT projects	30	28	Simple random sampling
Projects' Managers	10	10	Purposive sampling
Director Technology, Networks and Services	1	1	Purposive sampling
Head Information Technology	1	1	Purposive sampling
<b>Total</b>	<b>97</b>	<b>88</b>	

*Source: UCC HR Report, 2012*

Table 1 suggests that of the target population of 97 respondents, a total of 88 were selected to take part in the study, with the guidance of Krejcie and Morgan's (1970) Table of Sample Size Determination. These included 48 UCC staff directly involved in the ICT projects, 28 UCC staff indirectly involved in the ICT projects, 10 Projects' Managers, the Head Information Technology and Director of Technology, Networks and Services, as shown in Table 1 above.

### 3.5 Sampling Procedure and Techniques

To ensure representativeness of the samples, randomization was a suitable approach. To attain the respective sample size from the said population, the study employed simple random sampling



and purposive sampling to select the sample. The simple random sampling was used to select UCC staff, government officials, ICT services users and the ICT projects implementers/partners. In Simple random sampling every individual has a known and equal chance of being selected as a subject. Each individual in the sample size of Administration, marketing and operations departments were chosen randomly and entirely by chance, such that each individual has the same probability of being chosen at any stage during the sampling process.

The researcher also used purposive sampling. In this type of sampling, subjects from UCC directors and managers were chosen to be part of the sample because they are directly involved in ICT projects. With purposive sampling, the researcher believed that some subjects are fit for the research compared to other individuals. This was the reason why they are purposively chosen as subjects. This method was used to ensure that each member of the target population has an equal and independent chance of being included in the sample.

### **3.6 Data Collection Methods**

The study contacted respondents for first hand data using the survey method involving use of a questionnaire and interview guide.

#### **3.6.1 Questionnaire Survey method**

The questionnaire method involved the use of a set of questions printed in a defined order (Kothari, 2004). The survey involved email questionnaires which, Sekaran, (2004) adds are advantageous when responses to many questions have to be obtained from a sample that is geographically dispersed, or it is difficult or not possible to conduct telephone interviews without much expense. The mailed questionnaire survey was used because Sekaran, (2004) asserts that it

is best suited when information is to be obtained on a substantial scale through structured questions. The researcher informed respondents that responses are required for academic purpose and to ensure honest answers, questionnaires provided anonymity of the respondents and confidentiality of the responses (Mugenda & Mugenda, 2003). The wording of the questions, how the variables were categorized, scaling, coding and general appearance of the questionnaire design minimized biasness in the research (Sekaran, 2004; Birifaijo, Basheka & Oonyu, 2010), motivate the respondents to give accurate and complete information, as such, provide reliable and relevant data in return (Birifaijo, Basheka & Oonyu, 2010).

### **3.6.2 Interview method**

An interview is a purposeful discussion between two or more people (Kahn and Cannell, 1957) as quoted by (Saunders, Lewis & Thornhill, 1997). Saunders, Lewis & Thornhill, (1997) add that the use of interviews can help you to gather valid and reliable data which are relevant to your research question(s) and objectives. Interviews were held with heads of departments.

## **3.7 Data Collection Instruments**

The researcher contacted respondents using self-administrated questionnaires (SAQs) and interview guides. These two instruments enabled the researcher cover a large population quickly and at a reasonable cost (Amin, 2005).

### **3.7.1 Self administrated questionnaire**

The study used a self-administered questionnaire (SAQs) for soliciting respondents' views. The SAQs enabled the researcher to cover a large population quickly and at a reasonable cost. Further, SAQs were very suitable for the target respondents on account of their high levels of

English literacy. The SAQs were directed towards the employees in UCC and some of the project implementers/partners. They started with a main title; followed by an introductory letter and had sections; Section A with questions on background variables to classify respondents (e.g. marital status as married, single), according to academic qualification (Diploma, Bachelors, Masters). Section B was had items on the independent variable of the study (i.e. determinants). Section Chad items on the dependent variable (project success). The SAQ was used because it gave time to respondents to fill in since the researcher left the questionnaires with the respondents for some time. To ease administration, most questions in the instrument were closed-ended, that is, had options from which the respondents could choose. Likert scale with five categories response continuum was used i.e. strongly agree, agree, neutral, disagree and strongly disagree (Amin, 2005).

### **3.7.2 Interview guide**

The interview yielded information on matters related to the different determinants of project success in their organizations/departments. This was necessary in making a reflection on the data provided by UCC staff on the SAQs. The interview method comprised of personal interviews with individuals who were believed to have important and crucial information for in depth understanding of the subject but may not have the time to fill out questionnaires. Structured interview questions were used as probing techniques where the researcher physically met the respondents and asked them questions face to face, regarding the factors that determine project success. The researcher also conducted an interview with director to obtain the appropriateness of the data provided on the SAQs. The interview yielded information on matters related to the different determinants of project success in their departments.

### 3.8 Data Quality Control

Validity and reliability of the research instrument was ensured as follows:

#### 3.8.1 Validity

Validity is the extent to which research results can be accurately interpreted and generalized to other populations. It is the extent to which research instruments measure what they are intended to measure (Oso & Onen, 2008). Content validity of the said instruments was determined by sending the constructed items to the supervisors for their personal opinion and to give the necessary guidelines. Supervisors were given the instruments to study them on the scale of relevant or irrelevant. The supervisors also evaluated the relevance, wording and clarity of questions or items in the instrument. After judgment, the researcher computed the Content Validity Index. The instrument was revised until the content validity index was at least 0.7. This is because 0.7 is the least content validity index recommended in social science (educational) studies (Amin, 2005). Content validity index was computed by;

$$\begin{aligned} \text{Content Validity Index (CVI)} &= \frac{\text{Number of items declared item valid}}{\text{Total number of items}} \\ &= \frac{87}{88} \\ &= 0.988 \end{aligned}$$

There the content validity index was 0.988. This implies that the questionnaire was valid for the research such according to Amin (2005), a valid questionnaire should have a CVI value which is at least above 0.7.

### 3.8.2 Reliability

Reliability is the consistency of your measurement, or the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects i.e. repeatability of your measurement (Birifaijo, Basheka & Oonyu, 2010), indicates the extent to which a measure is without bias (error free) and hence ensures consistent measurement across time and across the various items in the instrument (Sekaran, 2004) and a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Mugenda & Mugenda, 2003). A pilot study was done so as to show the degree of consistence of the instrument to be used. Reliability of the instruments on multi-item variables were tested via the Cronbach Alpha Method ( $\alpha$ ). The instrument was revised until the alpha value is at least 0.7 which is the recommended reliability value for educational researches (Kaplan and Saccuz, 1993). This was obtained by;

$$\alpha = \frac{K}{k-1} \left[ 1 - \frac{\sum_k \sigma^2}{\sigma^2} \right]$$

Where;  $\sum_k \sigma^2$  is the sum of variances of the k parts or sections  $\sigma$  is the standard deviation of the test (Amin, 2005). Table 2 shows pertinent results:

**Table 2: Reliability indices for the respective sections of the questionnaire**

Variable	Description	Construct	No of items	Cronbach alpha
<b>Dependent</b>	Project success	Cost	11	0.841
		Time	15	0.846
		Quality	15	0.809
<b>Independent</b>	Determinants	Planning	23	0.877
		Organizing	20	0.883
		Controlling	25	0.934

According to Table 2, construct cost had alpha value = 0.841, time with alpha value= 0.846, quality with alpha value = 0.809, planning = 0.877, organizing = 0.883 and controlling = 0.934. These findings suggest that the questionnaire was highly reliable and would produce consistent results over time, given that the reliability results were above 0.7, as recommended by (Amin, 2005).

### **3.9 Data Collection Procedure**

The researcher developed a proposal over a period of about 3 months under the guidance of the supervisor. Once the proposal was ready, after successful defense, the researcher obtained an introductory letter from the Dean of the School of Management Sciences, Uganda Management Institute which was used to seek permission from UCC to proceed with the study. Once the permission was granted, the researcher proceeded to collect data. The researcher ensured that the filled questionnaires were collected as soon as they got filled to avoid loss and misplacement. The data collected were analyzed using appropriate data analysis methods and presented using tables, figures and verbatim.

### **3.10 Data Analysis**

#### **3.10.1 Quantitative data analysis**

The data collected were prepared and processed for analysis and then later actually analyzed; the collected data (on SAQs) were edited, categorized or coded and entered into computer using the Statistical Package for Social the Sciences (SPSS) for generation of summary frequency tables and graphics. The actual data analysis at univariate level was based on relative frequencies or percentages from frequency tables and descriptive statistics; at bivariate level, determinant (planning, organizing and controlling) was correlated with project success practices using

Pearson's Linear Co-relational method as appropriate. At multivariate level, the dependent variable (project success) was regressed on all the three independent variables (planning, organizing and controlling) at a go, using multiple linear regression to rank-order the independent variables in terms of influence on the dependent variable.

### **3.10.2 Qualitative data analysis**

In qualitative analysis, the data were analysed using the following steps; the data were organized in the format that the researcher found easy to work with. By sorting/coding, the data were arranged under different themes. This shaped the data into information. Data was then interpreted and summarized. All opinions and views were presented in the summary. The meaning of the information was then explained and conclusions were drawn.

### **3.11 Measurement of Variables**

Project success, the dependent variable was measured using a self-constructed questionnaire with items on a five-point scale coded as; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. All items were reversed and coded during analysis to appear as if they are positive. The respondents indicated the extent of success by circling the appropriate answer on the scale. The researcher used nominal scale of measurement which applies to some common set of characteristics such as age, level of education, category of respondent. A number was assigned to each category for identification only. The ordinal measurement was used to categorize and rank the variable being measured by using statements such as "greater than", "less than" or "equal to". The Likert scale was used to collect opinion data and this was used to measure the respondents beliefs on the contribution of planning, organizing and controlling to project success using a five point scale; 5 = strongly agree, 4 = agree, 3 = undecided, 2 = disagree, 1 = strongly

disagree. Likert scaling was used because it is a bipolar scaling method, measuring either positive or negative response to a statement.

### **3.12 Ethical Considerations**

The researcher sought approval and permission from the relevant sources right from School of Management Sciences, Uganda Management Institute. An introductory letter was obtained from the office of the Head, School of Management Science; it was presented to the respective authorities in UCC. The research ensured that no one was forced directly or indirectly into participation. All the respondents had the choice of deciding, based on informed consent, whether to participate or to withdraw at any point in time. Confidentiality, self-respect and self-esteem of all the respondents and the case study organization were guaranteed. In relation to the confidentiality, extreme care has been taken, in presenting the findings of this study. Individual respondents were assured of their individual rights and were also fully debriefed after the study. Finally, all duplicate research materials were stored under lock and key to enhance confidentiality, data security and guard against disposal.



## CHAPTER FOUR

### PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

#### 4.1 Introduction

The study aimed at establishing the determinants of ICT projects success in Uganda Communications Commission (UCC). The data collected was analyzed using the Statistical Package for Social Sciences (SPSS) computer program. This Chapter therefore presents the description of background of respondents, dependent variable, independent variable, moderating variable and ends with testing of pertinent hypotheses.

#### 4.2 Response Rate

The sample size of the study comprised 88 respondents. Out of the sample of 88 respondents, a total of 84 were those who returned the fully completed questionnaires as well as those who participated in the key informant interviews, implying a response rate of over 95%. Table 3 provides a summary of response rates:

**Table 3: Response Rates**

<b>Category of respondents</b>	<b>Expected questionnaires</b>	<b>Returned questionnaires</b>	<b>Response Rate (%)</b>
UCC staff directly involved in the ICT projects	48	47	53.4
UCC staff indirectly involved in the ICT projects	28	27	30.7
Projects' Managers	10	8	9.1
Director Technology, Networks and Services	1	1	1.1
Head Information Technology	1	1	1.1
<b>Total</b>	<b>88</b>	<b>84</b>	<b>95.4%</b>

### 4.3 Results on the Background Characteristics of Respondents

The researcher collected data on the background characteristics of the respondents. This information was assumed to be valuable to the study because it would help in determining whether the data collected was appropriate to the study population. Therefore, in this Section, the distribution of respondents by category (age, gender, marital status, academic qualification and length of working) is reported.

#### 4.3.1 Description of respondents by age

Table 4 presents descriptive statistics of respondents by their ages. Respondents' age categories were grouped as those below 30 years, between 30 and 40 years and those over 40 years.

**Table 4: Respondents by age**

Age group of respondent	Frequency	Percentage	Cumulative percentage
Below 30 years	12	14.8	14.8
Between 30 and 40 years	48	59.3	74.1
Over 40 years	21	25.9	100.0
<b>Total</b>	81	100.0	
None response	3		
<b>Total</b>	84		

**Source: Primary data**

Table 4 shows that of the 84 respondents who returned the questionnaires, 81 of them (over 96%) declared their ages while only 3 respondents (almost 4%) did not respond to the question. According to Table 3, the majority, 48 respondents (over 59%) were between 30 and 40 years while 12 respondents (almost 15%) were below 30 years. A total of 21 respondents (almost 26%) were over the age of 40. Cumulatively, the majority (over 74%) of the respondents were 40 years and below. This implies that most of the employees in UCC were below retirement age and thus considered strong enough to propel project success.

### 4.3.2 Description of respondents by gender

Table 5 presents descriptive statistics of respondents by their gender.

**Table 5: Respondents by gender**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	57	67.9
Female	27	32.1
<b>Total</b>	<b>84</b>	<b>100.0</b>

**Source: Primary data**

According to Table 5, 57 respondents, the majority (almost 70%) were males while 27 respondents (over 31%) were females. This implies that the UCC is dominated by male employees.

### 4.3.3 Description of respondents by marital status

Table 6 presents descriptive statistics of respondents by their marital status. Respondents' marital status was categorized as married and single.

**Table 6: Respondents by marital status**

<b>Sex</b>	<b>Frequency</b>	<b>Percentage</b>
Married	54	66.7
Single	27	33.3
<b>Total</b>	<b>81</b>	<b>100.0</b>
Non response	3	
<b>Total</b>	<b>84</b>	

**Source: Primary data**

Table 6 shows that of the 84 respondents who returned the questionnaires, 81 of them (over 96%) declared their marital status while only 3 respondents (almost 4%) did not respond to the question. According to Table 5, the majority, 54 of respondents (almost 67%) were married while

the singles were the minority, 27 respondents (over 33%), suggesting that the majority of the employees in UCC are married.

#### 4.3.4 Description of respondents by academic qualification

Table 7 presents descriptive statistics of respondents by their academic qualification. Respondents' academic qualifications were categorized as Bachelor's degree, Master's degree and other qualifications.

**Table 7: Respondents by academic qualification**

Academic qualification	Frequency	Percentage	Cumulative percentage
Diploma	6	7.1	7.1
Bachelor's degree	30	35.7	42.9
Master's degree	42	50.0	92.9
Others	6	7.1	100.0
<b>Total</b>	<b>84</b>	<b>100.0</b>	

**\*Others includes those with Certificates and PhDs**

**Source: Primary data**

From Table 7, the majority (50%) of respondents were Master's degree holders while only respondents (over 7%) had Diplomas. A total of 30 respondents (almost 36%) had Bachelor's degrees while only 6 respondents (over 7%) had other qualifications for example, Certificates and PhDs. Cumulatively, the majority of the employees in UCC (almost 93%) were Master's degree holders and below.

#### 4.3.5 Description of respondents by duration of work with UCC

Table 8 presents descriptive statistics of respondents indicating the period over which they had worked with UCC. Respondents' duration of work with UCC was categorized as those who have

worked for a period of below five years, between five and ten years and over ten years.

**Table 8: Respondents by period of work with UCC**

<b>Length of working</b>	<b>Frequency</b>	<b>Percentage</b>
Below five years	39	46.4
Between five and ten years	39	46.4
Over ten years	6	7.1
<b>Total</b>	<b>84</b>	<b>100.0</b>

**Source: Primary data**

Table 8 shows that many respondents, 39 (over 46%) had worked in UCC for a period below 5 years. The similar number of respondents, 39 (over 46%) had worked for a period between 5 years and 10 years yet only 6 respondents (over 7%) had serviced for a period of over 10 years. Cumulatively, the majority, almost 93% of the respondents had been in service in UCC for a period of ten years and below.

#### **4.4 Dependent Variable: Project Success**

Project success, the dependent variable was conceptualized using three project success indicators which included; cost, time and quality as presented in the proceeding sections.

##### **4.4.1 Cost**

Cost was broken into eleven quantitative questions which required respondents to rate themselves in terms of cost in their departments. Responses were based on a Likert scale ranging from one which represented strongly disagree, two for disagree, three for undecided, four for agree to five for strongly agree. Table 9 gives descriptive statistics there from:

**Table 9: Descriptive statistics on respondents' self-rating on cost**

Indicators of cost	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Standard Deviation
The projects are always completed within the initial budgeted amounts	3 (3.6%)	18 (21.4%)	27 (32.1%)	24 (28.6%)	12 (14.3%)	3.29	1.071
Projects implemented within the budgeted costs are perceived to be successful		12 (14.3%)	18 (21.4%)	39 (46.4%)	15 (17.9%)	3.68	.933
UCC implements its projects with the budgeted costs.	3 (3.6%)	18 (21.4%)	18 (21.4%)	27 (32.1%)	18 (21.4%)	3.46	1.156
Project activities implemented by UCC are worth the value of the costs.	6 (7.1%)	18 (21.4%)	24 (28.6%)	27 (32.1%)	9 (10.7%)	3.18	1.110
UCC has the capacity to manage funds in a transparent manner.	3 (3.6%)		18 (21.4%)	39 (46.4%)	24 (28.6%)	3.96	.911
There is always a detailed budget for the project		3 (3.7%)	18 (22.2%)	42 (51.9%)	18 (22.2%)	3.93	.771
The increased costs result from inflation	0	21 (25.0%)	30 (35.7%)	24 (28.6%)	9 (10.7%)	3.25	.955
The increased costs result from price adjustments		15 (18.5%)	27 (33.3%)	30 (37.0%)	9 (11.1%)	3.41	.919
Projects implemented beyond the budgeted costs are perceived to be unsuccessful	6 (7.1%)	24 (28.6%)	30 (35.7%)	18 (21.4%)	6 (7.1%)	2.93	1.039
Increased project implementation costs are attributed to laxity in project supervision	6 (7.1%)	21 (25.0%)	30 (25.0%)	18 (21.4%)	9 (10.7%)	3.04	1.092
Increased project implementation cost are attributed to laxity in project monitoring	3 (3.6%)	24 (28.6%)	27 (32.1%)	21 (25.0%)	9 (10.7%)	3.11	1.053

**Source: Primary data**

Table 9 gives views of how respondents in UCC rated themselves on costs in their departments as regards to project success. It was revealed that almost all the eleven quantitative questions used to measure costs had higher cumulative percentages lying on the side that represents high levels of costs. For example, cumulatively, many respondents (almost 43%) agreed that the projects in UCC are always completed within the initial budgeted amounts. This is supported by

a fair mean value of 3.29 and a small deviation of 1.071. A total of 27 respondents (over 32%) remained neutral while cumulatively, 25% disagreed with the matter. This suggests that projects in UCC are always completed within the initial budgeted amounts. Cumulatively, the majority, 54 of the respondents (over 64%) supported the matter that projects implemented within the budgeted costs are perceived to be successful while cumulatively, over 14% of the respondents in UCC disagreed with the issue. A total of 18 respondents (over 21%) did not take a side about the matter. Cumulatively, the majority 45 (almost 54%) respondents were in line with the statement that UCC implements her projects within the budgeted costs while 21 respondents (25%) disagreed with the statement. Over 21% of the participants were undecided.

Table 9 shows that many respondents (almost 43%) supported the view that project activities implemented by UCC are worth the value of the costs. A total of 24 respondents (almost 29%) did not take a side about the matter while cumulatively, 24 respondents (almost 29%) never supported the issue while it also implies that project activities implemented are worth the value of the costs. On item “UCC has the capacity to manage funds in a transparent manner,” the majority of the respondents (75%) revealed that UCC has the capacity to manage funds in a transparent manner while 18 respondents (over 21%) disagreed with the item yet only 3 respondents (almost 4%) remained silent. Cumulatively, 60 respondents, the majority (over 74%) revealed that there is always a detailed budget for the project in UCC. This is supported by a good mean value of 3.93 and a small standard deviation of 0.771. A total of 18 respondents (over 22%) did not show their stand while cumulatively; only 3 respondents (almost 4%) did not agree with statement that there is always a detailed budget for the project.

According to Table 9, cumulatively, 33 respondents (over 39%) supported that the idea that the increased costs result from inflation, 30 respondents (almost 36%) remained silent while

cumulatively, 21 respondents (25%) did not support the idea that increased costs result from inflation. Cumulatively, many respondents (over 48%) supported the matter that increased costs result from price adjustments. This is supported by a fair mean value of 3.41 and a small deviation of 0.919. A total of 27 respondents (over 33%) remained neutral while cumulatively, 15 respondents (almost 19%) disagreed with the matter. Such statistical findings suggest that increased costs result from price adjustments.

On item “Projects implemented beyond the budgeted costs are perceived to be unsuccessful,” cumulatively, many respondents (almost 36%) disagreed with the statement. A total of 30 respondents (almost 36%) were neutral while cumulatively, almost 29% of the respondents agreed that projects implemented beyond the budgeted costs are perceived to be unsuccessful. Cumulatively, almost 36% of the respondents revealed that increased project implementation cost are attributed to laxity in project monitoring while cumulatively, over 32% of the respondents supported the idea that increased project implementation costs are attributed to laxity in project supervision. The above results regarding costs are actually in agreement with the means whose values were above three (the average) (Table 9).

Almost all eleven items used to assess respondents’ perceptions and views on costs have almost equal mean values and standard deviations. For example, item “UCC has the capacity to manage funds in a transparent manner,” scored highest with mean value = 3.93 and a deviation = 0.771 while item “Projects implemented beyond the budgeted costs are perceived to be unsuccessful,” scored lowest with mean = 2.93 and standard deviation = 1.039 suggesting fair practices as regards to project costs in the various departments of UCC.



Such findings obtained quantitatively regarding projects costs in the several departments of the said organization are in agreement with those obtained qualitatively using interviews. Most of the interviewed respondents indicated that projects in UCC are generally implemented within the budgeted costs, following a detailed budget for each project, with the exception of costs that may increase as a result of inflation. However, some of the respondents held the view that some of the increasing project costs are attributed to laxity in project supervision and monitoring. It was further noted by many of the respondents that the project activities implemented by UCC are worth the value of the costs; with other respondents noting that UCC has the capacity to manage funds in a transparent manner. The above quantitative findings regarding project costs in UCC are in agreement with those obtained qualitatively through the interviews conducted with selected administrators and managers in UCC. The Head of department said;

*Increased project implementation costs are attributed to laxity in project monitoring. Increased project implementation costs are attributed to laxity in project supervision. Projects implemented beyond the budgeted costs are perceived to be unsuccessful. The projects are always completed within the initial budgeted amounts. Project activities implemented by UCC are worth the value of the costs. Projects implemented beyond the budgeted costs are perceived to be unsuccessful. Project activities implemented by UCC are worth the value of the costs.*

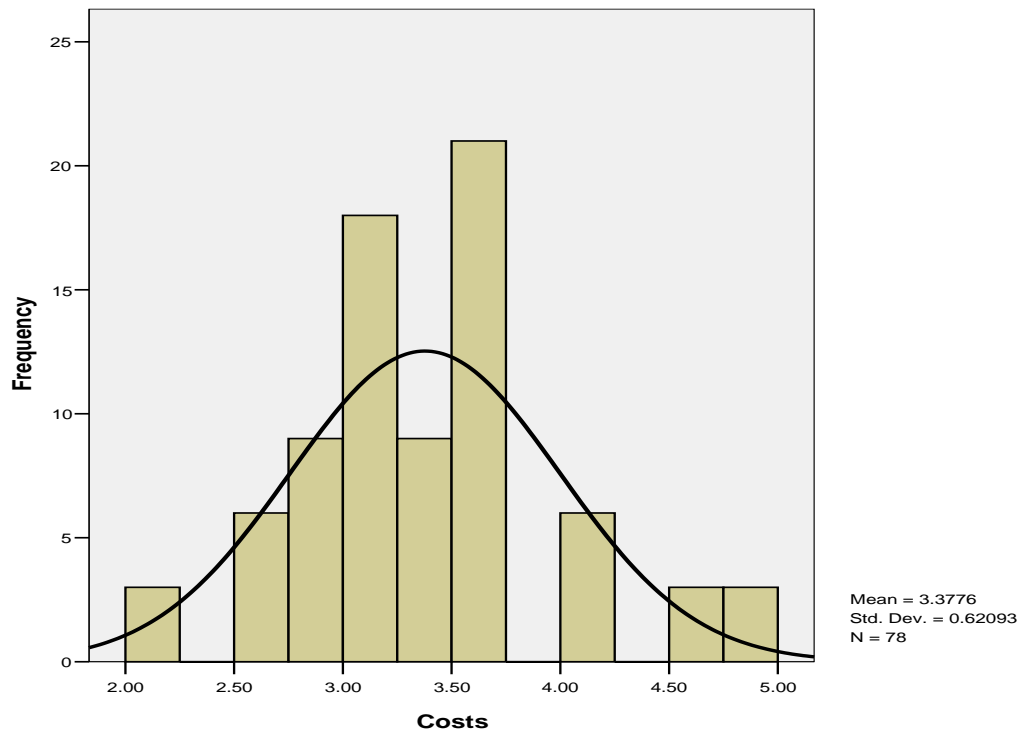
The qualitative findings therefore suggested fair and justifiable levels of project costs in UCC. This means that the performance of UCC regarding project cost is within the budget. For the purposes of getting an overall picture of how respondents rated themselves in project costs, all items in Table 9 were aggregated into one average index (“Co” which is an acronym for costs). Table 10 gives common summary descriptive statistics there from:

**Table 10: Common summary descriptive statistics on respondents' self-rating on costs**

<b>Statistic</b>	<b>Value</b>	
Mean	3.378	
95% Confidence Interval	Lower	3.238
	Upper	3.516
Median	3.318	
Standard Deviation	0.621	
Minimum	2.09	
Maximum	5.00	
Range	2.91	
Skewness	0.659	

*Source: Primary data*

According to Table 10, respondents' ratings on project cost was recorded as average with (mean = 3.378 and median = 3.318), with opinions ranging from 3.238 to 3.516 at the 95 percent confidence level. Despite the average rating, Table 10 reflects that some respondents scored very poor that is a minimum 2.09 while others scored best that is a maximum of 5.00. This gave a wide disparity as reflected by a high range of 2.91. Secondly, there was similarity in respondents' opinions regarding project costs (small deviation value = 0.621) suggesting that respondents' views regarding project costs did not differ so much from one respondent to another. The difference in opinion as regards low and high levels of project costs was at 2.91 and is supported by the aforementioned standard deviation 0.621). Also from Table 10, it is noted that there was almost no skew, suggesting that the respondents opinions were almost normally distributed (Skewness = 2.91), that is to say, their opinions were centrally located. To check whether the index "costs" was normally distributed, a histogram thereof was constructed as shown in Figure 2:



**Fig. 2: Histogram and curve showing normal distribution on costs**

Figure 2 confirms the normality suggested when all items in Table 9 were aggregated into one average index (“Co”).

#### **4.4.2 Time**

Time was broken into fifteen quantitative items which asked respondents to rate themselves in terms of project time in their departments. Responses were based on a Likert scale ranging from one which represented strongly disagree, two for disagree, three for undecided, four for agree and five for strongly agree. Table 11 gives descriptive statistics there from:

**Table 11: Descriptive statistics on respondents' self-rating on time**

Indicators of time	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Standard Deviation
The projects are always completed on time	6 (7.4%)	30 (37.0%)	18 (22.2%)	21 (25.9%)	6 (7.4%)	2.89	1.107
Increased implementation time is attributed to inefficiency of the project implementers/ partners	3 (3.7%)	9 (11.1%)	24 (29.6%)	33 (40.7%)	12 (14.8%)	3.52	1.001
Increased project implementation time is attributed to laxity in project supervision	3 (3.6%)	18 (21.4%)	18 (21.4%)	33 (39.3%)	12 (14.3%)	3.39	1.087
Increased project implementation time is attributed to laxity in project monitoring	3 (3.6%)	15 (17.9%)	33 (39.3%)	24 (28.6%)	9 (10.7%)	3.25	.992
Implementation time influences the cost of the project	3 (3.6%)	6 (7.1%)	18 (21.4%)	42 (50.0%)	15 (17.9%)	3.71	.964
It is important to accomplish a project within the stipulated time		6 (7.7%)	3 (3.8%)	9 (11.5%)	60 (76.9%)	4.58	.890
Projects that are not accomplished in time have poor quality output		12 (14.3%)	33 (39.3%)	24 (28.6%)	15 (17.9%)	3.50	.951
When projects are not accomplished on time, project success is compromised.	3 (3.6%)	15 (17.9%)	18 (21.4%)	33 (39.3%)	15 (17.9%)	3.50	1.092
UCC projects achieve the set objectives on time.	6 (7.1%)	21 (25.0%)	30 (35.7%)	24 (28.6%)	3 (3.6%)	2.96	.987
There are detailed plans for the successful completion of the project.		15 (17.9%)	33 (39.3%)	27 (32.1%)	9 (10.7%)	3.36	.900
Failure to complete the projects on time is attributed to supervision		15 (17.9%)	36 (42.9%)	24 (28.6%)	9 (10.7%)	3.32	.894
Failure to complete the projects on time is attributed to monitoring		6 (7.1%)	45 (53.6%)	21 (25.0%)	12 (14.3%)	3.46	.828
Project implementation time influences the cost of the project		18 (21.4%)	15 (17.9%)	39 (46.4%)	12 (14.3%)	3.54	.987
Increase in implementation time leads to drop in project quality	3 (3.6%)	18 (21.4%)	39 (46.4%)	15 (17.9%)	9 (10.7%)	3.11	.982
Increase in implementation time leads to increased costs due to inflation	3 (3.6%)	15 (17.9%)	21 (25.0%)	33 (39.3%)	12 (14.3%)	3.43	1.056

*Source: Primary data*

Table 11 gives views of how respondents in UCC rated themselves on project time in their departments as regards to project success. It was revealed that almost all the fifteen quantitative questions used to measure project time had higher cumulative percentages lying on the side that represents good levels of time practice. For example, cumulatively, 45 respondents, the majority (almost 56%) revealed that increased implementation time is attributed to inefficiency of the project implementers/ partners while cumulatively, 12 respondents (almost 15%) disagreed with the statement. A total of 24 respondents (almost 30%) were undecided. The results showing such good levels of time management are further supported by the good mean value = 3.52 and standard deviation = 1.001.

The majority (almost 54%) agreed with the statement that increased project implementation time is attributed to laxity in project supervision as compared to their counterparts (25%) who disagreed. This is supported by the fair mean value = 3.39 corresponding to fair time practices. Many respondents (over 39%) argued that increased project implementation time is attributed to laxity in project monitoring while 18 respondents (almost 22%) either disagreed or strongly disagreed. Majority of the respondents (over 44%) disagreed with the statement that the projects in UCC are always completed on time while over 33% supported the item. Such findings imply that many projects undertaken by UCC are not usually completed in time. Almost 43% of the respondents who participated in the study agreed that there are detailed plans for the successful completion of the project. Over 39% of them remained silent while cumulatively, 15 respondents (almost 18%) either disagreed or strongly disagreed with the issue.

According to Table 11, cumulatively, the majority of the respondents (almost 68%) supported the matter that implementation time influences the cost of the project; over 21% were undecided

while cumulatively, almost 11% disagreed. Cumulatively, 69 respondents (over 88%) revealed that it is important to accomplish a project within the stipulated time while cumulatively almost 8% disagreed with the matter. Cumulatively, many respondents (almost 47%) supported the issue that projects that are not accomplished in time have poor quality output. A total of 33 respondents (over 39%) did not take a side while cumulatively, 12 respondents (over 14%) either disagreed or strongly disagreed with the question. On item “When projects are not accomplished on time, project success is compromised,” cumulatively, over 57% were in line with the statement. Over 21% of the respondents remained silent while cumulatively, 18 respondents (almost 22%) did not support the issue. Referring to item “UCC projects achieve the set objectives on time,” cumulatively, 27 respondents (almost 33%) supported the statement. A similar percentage (almost 33%) disagreed with the matter while almost 36% of the respondents did not take a side.

Concerning whether failure to complete the projects on time is attributed to supervision, a significant portion of the respondents (over 39%) supported the matter, while 36 respondents (almost 42%) remained neutral and cumulatively, 15 respondents (almost 18%) never supported the issue. This implies that supervision is a very considered a very important aspect in project success. Over 39% of the employees in UCC revealed that failure to complete the projects on time is attributed to monitoring. A total of 45 respondents (almost 54%) were undecided while cumulatively, only 6 respondents (over 7%) disagreed with the matter. This serves to explain that plays a significant role in project success. Concerning whether project implementation time influences the cost of the project, cumulatively, almost 61% of the respondents either agreed or strongly agreed while cumulatively, over 21% of them either disagreed or strongly disagreed with the idea. Cumulatively, nearly 54% of the respondents were in support of the view that

increase in implementation time leads to increased costs due to inflation while cumulatively, almost 22% disagreed.

The above results regarding project time are actually in agreement with the means whose values were above three (the average) (Table 11). Almost all fifteen items used to measure project time have almost equal mean values and standard deviations. These findings imply that time is considered as a very important for project success. Such findings obtained quantitatively regarding projects time in the several departments of the said organization are in agreement with those obtained qualitatively using interviews. Various responses from the interviews were as follows;

*‘projects are always completed on time, while increased implementation time serves as an indicator of inefficiency of the project implementers or partners as a result of laxity in project monitoring and supervision’.*

Respondents further pointed out that:

*“Implementation time as a factor that influences the cost of the project, emphasizing the need to accomplish the project within the time stipulated’.* Other respondents held the view that *when projects are not accomplished on time project success is compromised, since increased implementation time results into higher costs that accrue due to inflation and the quality too tend to be compromised”.*

Such qualitative findings suggest that time is a very important aspect in project success. This means that when any project is completed on time, the set goals and objectives are achieved. For the purposes of getting an overall picture of how respondents rated themselves in project time, all items in Table 11 were aggregated into one average index (“Time” which is an acronym for project time). Table 12 gives common summary descriptive statistics there from:

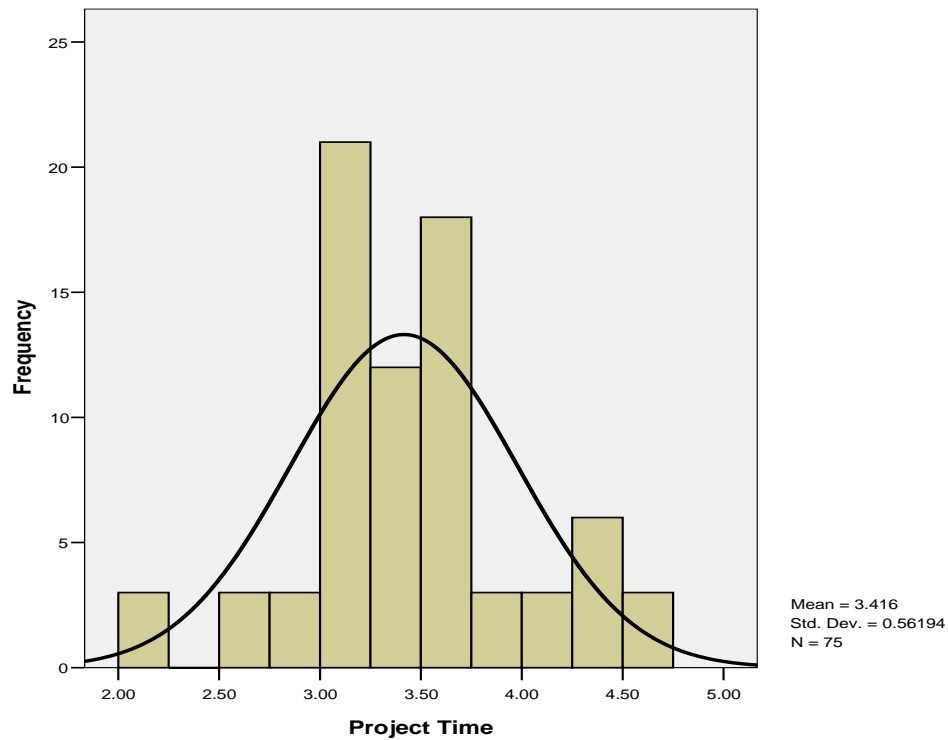
**Table 12: Common summary descriptive statistics on respondents' self-rating on time**

Statistic		Value
Mean		3.416
95% Confidence Interval	Lower	3.287
	Upper	3.545
Median		3.333
Standard Deviation		0.562
Minimum		2.13
Maximum		4.60
Range		2.47
Skewness		0.132

*Source: Primary data*

According to Table 12, respondents ratings on project time was average with (mean = 3.416 and median = 3.333) with opinions ranging from 3.287 to 3.545 at the 95 percent confidence level. Despite the average rating, Table 12 reflects that some respondents scored very poor that is a minimum 2.13 while others scored best that is a maximum of 4.60. This gave a wide disparity as reflected by a high range of 2.47. Secondly, there was similarity in respondents' opinions regarding project time (small deviation value = 0.562) suggesting that respondents' views regarding project time do not differ so much from one respondent to another. The difference in opinion as regards to time was at 2.47 and is supported by the aforementioned standard deviation 0.562). Also from Table 12, it is noted that there was almost no skew, suggesting that the respondents opinions were almost normally distributed (Skewness = 0.132) that is to say their opinions were centrally located. To check whether the index "time" was normally distributed, a histogram thereof was constructed as shown in Figure 3:





**Fig. 3: Histogram and curve showing normal distribution on project time**

Figure 3 confirms the normality suggested when all items in Table 11 were aggregated into one average index (“time”).

#### 4.4.3 Quality

Quality was broken into fifteen quantitative questions which asked respondents to rate themselves in terms of quality in their departments. Responses were based on a Likert scale ranging from one which represented strongly disagree, two for disagree, three for undecided, four for agree and five for strongly agree. Table 13 gives descriptive statistics there from:

**Table 13: Descriptive statistics on respondents' self-rating on quality**

Indicators of quality	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Mean	Standard Deviation
The completed projects meet the specifications		3 (3.6%)	15 (17.9%)	51 (60.7%)	15 (17.9%)	3.93	.708
The completed projects meet the requirements		6 (7.1%)	12 (14.3%)	51 (60.7%)	15 (17.9%)	3.89	.776
UCC views project quality as a very important aspect		3 (3.6%)	3 (3.6%)	36 (42.9%)	42 (50.0%)	4.39	.728
A quality assurance mechanism is in place	3 (3.7%)	15 (18.5%)	18 (22.2%)	30 (37.0%)	15 (18.5%)	3.48	1.108
The quality assurance mechanism is adhered to		24 (28.6%)	21 (25.0%)	33 (39.3%)	6 (7.1%)	3.25	.955
The unsatisfactory quality of completed projects is due to poor designs	6 (7.1%)	18 (21.4%)	42 (50.0%)	9 (10.7%)	9 (10.7%)	2.96	1.023
The unsatisfactory quality of completed projects is due to poor specifications	3 (3.6%)	21 (25.0%)	27 (32.1%)	18 (21.4%)	15 (17.9%)	3.25	1.129
The unsatisfactory quality of completed projects is due to laxity in monitoring		21 (25.0%)	33 (39.3%)	21 (25.0%)	9 (10.7%)	3.21	.945
The unsatisfactory quality of completed projects is due to laxity in supervision		18 (21.4%)	30 (35.7%)	27 (32.1%)	9 (10.7%)	3.32	.933
Stakeholders measure the performance of UCC as per the expectations.			21 (25.0%)	42 (50.0%)	21 (25.0%)	4.00	.711
High performing organizations produce high quality outputs irrespective of the time taken.		12 (14.3%)	18 (21.4%)	33 (39.3%)	21 (25.0%)	3.75	.992
High performing organizations produce high quality outputs irrespective of the costs involved.		18 (21.4%)	27 (32.1%)	30 (35.7%)	9 (10.7%)	3.36	.940
High performing organizations always accomplish projects in the stipulated time	3 (3.6%)	15 (17.9%)	18 (21.4%)	27 (32.1%)	21 (25.0%)	3.57	1.154
High performing organizations produce outputs that match the needs of stakeholders		9 (10.7%)	18 (21.4%)	24 (28.6%)	33 (39.3%)	3.96	1.023
Projects implemented by UCC meet the expectations of the beneficiaries			33 (39.3%)	36 (42.9%)	15 (17.9%)	3.79	.729

**Source: Primary data**

Table 13 gives views of how respondents in UCC rated themselves on quality in their departments as regards to project success. It was revealed that almost all the fifteen quantitative questions used to measure quality had higher cumulative percents lying on the side that represents high and/ or good levels of quality. On item “The completed projects in UCC meet the specifications,” cumulatively, the majority (almost 79%) of the respondents supported the statement. A total of 15 respondents (almost 18%) were undecided while cumulatively, only 3 respondents (almost 4%) disagreed with the matter. This means that the completed projects in UCC meet the specifications. This is supported by a relatively high mean value of 3.93 and a deviation of 0.708 which suggest that projects in UCC meet the specifications. In respect to whether the completed projects meet the requirements, cumulatively, 66 respondents, the majority (almost 79%) agreed with the issue while cumulatively, only 6 respondents (over 7%) disagreed yet a total of 12 respondents (over 14%) remained silent about the matter. Cumulatively, the majority of the employees in UCC (almost 73%) revealed that UCC views project quality as a very important aspect while only 3 employees (almost 4%) disagreed with the matter. Almost 56% of respondents supported the matter that a quality assurance mechanism is in place while 18 respondents reported that there a quality assurance mechanism is not in place. This means that UCC ensures quality in her work.

According to Table 13, cumulatively, over 46% of the respondents revealed that the quality assurance mechanism is adhered to in UCC. A total of 21 respondents (25%) were undecided while cumulatively, 24 respondents (almost 29%) revealed the quality assurance mechanism is not adhered to. Cumulatively, over 21% of the staff in UCC reported that the unsatisfactory quality of completed projects is due to poor designs. Many respondents, 42 of them (25%) were undecided while 24 respondents (almost 29%) did not agreed with the issue. Cumulatively, many

respondents (over 39%) argued that the unsatisfactory quality of completed projects is due to poor specifications while almost 29% of the respondents either disagreed or strongly disagreed with the issue at hand. Almost 36% of employees in UCC reported that the unsatisfactory quality of completed projects is due to laxity in monitoring while 21 respondents (25%) disagreed, 36 participants (almost 43%) agreed with the view. Concerning their views as to whether the unsatisfactory quality of projects is due to laxity in supervision, a total of 30 respondents (almost 36%) were noncommittal while over 21% either disagreed or strongly disagreed. Cumulatively, the majority of the employees agreed that stakeholders measure the performance of UCC as per the expectations.

Table 13 shows that the majority of the respondents (over 63%) agreed that high performing organizations produce high quality outputs irrespective of the time taken. A total of 18 respondents (over 24%) were undecided while cumulatively, 12 respondents (over 14%) did not support the matter. Overall, 57 respondents (almost 68%) revealed that high performing organizations produce outputs that match the needs of stakeholders while cumulatively, only 9 respondents (almost 11%) disagreed with the matter. Almost 61% of the employees in UCC supported that matter that projects implemented by UCC meet the expectations of the beneficiaries while 33 respondents (over 39%) remained neutral. Looking at item “High performing organizations always accomplish projects in the stipulated time,” the majority of the respondents (over 57%) agreed with the statement that high performing organizations always accomplish projects in the stipulated time yet 19 respondents (over 21%) disagreed with the matter. Such empirical statistical findings suggest that projects undertaken by UCC always meet the required quality demands.

The above results in Table 13 regarding quality are actually in agreement with the means whose values were above three (the average) (Table 12). Almost all fifteen items used to measure quality have almost equal mean values and standard deviations. These findings imply that UCC ensures quality in all the projects conducted. Such findings obtained quantitatively regarding quality in the several departments of the said organization are in agreement with those obtained qualitatively using interviews. Several respondents interviewed revealed that the completed projects in UCC usually meet the specifications, adhere to the quality assurance standards that are in place and meet the expectations of the beneficiaries. They further noted that the unsatisfactory quality of completed projects is due to poor specifications and laxity in supervision, yet stakeholders measure the performance of UCC as per their expectations. In the same breath, the respondents interviewed held the view that:

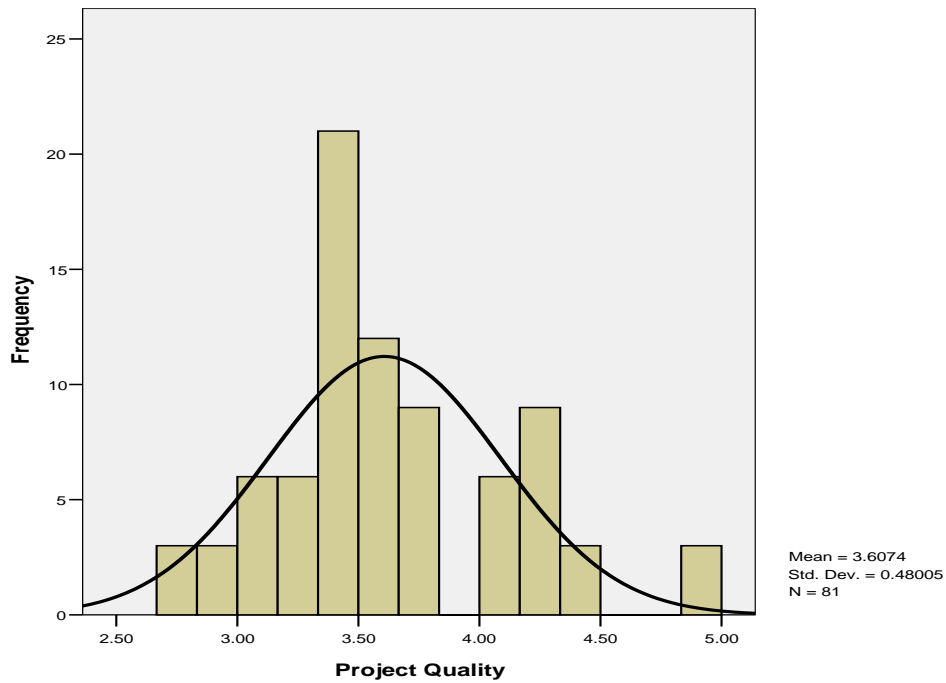
*“High performing organizations produce outputs that match the needs of stakeholders, always accomplish projects in the stipulated time, produce high quality outputs irrespective of the time taken, and produce high quality outputs irrespective of the costs involved, Projects implemented by UCC meet the expectations of the beneficiaries . The unsatisfactory quality of completed projects is due to laxity in monitoring. The completed projects meet the specifications. High performing organizations produce high quality outputs irrespective of the time taken. High performing organizations produce high quality outputs irrespective of the costs involved.*

Such qualitative findings suggest that quality is highly emphasized in all projects of UCC. To get an overall view of how respondents rated themselves in quality, all items in Table 13 were aggregated into one average index (“Qual” which is an acronym for quality). Table 14 gives common summary descriptive statistics there from:

**Table 14: Common summary descriptive statistics on respondents' self-rating on quality**

<b>Statistic</b>	<b>Value</b>	
Mean	3.607	
95% Confidence Interval	Lower	3.501
	Upper	3.714
Median	3.533	
Standard Deviation	0.4801	
Minimum	2.80	
Maximum	4.93	
Range	2.13	
Skewness	0.785	

According to Table 14, respondents ratings on quality was good with (mean = 3.607 and median = 3.533) with opinions ranging from 3.501 to 3.714 at the 95 percent confidence level. Despite the average rating, Table 14 reflects that some respondents scored very poor that is a minimum 2.80 while others scored best that is a maximum of 4.93. This gave a wide disparity as reflected by a high range of 2.13. Secondly, there was similarity in respondents' opinions regarding quality (small deviation value = 0.4801) suggesting that respondents' views regarding quality do not differ so much from one respondent to another. The difference in opinion as regards low and high levels of quality was at 2.47 and is supported by the aforementioned standard deviation (0.4801). Also from Table 14, it is observed that there was almost no skew, suggesting that the respondents opinions were almost normally distributed (Skewness = 0.785) that is to say their opinions were centrally located. To check whether the index "quality" was normally distributed, a histogram thereof was constructed as shown in Figure 4:



**Fig. 4: Histogram and curve showing normal distribution on project quality**

Figure 4 confirms the normality suggested when all items in Table 13 were aggregated into one average index (“Quality”).

#### **4.4.4 Overall Project Success Index**

To give an overall picture on how respondents in UCC rated themselves on project success in totality, an average index (“ProjectS”) to mean project success was computed from the three measures of project success that is cost (“Co”), time (“Time”) and quality (“Qual”) and Table 15 gives pertinent descriptive statistics:

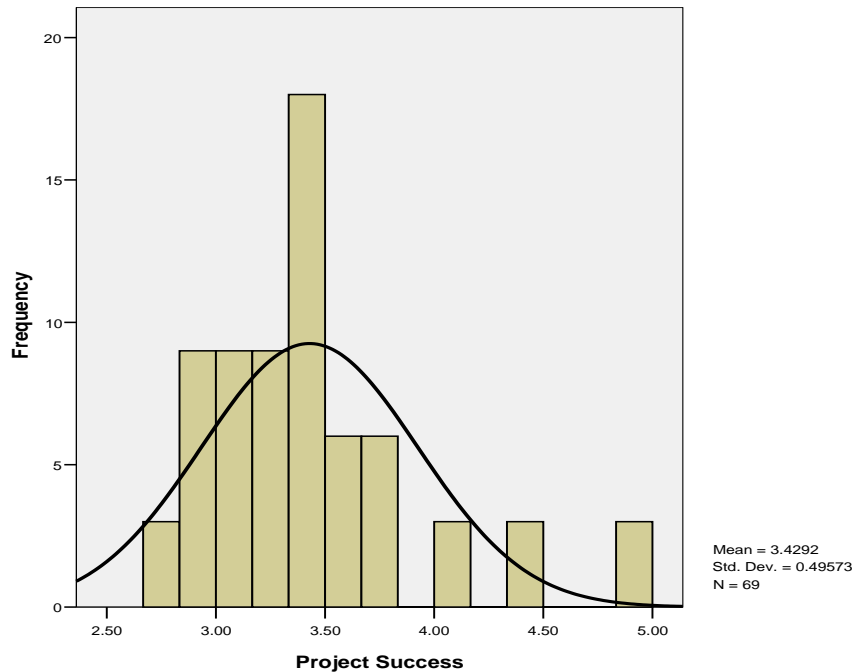
**Table 15: Common summary descriptive statistics on respondents’ self-rating on project success**

<b>Statistic</b>	<b>Value</b>	
Mean	3.429	
95% Confidence Interval	Lower	3.310
	Upper	3.548
Median	3.359	
Standard Deviation	0.496	
Minimum	2.80	
Maximum	4.84	
Range	2.04	
Skewness	0.289	

**Source: Primary data**

According to Table 15, respondents ratings on project success was average with (mean = 3.429 and median = 3.359) with opinions ranging from 3.310 to 3.548 at the 95 percent confidence level. Despite the average rating, Table 14 reflects that some respondents scored very poor that is a minimum 2.80 while others scored best that is a maximum of 4.84. This gave a wide disparity as reflected by a high range of 2.04. Secondly, there was similarity in respondents’ opinions regarding project success in UCC (small deviation value = 0.496) suggesting that respondents’ views regarding project success do not differ so much from one respondent to another. The difference in opinion as regards low or high levels of project success was at 2.04 and is supported by the aforementioned standard deviation (0.496). Also from Table 15, we find that there was almost no skew, suggesting that the respondents’ opinions were almost normally distributed (Skewness = 0.289), that is to say, their opinions were centrally located. To check whether the index “success” was normally distributed, a histogram thereof was constructed as shown in Figure 5:





**Fig. 5: Histogram and curve showing normal distribution on project success**

Figure 5 confirms the normality suggested when all measures of project success that is cost (“Co”), time (“Time”) and quality (“Qual”) were aggregated into one average index (“Success”). This normality obtained quantitatively is also in agreement with the qualitative findings where almost all respondents interviewed revealed fair success regarding ICT projects conducted by UCC.

#### **4.5 Description of the independent Variable: Determinants**

Determinants, the independent variable in the study were conceptualized into three elements namely; planning, organizing and controlling.

##### **4.5.1 Planning**

Planning was broken into twenty three quantitative questions which asked respondents to rate themselves in terms of planning in their departments. Responses were based on a Likert scale ranging from one which represented strongly disagree, two for disagree, three for undecided, four for agree and five for strongly agree. Table 16 gives descriptive statistics there from:

**Table 16: Descriptive statistics on respondents' self-rating on planning****N=84**

<b>Indicators of planning</b>	<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>Mean</b>	<b>Std. Dev.</b>
UCC prepares a strategic plan		(3.6%)	(3.6%)	(50.0%)	(42.9%)	4.32	.714
UCC prepares a business plan		(3.6%)	(10.7%)	(57.1%)	(28.6%)	4.11	.728
UCC prepares annual plans		(11.1%)	(25.9%)	(33.3%)	(29.6%)	3.81	.989
The projects are identified during the planning stage in UCC		(14.8%)	(29.6%)	(33.3%)	(22.2%)	3.63	.993
The ICT projects are identified in line with national priorities		(14.8%)	(18.5%)	(55.6%)	(11.1%)	3.63	.872
Projects are identified considering the strategic objectives of UCC		(11.1%)	(22.2%)	(44.4%)	(22.2%)	3.78	.922
I contribute towards the planning of the projects	(3.6%)	(14.3%)	(32.1%)	(42.9%)	(7.1%)	3.36	.940
I participate in the setting of project goals	(3.6%)	(17.9%)	(39.3%)	(35.7%)	(3.6%)	3.18	.894
I participate in the setting of project objectives in UCC	(3.6%)	(25.0%)	(42.9%)	(25.0%)	(3.6%)	3.00	.892
I participate to the gathering of vital data before implementation of any project in UCC	(12%)	(15.4%)	(34.6%)	(30.8%)	(7.7%)	3.08	1.114
I participate in the planning for financial resources	(3.6%)	(42.9%)	(21.4%)	(25.0%)	(7.1%)	2.89	1.053
The role of each player is clearly defined in the planning process		(14.3%)	(39.3%)	(32.1%)	(14.3%)	3.46	.911
There is sufficient manpower to complete the projects in UCC.	(7.1%)	(10.7%)	(25.0%)	(42.9%)	(14.3%)	3.46	1.092
The role of each player in the implementation of the projects is clearly defined	(3.6%)	(17.9%)	(28.6%)	(42.9%)	(7.1%)	3.32	.971
The personnel on the project team understand how their performance will be evaluated.	(7.1%)	(25.0%)	(21.4%)	(42.9%)	(3.6%)	3.11	1.053
Job descriptions for team members have been well understood	(7.1%)	(10.7%)	(25.0%)	(25.0%)	(10.7%)	3.43	1.056
Adequate technical training is available for members of the project team.	(3.6%)	(14.3%)	(21.4%)	(42.9%)	(17.9%)	3.57	1.056
The intended user departments compile the project requirements		(3.6%)	(25.0%)	(64.3%)	(7.1%)	3.75	.638
The results of planning meetings are discussed with the applicable personnel.		(25.0%)	(35.7%)	(39.3%)		3.14	.794
The outcome of planning meetings is distributed to applicable personnel		(28.6%)	(39.3%)	(21.4%)	(10.7%)	3.14	.959
The limitations of the project are discussed with the intended users.		(25.0%)	(42.9%)	(28.6%)	(3.6%)	3.11	.822
The project leaders possess adequate technical skills.			(17.9%)	(57.1%)	(25.0%)	4.07	.655
The project leaders possess adequate interpersonal skills.		(14.8%)	(33.3%)	(40.7%)	(11.1%)	3.48	.882

**Source: Primary data****KEY: SD= Strongly disagree; D=Disagree; U=Undecided; A=Agree; SA=Strongly agree**

Table 16 gives views of how respondents in UCC rated themselves on planning in their departments as regards to project success. It was revealed that almost all the twenty three quantitative questions used to measure planning had higher cumulative percents lying on the side that represents high and/ or good levels of planning. For example, cumulatively, majority of the respondents (78/ 93%) revealed that UCC prepares a strategic plan; 3 respondents (almost 4%) remained neutral while cumulatively, only 3 respondents (almost 4%) disagreed with the statement, implying that UCC prepares a strategic plan. Cumulatively, 72 respondents, the majority (almost 86%) agreed that UCC prepares a business plan. A total of 9 respondents (almost 11%) did not take a side while cumulatively; only 3 respondents (almost 4%) did not support the matter suggesting that business plans are usually prepared in UCC. Cumulatively, 51 respondents (almost 63%) supported the idea that UCC prepares annual plans, 21 respondents (almost 26%) were undecided while cumulatively, 9 respondents (over 11%) disagreed meaning that UCC prepares annual plans. Cumulatively, 45 respondents (almost 56%) agreed that the projects are identified during the planning stage in UCC. A total 24 respondents (almost 30%) remained noncommittal, while cumulatively, 12 respondents (almost 15%) did not support the statement. Almost 67% of the employees in UCC supported the idea that the ICT projects are identified in line with national priorities, almost 19% of them were undecided while almost 15% were not in line with the statement. This implies that the majority of the respondents (almost 67%) supported the view that ICT projects are identified in line with national priorities.

Table 6 shows that 54 respondents (almost 67%) argued that projects are identified considering the strategic objectives of UCC, 18 respondents (over 22%) were undecided while only 9 respondents (over 11%) disagreed with the matter. The table also shows that 50% of the participants accepted that they contribute towards the planning of the projects in the various

departments in UCC, 27 respondents (over 32%) did not take a side while 15 respondents (almost 18%) either disagreed or strongly disagreed. Many respondents (over 39%) revealed that they participate in the setting of project goals in UCC, a similarly percentage (over 39%) did not show their side while almost 22% of them revealed that they do not participate in the setting of project goals in UCC. Similarly, many participants, almost 29% (f=24) argued that they participate in the setting of project objectives in UCC, while almost 29% (f=24) disagreed and 36 (almost 43%) were noncommittal. Such empirical statistical findings suggest that the majority of respondents and/ or employees in UCC participant in the planning stages for project success

Many respondents (almost 39%) agreed participating in the gathering of vital data before implementation of any project in UCC; almost 35% were undecided while almost 27% disagreed with the matter. Many respondents (almost 47%) disagreed participating in the planning for financial resources, over 21% remained silent while over 32% agreed participating in the planning for financial resources. These findings suggest that many employees in UCC are not involved in the planning for financial resources. Over 46% of the employees in UCC who took part in the study revealed that the role of each player is clearly defined in the planning process while over 14% disagreed. The majority of the respondents (over 57%) supported the statement that there is sufficient manpower to complete the projects in UCC. A total of 21 respondents (25%) were undecided while 15 respondents (almost 18%) were not in agreement with the issue. Such findings suggest that UCC performs well in manpower planning. Similarly, the majority of the respondents (50%) argued that the role of each player in the implementation of the projects is clearly defined while almost 22% disagreed with the matter. A total of 24 respondents (almost 29%) remained silent.

According to Table 16, cumulatively, a significant portion of the respondents, (39 / 47%) supported the idea that the personnel on the project team understand how their performance will be evaluated. A total of 18 respondents (over 21%) did not take a side while cumulatively, 27 respondents (over 32%) did not support the matter. Many respondents (almost 36%) agreed that job descriptions for team members have been well understood while 15 respondents (almost 18%) disagreed with the idea. Cumulatively, the majority of the respondents (almost 61%) agreed that adequate technical training is available for members of the project team. This suggests that UCC performs well in manpower planning. Over 21% of the respondents remained neutral while cumulatively, 15 respondents (almost 18%) revealed that adequate technical training is not available for members of the project team in UCC. Cumulatively, over 71% argued that the intended user departments compile the project requirements while cumulatively; only 3 respondents (almost 4%) disagreed. These findings imply that UCC has clear and proper planning practices.

Concerning their views as to whether the intended user departments compile the project requirements, Table 16 shows that over 39% supported the statement, 30 (almost 36%) were undecided while 21 (25%) disagreed with the matter. Moreover, over 32% of the respondents revealed that the results of planning meetings are discussed with the applicable personnel. The above results in Table 15 regarding planning in the various departments of UCC are actually in agreement with the means whose values were above three (the average) (Table 15). Almost all twenty three items used to measure planning have almost equal mean values and standard deviations. These findings imply that UCC considers planning as an important aspect in all the projects conducted. The quantitative findings were further verified and supported by the qualitative results which were generated through the interviews, where most of the respondents interviewed indicated that they participated in setting project goals and objectives, planning for

financial resources and gathering of vital data before implementation of any project in UCC. The qualitative views further laid emphasis to the fact that planning in UCC is greatly adhered to by the responsible personnel, who also take the trouble to discuss the results of the planning meetings with other personnel.

Such qualitative findings suggest that planning is highly emphasized in all projects of UCC. To get an overall view of how respondents rated themselves on planning practices, all items in Table 15 were aggregated into one average index (“Plan” which is an acronym for planning). Table 17 gives common summary descriptive statistics there from:

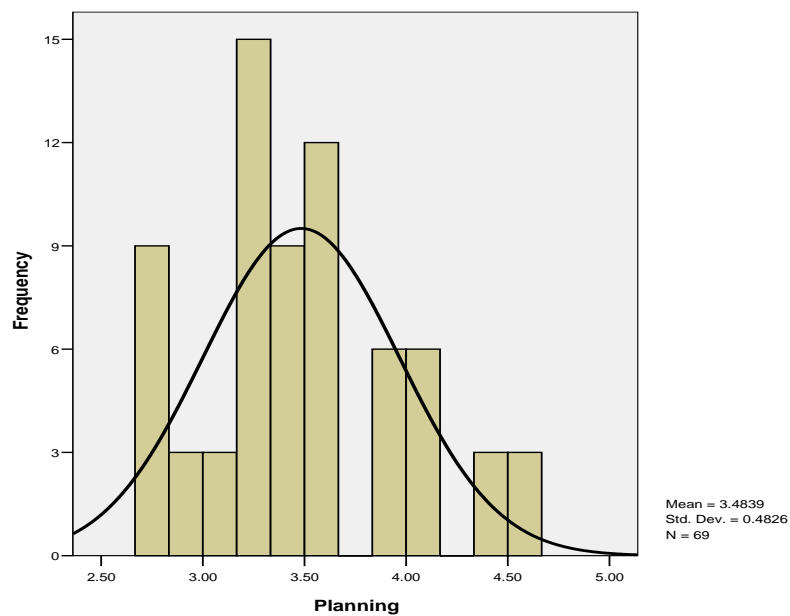
**Table 17: Common summary descriptive statistics on respondents’ self-rating on planning**

<b>Statistic</b>	<b>Value</b>	
Mean	3.483	
95% Confidence Interval	Lower	3.368
	Upper	3.599
Median	3.391	
Standard Deviation	0.483	
Minimum	2.70	
Maximum	4.52	
Range	1.83	
Skewness	0.336	

*Source: Primary data*

According to Table 17, respondents ratings on planning indicated relatively high mean and median scores (mean = 3.483 and median = 3.391) with opinions ranging from 3.368 to 3.599 at the 95 percent confidence level. Despite the average rating, Table 17 reflects that some respondents scored very poor that is a minimum 2.70 while others scored best that is a maximum

of 4.52. This gave a wide disparity as reflected by a high range of 1.83. Secondly, there was similarity in respondents' opinions regarding planning (small deviation value = 0.483) suggesting that respondents' views regarding planning do not differ so much from one respondent to another. The difference in opinion as regards low and high levels of planning was at 1.83 and is supported by the aforementioned standard deviation (0.483). Also from Table 17, it can be noted that there was almost no skew, suggesting that the respondents opinions were almost normally distributed (Skewness = 0.336) that is to say their opinions were centrally located. To check whether the index "Plan" was normally distributed, a histogram thereof was constructed as shown in Figure 6:

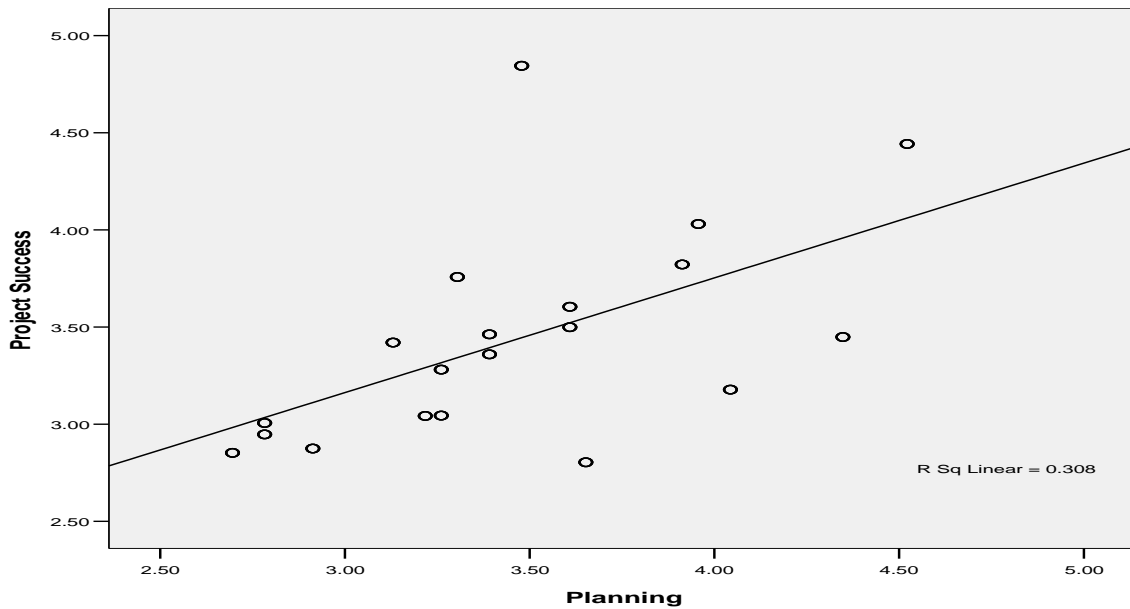


**Fig. 6: Histogram and curve showing normal distribution on planning**

Figure 6 confirms the normality suggested when all items in Table 8 were aggregated into one average index ("Plan").

#### 4.5.1.1 Testing Hypothesis One: Planning positively relates to ICT projects success

From objective one, the first study hypothesis which stated that planning positively relates to ICT projects success in Uganda Communications Commission was developed. To test the hypothesis, the two indexes, namely planning (“Plan”) and project success (“ProjectS”) were graphical correlated using a scatter or dot graph as shown in Figure 7:



**Fig. 7: Scatter graph showing correlation between planning and project success**

The scatter graph in Figure 7 suggests that there was a positive linear co-relation between planning and project success. To confirm this, the two indexes (“Plan” and “ProjectS”) were co-related using Pearson’s linear co-relation co-efficient as shown in Table 18:



**Table 18: Pearson's linear correlation coefficient between planning and project success**

		<b>Planning</b>	<b>Project Success</b>
<b>Planning</b>	Pearson's correlation	1	0.555**
	Sig. (2-tailed)	-	0.000
	N	84	84
<b>Project Success</b>	Pearson's correlation	0.555**	1
	Sig. (2-tailed)	0.000	-
	N	84	84

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

Table 18 shows that the correlation between the two indices yielded a correlation coefficient ( $r$ ) = 0.555 whose significance value was 0.000 which is less than  $\alpha = 0.05$ . This implied that there was a moderate and statistically significant relationship between planning and project success, implying that with any improvement in planning, there was possibility of an improvement in project success, and vice versa. Hence the null hypothesis is rejected and the research hypothesis that planning has a positive relationship with ICT projects success in Uganda Communications Commission is accepted at the five percent level of significance. However, these were preliminary results pending use of a more powerful multivariate tool (regression).

Table 19 gives Fisher's ratio (F) and its significance (p) value:

**Table 19: ANOVA results on regression of planning on the project success**

<b>Model</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
Regression	5.094	1	5.094	25.773	.000
Residual	11.463	58	.198		
<b>Total</b>	<b>16.557</b>	<b>59</b>			

Basing on Table 19, the F is high that is 25.773 accompanied by a Sig. value 0.000 which is less than 0.05. The ANOVA results suggest that planning and project success have a significant positive correlation. Table 20 gives the respective regression results and their corresponding significances or p values.

**Table 20: Regression of project success on planning**

<b>Independent variable</b>	<b>Standardized coefficient Beta (<math>\beta</math>)</b>	<b>Significance (p)</b>
<b>Planning</b>	0.555	0.000

According to Table 20 the hypothesis which states that planning has a positive relationship with project success, is accompanied with a positive beta (0.555) suggesting a positive correlation between planning and the dependent variable (project success). However, the observed Sig. (p) which was given as 0.000 which was far lower than the benchmark Sig. (p) value of 0.05, suggesting significant correlation at the 5% level. Therefore, the hypothesis that planning has a positive relationship with project success is accepted.

#### **4.5.2 Organizing**

In order to assess and measure the perceptions, views and attitude of the respondents on organising, it was broken into twenty quantitative questions which required respondents to rate themselves in terms of how their departments fare in respect to organising. Responses were based on a Likert scale ranging from one which represented strongly disagree, two for disagree, three for undecided, four for agree and five for strongly agree. Table 21 gives descriptive statistics there from:

**Table 21: Descriptive statistics on respondents' self-rating on organizing**

Indicators of organizing	SD	D	U	A	SA	Mean	Std. Dev.
UCC prepares annual budgets			3 (3.6%)	24 (28.6%)	57 (67.9%)	4.64	.552
The projects are usually linked to the budget		3 (3.6%)	9 (10.7%)	39 (46.4%)	33 (39.3%)	4.21	.777
The projects are approved by top management before implementation			12 (14.3%)	27 (32.1%)	45 (53.6%)	4.39	.728
The plan indicates the funds available for each project			12 (14.3%)	33 (39.3%)	39 (46.4%)	4.32	.714
Project team personnel understand their role on the project team			21 (25.0%)	51 (60.7%)	12 (14.3%)	3.89	.621
Project activities are assigned according to experience		12 (14.3%)	27 (32.1%)	39 (46.4%)	6 (7.1%)	3.46	.828
There is a clear information flow system in the organization	6 (7.1%)	21 (25.0%)	21 (25.0%)	30 (35.7%)	6 (7.1%)	3.11	1.087
The intended users are told whether or not their input was assimilated into the project plan.	9 (10.7%)	15 (17.9%)	36 (42.9%)	24 (28.6%)		2.89	.944
The intended users are kept informed of the project's progress.	3 (3.7%)	12 (14.4%)	21 (25.9%)	42 (51.9%)	3 (3.7%)	3.37	.914
The project managers in UCC are competent.			6 (8.0%)	51 (68.0%)	18 (24.0%)	4.16	.546
Appropriate technology is selected for project success			18 (22.2%)	45 (55.6%)	18 (22.2%)	4.00	.671
Appropriate equipment is selected for project success			12 (14.3%)	51 (60.7%)	21 (25.0%)	4.11	.621
The people implementing projects in UCC understand them			12 (14.3%)	60 (71.4%)	12 (14.3%)	4.00	.538
I coordinate all project activities in my department	18 (22.2%)	42 (51.9%)	15 (18.5%)	3 (3.7%)	3 (3.7%)	2.15	.937
Project activities are assigned according to skills.		21 (26.9%)	18 (23.1%)	30 (38.5%)	9 (11.5%)	3.35	1.004
Project activities are assigned according to expertise		15 (18.5%)	12 (14.8%)	48 (59.3%)	6 (7.4%)	3.56	.880
My boss delegates duties always.	3 (3.6%)	6 (7.1%)	12 (14.3%)	42 (50.0%)	21 (25.0%)	3.86	.996
I easily communicate with my boss.		9 (10.7%)	12 (14.3%)	45 (53.6%)	18 (21.4%)	3.86	.880
There is a clear information flow system in my department	6 (7.1%)	18 (21.4%)	15 (17.9%)	30 (35.7%)	15 (17.9%)	3.36	1.209
My boss has clear leadership skills.	3 (3.6%)	12 (14.3%)	12 (14.3%)	33 (39.3%)	24 (28.6%)	3.75	1.129

**Source: Primary data**

**KEY: SD= Strongly disagree; D=Disagree; U=Undecided; A=Agree; SA=Strongly agree**

Table 21 gives views of how respondents in UCC rated themselves on organizing in their departments as regards to project success. It was revealed that almost all the twenty quantitative questions used to measure organizing had higher cumulative percentages inclined to the side that represents high and/ or good levels of organizing. For example, cumulatively, 81 respondents, the majority (almost 97%) revealed that UCC prepares annual budgets while only 3 respondents (almost 4%) were undecided about the matter implying that UCC prepares annual budgets. Cumulatively, majority of the respondents (72 /86%) agreed that projects in UCC are usually linked to the budget while cumulatively; only 3 respondents (almost 4%) disagreed with the issue, while 9 respondents (almost 11%) were undecided regarding the issue. This implies that projects are usually linked to the budget. Cumulatively, almost 86% of the respondents supported the view that projects are approved by top management before implementation, yet 12 respondents (over 14%) remained noncommittal. Similarly, 72 respondents (almost 86%) argued that plans indicate the funds available for each project while 12 respondents (14%) were unsure. Cumulatively, 63 respondents (75%) agreed that project team personnel understand their role on the project team while 21 respondents (25%) remained neutral. The quantitative results showed that the respondents highly understood the necessity of planning, as well as what organising entails and they considered it as a necessary aspect towards realizing project success.

In regard as to whether project activities are assigned according to experience, cumulatively, majority of the respondents (45/over 53%), either agreed or strongly agreed with matter as compared to 12 respondents (over 14%) who either disagreed or strongly disagreed, while 27 respondents (over 32%) did not take a side. Many respondents, 36 of them (almost 43%) supported the idea that there is a clear information flow system in UCC. A total of 21 respondents (25%) never took a side while 27 respondents (over 32%) disagreed. Many

respondents, 24 of them (almost 29%) agreed that the intended users are told whether or not their input was assimilated into the project plan while cumulatively, 24 respondents (almost 29%) disagreed with the issue. A total of 36 respondents (almost 43%) remained noncommittal. The majority of respondents (almost 56%) reported that the intended users are kept informed of the project's progress. A total of 21 respondents (almost 26%) were silent about the matter while 15 respondents (over 18%) never supported the issue. Cumulatively, 69 respondents, the majority (92%) revealed that project managers in UCC are competent while only 6 respondents (8%) were undecided. The views showed that not only does UCC plan, but there is also effort towards having the plans actualized, by involving the end users of the project outcomes and informing them of the final plans and whether they address their input. This eases the aspect of monitoring and ownership of the projects, hence project success.

On item as to whether appropriate technology is selected for project success, cumulatively, 63 respondents (almost 78%) supported the issue while 12 respondents (over 14%) were undecided. Similarly, concerning the issue of whether appropriate equipment is selected for project success, cumulatively, 72 respondents (almost 86%) were in agreement with the matter yet 12 respondents (over 14%) did not take a side. In respect to whether the people implementing projects in UCC understand them, cumulatively, 72 respondents (almost 86%) supported the matter while 12 respondents (over 14%) were silent. Still, majority (over 74%) of the respondents indicated disagreement concerning whether they coordinated all project activities in their department. This means that the projects in UCC are equitably distributed and only assigned to those who have competence in the various project areas. Regarding item "Project activities are assigned according to skills," cumulatively, 39 respondents (50%) supported the

issue while 21 respondents (almost 27%) did not support the matter. These findings generally suggest good organizing practices in UCC.

Focusing on item “Project activities are assigned according to expertise,” cumulatively, almost 67% of the respondents supported the statement that project activities are assigned according to expertise while cumulatively, 15 respondents (almost 19%) were not in line with the statement yet 12 respondents (almost 15%) were undecided. On the item “My boss delegates duties always,” cumulatively, 75% of the respondents agreed their bosses delegating duties to them while only 9 respondents (almost 11%) revealed that their bosses did not delegate at all. Similarly, cumulatively, 75% supported the idea that their easily communicate with their bosses while only 9 respondents (almost 11%) reported poor communication with their bosses. Many respondents, almost 38% revealed that their bosses have clear leadership skills while 15 respondents (almost 18%) reported poor leadership from their bosses in the department. Cumulatively, almost 54% of the respondents reported that there is a clear information flow system in my department. All these findings suggest proper organizing practices in the various departments of UCC.

The above results in Table 21 regarding organizing in the various departments of UCC are actually in agreement with the means whose values were above three (the average). Almost all the twenty items used to measure organizing have nearly equal mean values and standard deviations. These findings imply that UCC considers organizing as an important aspect in all the projects conducted.

The quantitative findings were further subjected to verification, through the qualitative data. The qualitative findings revealed that: “*UCC prepared annual budgets to which the projects are linked, with plans indicating available funds for each project.* It further emerged through the qualitative findings that:

*The projects are approved by top management and assigned according to experience and expertise, further supporting the assertion where majority of the respondents (to the questionnaire), indicated that they did not participate in all the projects.*

Another respondent also revealed that: ...

*There is clear information flow within the organization, which includes keeping the intended users of the project informed of the project’s progress. Noted also was the clear leadership, which further serves to show the organisational skills displayed.*

The respondents also pointed at *the appropriate use of technology for the projects, which too contributes to project success.* Such qualitative findings suggest that organizing is highly emphasized in all projects of UCC, with the likely results being registering great project success. To get an overall view of how respondents rated themselves on organizing practices, all items in Table 21 were aggregated into one average index (“Organ” which is an acronym for organizing). Table 22 gives common summary descriptive statistics there from:

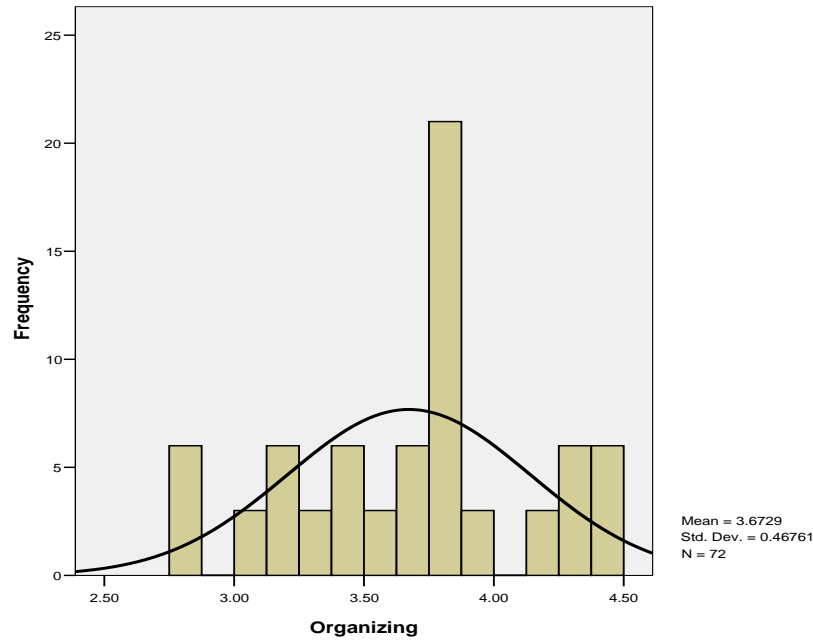
**Table 22: Common summary descriptive statistics on respondents' self-rating on organizing**

<b>Statistic</b>	<b>Value</b>	
Mean	3.673	
95% Confidence Interval	Lower	3.563
	Upper	3.783
Median	3.750	
Standard Deviation	0.468	
Minimum	2.75	
Maximum	4.45	
Range	1.70	
Skewness	-0.229	

*Source: Primary data*

According to Table 22, respondents ratings on organizing was good with (mean = 3.673 and median = 3.750) with opinions ranging from 3.563 to 3.783 at the 95 percent confidence level. Despite the average rating, Table 22 reflects that some respondents scored very poor that is a minimum 2.75 while others scored best that is a maximum of 4.45. This gave a wide disparity as reflected by a high range of 1.70. Secondly, there was similarity in respondents' opinions regarding organizing (small deviation value = 0.468) suggesting that respondents' views regarding organizing do not differ so much from one respondent to another. The difference in opinion as regards low and high levels of organizing was at 1.70 and is supported by the aforementioned standard deviation (0.468). Also from Table 22, we find that there was almost no skew, suggesting that the respondents opinions were almost normally distributed (Skewness = -0.229) that is to say their opinions were centrally located. To check whether the index "Organize" was normally distributed, a histogram thereof was constructed as shown in Figure 8:



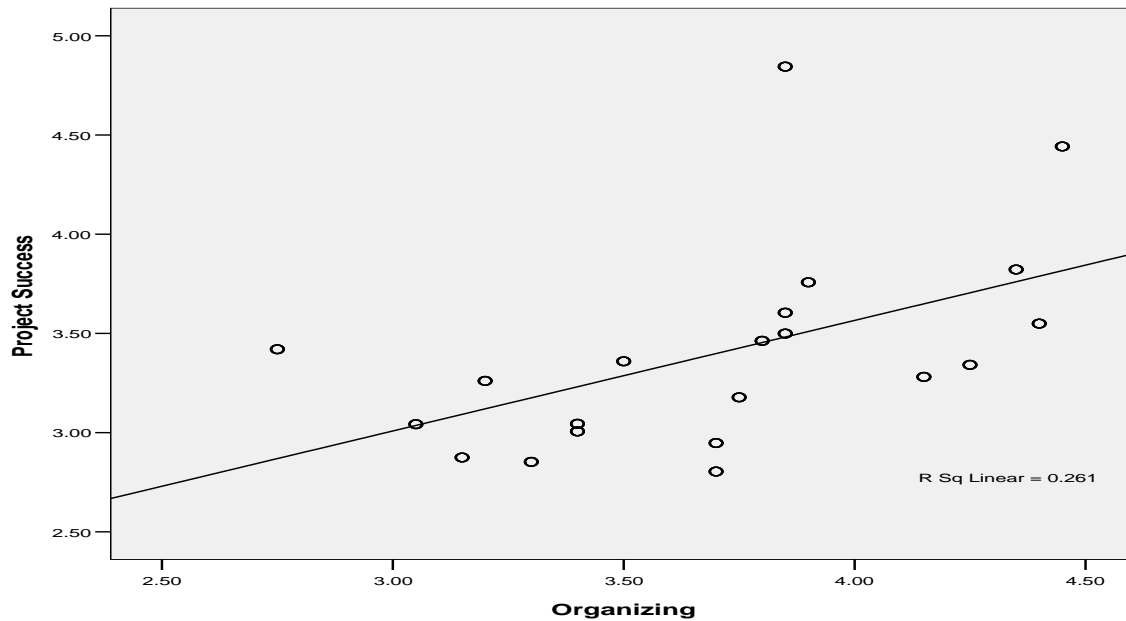


**Fig. 8: Histogram and curve showing normal distribution on organizing**

Figure 8 confirms the normality suggested when all items in Table 18 were aggregated into one average index (“Organ”).

**4.5.2.1 Testing Hypothesis Two: Hypothesis Two: Organizing positively relates to ICT projects success in Uganda Communications Commission**

From objective two, the second study hypothesis was developed, which stated that organizing positively relates to ICT projects success in Uganda Communications Commission. To test whether organizing positively relates to ICT projects success in Uganda Communications Commission, the two indexes, namely organizing (“Organ”) and project success (“ProjectS”) were graphically correlated using a scatter or dot graph as shown in Figure 9:



**Fig. 9: Scatter graph showing correlation between organizing and project success**

The scatter graph in Figure 9 suggests that there was a positive linear co-relation between organizing and project success. To confirm this, the two indexes (“Organ” and “ProjectS”) were co-related using Pearson’s linear co-relation co-efficient as shown in Table 23:

**Table 23: Pearson’s linear correlation coefficient between organizing and project success**

		<b>Organizing</b>	<b>Project Success</b>
<b>Organizing</b>	Pearson’s correlation	1	0.510**
	Sig. (2-tailed)	-	0.000
	N	84	84
<b>Project Success</b>	Pearson’s correlation	0.510**	1
	Sign. (2-tailed)	0.000	-
	N	84	84

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

Table 23 shows that the correlation between the two indices yielded  $r = 0.510$  whose  $\text{Sig.} = 0.000$  which is less than  $\alpha = 0.05$ . From the correlation coefficient of 0.510, it is envisaged that organising registered a moderate and highly significant correlation with project success. The relationship is also positive, meaning that the two variables would move in the same direction, that is, with an improvement in organising, project success can also be improved, while the reverse is also true. Hence the null hypothesis is rejected and the research hypothesis that organizing has a positive relationship with ICT projects success in Uganda Communications Commission is accepted at the five percent level of significance. However, these were preliminary results pending use of a more powerful multivariate tool (regression). Table 24 gives Fisher's ratio (F) and its significance (p) value:

**Table 24: ANOVA results on regression of organizing on project success**

<b>Model</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
Regression	4.057	1	4.057	21.496	.000
Residual	11.514	61	.189		
<b>Total</b>	<b>15.571</b>	<b>62</b>			

Basing on Table 24, the F is high that is 21.496 accompanied by a Sig. value 0.000 which was less than 0.05. The ANOVA results suggest that organizing and project success have a significant positive correlation. Table 25 gives the respective regression results and their corresponding significances or p values.

**Table 25: Regression of project success on organizing**

<b>Independent variable</b>	<b>Standardized coefficient Beta (<math>\beta</math>)</b>	<b>Significance (p)</b>
<b>Organizing</b>	0.510	0.000

According to Table 25 the hypothesis which states that organizing have a positive relationship with project success, is accompanied with a positive beta (0.510) suggesting a positive correlation between organizing and the dependent variable (project success). However, the observed Sig. (p) which was given as 0.000 which was far lower than the benchmark Sig. (p) value of 0.05, suggesting significant correlation at the 5% level. Therefore, the hypothesis that organizing has a positive relationship with project success is accepted.

### **4.5.3 Controlling**

Controlling was broken into twenty five quantitative questions which asked respondents to rate themselves in terms of controlling in their departments. Responses were based on a Likert scale ranging from one which represented strongly disagree, two for disagree, three for undecided, four for agree and five for strongly agree. Table 26 gives descriptive statistics there from:

**Table 26: Descriptive statistics on respondents' self-rating on controlling**

Indicators of controlling	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Mean	Std. Dev.
There is regular inspection of the ongoing projects		(22.2%)	(14.8%)	(48.1%)	(14.8%)	3.56	1.000
UCC has adequate personnel to monitor the implementation of project		(10.7%)	(17.9%)	(67.9%)	(3.6%)	3.64	.722
UCC has adequate personnel to supervise the implementation of project activities		(7.1%)	21.4%)	(64.3%)	(7.1%)	3.71	.704
Managers monitor implementation regularly		(17.9%)	(50.0%)	(28.6%)	(3.6%)	3.18	.763
Managers evaluate performance regularly	(3.7%)	(29.6%)	(29.6%)	(29.6%)	(7.4%)	3.07	1.022
Progress reports are prepared	(3.7%)	(3.7%)	(33.3%)	(40.7%)	(18.5%)	3.67	.949
Top management is responsive to the requests for additional resources.		(10.7%)	(32.1%)	(35.7%)	(21.4%)	3.68	.933
Management share responsibilities with project team to ensure project's success.		(17.9%)	(28.6%)	(42.9%)	(10.7%)	3.46	.911
I agree with top management on the degree of my authority on the project.		(17.9%)	(53.6%)	(17.9%)	(10.7%)	3.21	.865
Top management supports the project team in a crisis.		(10.7%)	(28.6%)	46.4%)	(14.3%)	3.64	.859
Top management grants us the necessary authority concerning the project.	(3.6%)	(10.7%)	(35.7%)	(35.7%)	(14.3%)	3.46	.987
Top management supports the decisions of the project team		(10.7%)	(32.1%)	(46.4%)	(10.7%)	3.57	.826
The managers ensure that employees arrive for work on time		(14.3%)	(21.4%)	(46.4%)	(17.9%)	3.68	.933
My boss ensures that all employees arrive for work on time	0	(3.6%)	(28.6%)	(46.4%)	(21.4%)	3.86	.794
My boss ensures that am present at work			14.8%)	(55.6%)	(29.6%)	4.15	.654
My boss monitors my performance		(7.1%)	(17.9%)	(53.6%)	(21.4%)	3.89	.822
My boss evaluates my performance monthly.	(11%)	(11.1%)	(29.6%)	(33.3%)	(14.8%)	3.30	1.188
I give weekly reports of the activities carried out.	(3.6%)	(10.7%)	(28.6%)	(21.4%)	(35.7%)	3.75	1.160
I am guided when performing my assignments.		(10.7%)	(17.9%)	(39.3%)	(32.1%)	3.93	.967
Individuals supplying input receive feedback on their input.	(3.6%)	(10.7%)	(39.3%)	(28.6%)	(17.9%)	3.46	1.023
Officers are appointed to supervise the implementation of the projects	(3.7%)	(7.4%)	(37.0%)	(40.7%)	(11.1%)	3.48	.923
Officers from the UCC participate in monitoring the projects		(3.6%)	(14.3%)	(67.9%)	(14.3%)	3.93	.655
Using the progress reports, the divergence from the planned is always noted		(7.1%)	(25.0%)	46.4%)	(21.4%)	3.74	.755
Monitoring reports are always prepared			(44.4%)	(37.0%)	(18.5%)	3.82	.853
Evaluation reports are always prepared		(14.8%)	(18.5%)	(44.4%)	(22.2%)	3.74	.972

**Source: Primary data**

**KEY: SD= Strongly disagree; D=Disagree; U=Undecided; A=Agree; SA=Strongly agree**

Table 26 gives views of how respondents in UCC rated themselves on controlling in their departments as regards to project success. It was revealed that almost all the twenty five quantitative questions used to measure controlling had higher cumulative percents lying on the side that represents high and/ or good levels of controlling. For example, cumulatively, the majority of respondents (almost 63%) revealed that there are regular inspections of the ongoing projects in UCC. Almost 15% of the respondents remained undecided while cumulatively, over 22% of them disagreed. Cumulatively, almost 72% of the respondents either agreed or strongly agreed with the fact that UCC has adequate personnel to monitor the implementation of project, almost 18% of them remained neutral while cumulatively, almost 11% either disagreed or strongly disagreed, which implies that UCC has adequate personnel to monitor the implementation of project. The majority of the participants (over 71%) revealed that UCC has adequate personnel to supervise the implementation of project activities, while over 21% did not take a side and 8% disagreed with the idea that UCC has adequate personnel to supervise the implementation of project activities. Further, many of the respondents (over 32%) agreed that managers monitor implementation regularly while 37% revealed that managers evaluate performance regularly. These findings indicate better control practices in UCC.

More so, results in Table 26 show that over 59% of the respondents argued that progress reports are prepared, over 33% of them were undecided while over 7% disagreed. Over 57% supported the idea that top management is responsive to the requests for additional resources, when the need arises. A total of 27 respondents (over 32%) remained silent while almost 11% disagreed with the matter. The majority of the respondents (almost 54%) argued that top management share responsibilities with project team for ensuring the project's success while almost 18% reported that applies the self-centred management approach. Many respondents (almost 29%) agreed with

top management on the degree of my authority on the project while almost 18% disagreed with management on the issue in question. The majority (almost 61%) of the respondents agreed that top management supports the project team in a crisis. A total of 24 respondents (almost 29%) were undecided while almost 11% of the respondents disagreed which suggests that in most cases support is provided to project team during periods of crisis.

Looking at item “Top management grants us the necessary authority concerning the project,” cumulatively, 50% of the respondents agreed with the idea yet almost 36% remained neutral while over 14% were undecided. Over 57% of the respondents argued that top management supports the decisions of the project team while almost 11% disagreed with the statement that top management supports the decisions of the project team. Concerning whether managers ensure that employees arrive for work on time, cumulatively, almost 68% agreed with matter, over 21% remained undecided while over 14% either agreed or strongly agreed. Cumulatively, 57 respondents, the majority (almost 68%) were in line with the statement that their bosses ensure that all employees arrive for work on time. Only 3 respondents (almost 4%) disagreed which implies that time management is highly emphasized in UCC. Cumulatively, 69 participants (over 85%) supported the issue that their bosses ensure that am present at work daily.

On item “My boss monitors my performance regularly,” 75% of the respondents revealed that their performances are being monitored regularly while over 7% reported that no monitoring is done on their performance. Many respondents (over 48%) supported the view that their bosses evaluate their performance monthly while over 22% reported that no evaluation is done on their performance. The majority of the respondents (over 57%) agreed that they give weekly reports of the activities carried out. A total of 24 respondents (almost 29%) were undecided while 12 respondents (over 14%) indicated disagreement concerning giving weekly reports. Cumulatively,

60 respondents (over 71%) reported that they are guided when performing assignments while 9 respondents (almost 11%) reported not being given guidance during performance. Many respondents, almost 45% supported the view that individuals supplying input receive feedback on their input. The views could be a reflection of the strict controls put in place by UCC, to the effect that project success is registered.

On item “Evaluation reports are always prepared,” cumulatively, almost 67% of the respondents supported the matter. Almost 19% of them were undecided while almost 16% disagreed. Cumulatively, almost 56% of the participants either agreed or strongly agreed with the fact that monitoring reports are always prepared while over 44% remained neutral. The above results in Table 20 regarding controlling in the various departments of UCC are actually in agreement with the means whose values were above three (the average). Almost all the twenty five items used to measure controlling have almost equal mean values and standard deviations. These findings imply that UCC considers controlling is an important aspect in all the projects conducted. There are proper mechanisms in place which help to ensure that the control measures are effectively adhered to.

The researcher further conducted interviews in order to get in-depth views from the respondents, so as to verify the quantitative results. The qualitative views reveal: “*that UCC has adequate staffing to supervise and monitor project implementation*”. Further, the findings also showed that *top management is usually responsive when it comes to requests for additional resources, whenever need arises and that they too share responsibilities with project team, in order to ensure project success*”. These views further showed the effective measures in place, which help to enhance project success in UCC. Such qualitative findings suggest that controlling is highly



emphasized in all projects of UCC. To get an overall view of how respondents rated themselves on control practices, all items in Table 26 were aggregated into one average index (“Control” which is an acronym for controlling). Table 27 gives common summary descriptive statistics there from:

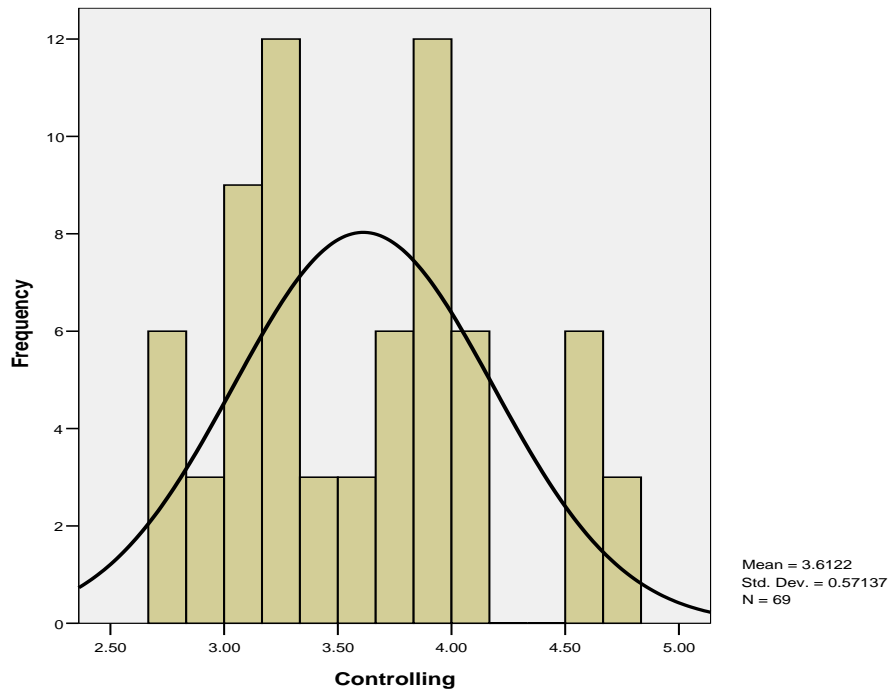
**Table 27: Common summary descriptive statistics on respondents’ self-rating on controlling**

Statistic	Value	
Mean	3.612	
95% Confidence Interval	Lower	3.475
	Upper	3.749
Median	3.560	
Standard Deviation	0.571	
Minimum	2.68	
Maximum	4.80	
Range	2.12	
Skewness	0.403	

**Source: Primary data**

According to Table 27, respondents ratings on controlling was good with (mean = 3. 3.612 and median = 3.560) with opinions ranging from 3.475 to 3.749 at the 95 percent confidence level. Despite the average rating, Table 27 reflects that some respondents scored very poor that is a minimum 2.68 while others scored best that is a maximum of 4.80. This gave a wide disparity as reflected by a high range of 2.12. Secondly, there was similarity in respondents’ opinions regarding controlling (small deviation value = 0.571) suggesting that respondents’ views regarding controlling do not differ so much from one respondent to another. The difference in opinion as regards low and high levels of controlling was at 0.571 and is supported by the aforementioned standard deviation (0.571). Also from Table 27, we find that there was almost no skew, suggesting that the respondents opinions were almost normally distributed (Skewness =

0.403) that is to say their opinions were centrally located. To check whether the index “Control” was normally distributed, a histogram thereof was constructed as shown in Figure 10:

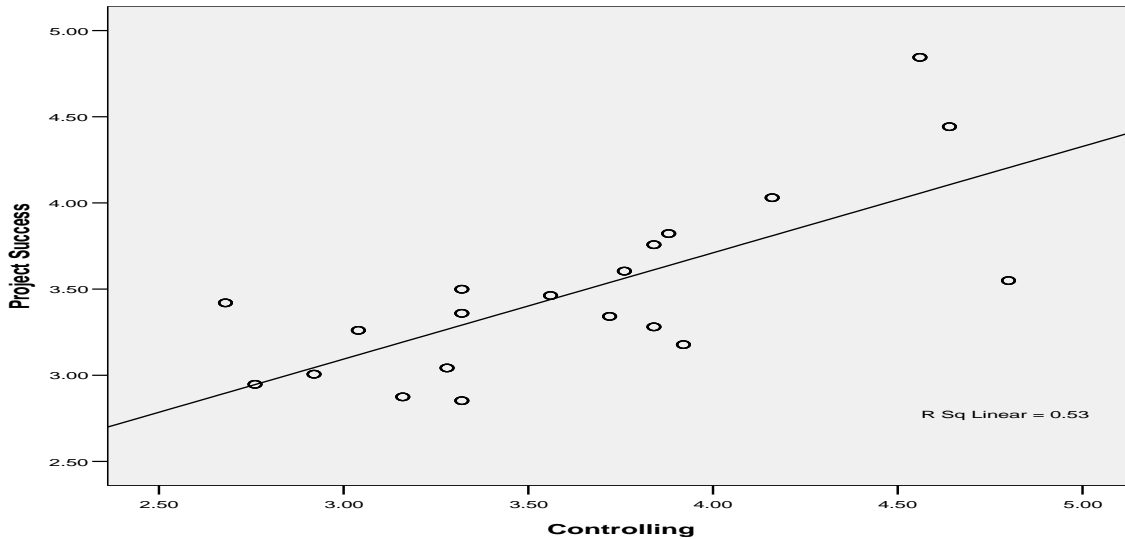


**Fig. 10: Histogram and curve showing normal distribution on controlling**

Figure 10 confirms the normality suggested when all items in Table 26 were aggregated into one average index (“Con”).

**4.5.3.1 Testing Hypothesis Three: Controlling positively relates to ICT projects success in Uganda Communications Commission**

From objective three, the third study hypothesis was developed, which stated that controlling positively relates to ICT projects success in Uganda Communications Commission. To test whether controlling positively relates to ICT projects success in Uganda Communications Commission, the two indexes, namely controlling (“Control”) and project success (“ProjectS”) were graphically correlated using a scatter or dot graph as shown in Figure 11:



**Fig. 11: Scatter graph showing correlation between controlling and project success**

The scatter graph in Figure 11 suggests that there was a positive linear co-relation between controlling and project success. To confirm this, the two indexes (“Control” and “ProjectS”) were co-related using Pearson’s linear co-relation co-efficient matrix as shown in Table 28:

**Table 28: Pearson’s linear correlation coefficient between controlling and project success**

		<b>Controlling</b>	<b>Project Success</b>
<b>Controlling</b>	Pearson’s correlation	1	0.728**
	Sig. (2-tailed)	-	0.000
	N	84	84
<b>Project Success</b>	Pearson’s correlation	0.728**	1
	Sig. (2-tailed)	0.000	-
	N	84	84

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

Table 28 shows that the correlation between the two indices yielded  $r = 0.728$  whose Sig. = 0.000 which is less than  $\alpha = 0.05$ . This implied a positive and statistically significant relationship between the two variables. The relationship is also strong ( $r=0.728$ ), meaning that controlling has a strong relationship with project success, with better controls, there is a

likelihood that greater project success can be realized and the reverse is also true. Hence the null hypothesis is rejected and the research hypothesis that controlling has a positive relationship with ICT projects success in Uganda Communications Commission is accepted at the five percent level of significance. However, these were preliminary results pending use of a more powerful multivariate tool (regression). Table 28 gives Fisher's ratio (F) and its significance (p) value:

**Table 28: ANOVA results on regression of controlling on project success**

<b>Model</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
Regression	7.926	1	7.926	65.488	.000
Residual	7.020	58	.121		
<b>Total</b>	<b>14.946</b>	<b>59</b>			

Basing on Table 28, the F is high that is 65.488 accompanied by a Sig. value 0.000 which was less than 0.05. The ANOVA results suggest that controlling and project success have a significant positive correlation. Table 29 gives the respective regression results and their corresponding significances or p values.

**Table 29: Regression of project success on controlling**

<b>Independent variable</b>	<b>Standardized coefficient Beta (<math>\beta</math>)</b>	<b>Significance (p)</b>
<b>Controlling</b>	0.728	0.000

According to Table 29 the hypothesis which states that controlling have a positive relationship with project success, is accompanied with a positive beta (0.728) suggesting a positive correlation between controlling and the dependent variable (project success). However, the observed Sig. (p) which was given as 0.000 which was far lower than the benchmark Sig. (p) value of 0.05, suggesting significant correlation at the 5% level. Therefore, the hypothesis that controlling has a positive relationship with project success is accepted.

## **CHAPTER FIVE**

### **SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This Chapter presents the summary and discussion of the study findings, draws conclusions from the study findings and gives recommendations based on the conclusions. Finally, chapter highlights areas that could be considered for further research and investigation.

#### **5.2 Summary of the Study**

This sub-section presents the summary on the specific objectives that guided the study. The main finding of the study revealed that there is a positive relationship between planning, organizing, controlling and project success in UCC.

##### **5.2.1 Planning and project success**

From objective one, the correlation results empirically showed that planning was positively and significantly correlated with project success at the five percent significance level, with a correlation coefficient of 0.555 and a corresponding significance value of 0.000 ( $<0.05$ ), further indicating that planning positively and significantly affected project success in UCC.

##### **5.2.2 Organising and project success**

From objective two, it was empirically revealed that there existed a positive and highly significant correlation between organising and project success at the five percent significance level, with a correlation coefficient of 0.510 and a corresponding significance value of 0.000 ( $<0.05$ ). The positive nature of the correlation implied that an improvement in organising would result into an improvement in project success.

### **5.2.3 Controlling and project success**

From objective three, the correlation results showed that controlling and project success were positively related at the five percent significance level with a correlation coefficient of 0.728 and a corresponding significance value of 0.000 ( $<0.05$ ). This meant that any changes in control practices would affect project success.

## **5.3 Discussion**

This section deals with the discussion of results hypothesis by hypothesis;

### **5.3.1 Planning and project success**

From objective one which was to establish the relationship between planning and project success, hypothesis one to the effect that planning is positively related to project success was developed. Pearson Linear Co-relation Coefficient Index was used to determine the magnitude and significance of the relationship. The results from the hypothesis empirically indicated that planning has a positive relationship with project success. This implies that planning is an important aspect in influencing the success of any project. The results of this hypothesis were in agreement with the works of several earlier researchers.

For example, the finding is in line with Dov, et al, (2003) in a study about an empirical analysis of the relationship between project planning and project success came to the findings that project success is insensitive to the level of implementation of management processes and procedures, which are readily supported by modern computerized tools and project management training. On the other hand, project success is positively correlated with the investment in requirements' definition and development of technical specifications. High scores were registered showing

that UCC prepares a strategic plan and a business plan, on which all the project activities are based. Results further showed that UCC prepares annual plans and all projects implemented are identified during the planning stage. It also further emerged that the ICT projects implemented by UCC are in accordance to the national ICT needs. Generally, the findings showed that UCC considers planning as an essential aspect and thus necessary for project success.

Similarly, the finding is supported by Munns and Bjeirmi (1996) who researched on the role of project management in achieving project success. They argued that the role of different project management techniques to implement projects successfully has been widely established in areas such as the planning and control of time, cost and quality. They concluded that there is a positive relationship between planning and project success. The finding is also in agreement with Adnanes and Clothilde (2004) who researched on factors influencing project success, the impact of human resource management and came to finding that for three distinct structures (functional, project-based and planning), the management support and trouble-shooting variables were positively significantly correlated with project success. Overall, the study finding lead to the conclusion that planning has a positive relationship with project success.

### **5.3.2 Organizing and project success**

From objective two which was to establish the relationship between organizing and project success, hypothesis two to the effect that organizing is positively related to project success was developed. Pearson Linear Co-relation Coefficient Index was used to determine the magnitude and significance of the relationship. The results from the hypothesis empirically indicated that organizing has a positive relationship with project success. This implies that organizing is an important aspect in influencing the success of any project. The results of this hypothesis were in

agreement with the works of several earlier researchers. For example, the finding is in line with McKeen, et al (1994) in the study about the relationship between user participation and project success empirically established that organizing plays a major in project success. They argue that the manager tries to combine and group similar and related activities into units or departments. The finding is supported by Erik and Gobeli (2002) who looked at organizing for product development projects and concluded that organizing is the major key factor in influencing project success.

Verma (1995, 1996) writes that communication, teamwork, and leadership are vital components of effective management of project human resources and are necessary to accomplish project objectives successfully. The finding is also in agreement with Adnanes and Clothilde (2004) in their research on factors influencing project success observed that once the departments are made, the manager likes to classify the powers and its extent to the managers. This activity of giving a rank in order to the managerial positions according to them was called hierarchy. The top management is into formulation of policies, the middle level management into departmental supervision and lower level management into supervision of foremen. The clarification of authority helps in bringing efficiency in the running of a concern.

In respect to organising as an independent variable dimension, results showed that 97% of the respondents indicated that UCC prepared annual budgets. Results further indicated that majority of the respondents held the view that projects are approved prior to being implemented. Noted further was that UCC involved the end users in order to incorporate their input in the projects and all efforts are made to actualize the plans made, in a manner that addresses the actual needs of the beneficiaries. The projects in UCC are distributed in line with the implementers'



experience and expertise, further serving to ensure that attention is given to the realization of project success in UCC. Overall, the study findings lead to the conclusion that organizing has a positive relationship with project success.

### **5.3.3 Controlling and project success**

From objective three which was to establish the relationship between controlling and project success, hypothesis three to the effect that controlling is positively related to project success was developed. Pearson Linear Co-relation Coefficient Index was used to determine the magnitude and significance of the relationship. The results from the hypothesis empirically indicated that controlling has a positive relationship with project success. This implies that controlling is an important aspect in influencing the success of any project. The results of this hypothesis were in agreement with the works of several earlier researchers. The finding is supported by Kerner (2009) who looked at project management and revealed that to achieve the set goals and objectives, the project managers have to control their followers. Similarly, the finding is in line with Cleland and Baker (2008) who researched on factors affecting project success and came to the finding that controlling positively affects project success.

The study finding is in agreement with Munns and Bjeirmi (1996) who researched on the role of project management in achieving project success and advised that without regulation, organizations have no indication of how well they perform in relation to their goals. They therefore established that controlling and project success are positively related. Related, the finding is supported by Mullins (2002) who proposed that at the organizational level management needs to exercise control over behavior and actions of the staff in order to ensure satisfactory level of success. The finding is also in line with Onen (2002) who observed that

effective controlling is a very important aspect of management which helps to bind together all individual and group efforts and direct them towards a common goal. He concluded that poor controlling, at Gulu extra-mural regional centers contributed to the kind of negative attitude of participant's towards the courses offered at the center.

Descriptive statistics results showed that majority of the respondents felt that UCC had adequate personnel to monitor and supervise the project activities. Significant also was the fact that majority of the respondents observed that to management supports decisions in the teams and works to ensure that project staff arrive on time. Such control measures help to ensure that project success is realized. Overall, the study finding lead to the conclusion that controlling has a positive relationship with project success.

## **5.4 Conclusions of the Study**

This section gives the conclusion from discussion based on the three study objectives;

### **5.4.1 Planning and project success**

The results showed that UCC has clear steps of ensuring effective planning. Further, it came out clearly from the results that planning plays a very crucial role in the realization of project success, since everything starts with an established plan, right from identification of what projects should be implemented by who and when. This too ensures effective utilization of the available resources, as well as ensuring that the projects meet the current needs of the beneficiaries and that they are executed in the duration of time required.

### **5.4.2 Organising and project success**

Organising included identification of the right people with the required experience and expertise whenever projects were to be implemented. This helps to ensure that employees only take part in projects where they have competencies and that all who have the required knowledge and skills can be fully involved in project implementation. Organising helps to ensure effective and efficient resource utilization, which later results into project success. By ensuring that the views of the beneficiaries of the projects are included when projects are being implemented, and that the beneficiaries too in a way participate in monitoring the implemented projects, which have to be in line with the national objectives, this too acts as a quality control measure and results into greater efficiency and effectiveness, hence project success.

### **5.4.3 Controlling and project success**

When top management shows support at all steps of project implementation, including ensuring that staff are in time and they are always on the ground when needed, this helps to ensure effective service delivery and greater accountability. By having adequate personnel in place, it helps to ensure effective monitoring of the projects, to ensure that the results adhere to the set standards. The high correlation serves to show that even with good plans in place, once there are no control measures in place, project success may not be realised.

## **5.5 Recommendations of the Study**

In this Section, recommendations are given according to the study objectives and following the conclusions drawn from the findings as below;

### **5.5.1 Planning and Project Success**

UCC needs to ensure effective planning and come up with plans that focus on the various aspects of implementing a project, factoring in the issue of size of project, duration of the project, so that the activities for each project correspond with its size and duration. This will help to ensure more success and better use of resources for implementing the projects. In planning, it is important that UCC pays attention to understanding of the project's desired outcome, scope, objectives, constraints, assumptions and the purpose and level of detail of the project. In so doing, UCC could focus on defining the deliverables to be created as a result of the plan, specifying the activities necessary to develop the deliverables and estimate the resource requirements. Further, there is need to ensure that the right infrastructure is established as part of the planning phase. This fosters efficient project execution and effective project communication.

### **5.5.2 Organising and Project Success**

In Organizing Projects for Success, UCC needs to lay great emphasis on the issues of authority, accountability, reliability, and responsibility. The actual implementation of the project can fail if the leadership in place is not enabling and does not pay attention to accountability and responsibility. Therefore, in order to sustain the success registered, as the results showed, UCC should invest more in leadership development. UCC needs to put in place mechanisms through which commitment can be achieved from the project participants. This will involve conducting training in human resource management skills for the line managers and the very people responsible for project implementation. It is worth noting that the human element in project implementation cannot be overlooked, since the success of any project greatly revolves around the key players involved. This will also be accompanied by skills in effective delegation, such that in the interest of delegation, project goals are not lost along the way.

### **5.5.3 Controlling and Project Success**

Management of UCC need to appreciate that project control works after first understanding that, despite all the effort devoted to developing and gaining commitment to a plan, there is little chance that the resulting project will run precisely according to that plan. While the plan describes what you would like to do, it models just one of the infinite number of routes from where you are now to where you want to be. In practice, many projects follow different routes to the one shown in the plan. For this reason, there is great need to have in place effective controls, such that the plan in place leads to the planned outcomes at the most affordable cost to the organisation.

### **5.6 Contributions of the Study**

The most important contribution of the study is the awareness of the relationship between planning, organizing, controlling and project success since the study came to finding that there is a positive relationship between the study variables. Therefore, UCC project administrators and managers can use the recommendations suggested to improve the success of projects in their departments. This study can also provide a basis of future research in the field of planning; organizing; controlling and project success.

### **5.7 Areas Recommended for Future Research**

Due to financial and time constraints, the study was centered on planning, organizing and controlling as potential variables influencing project success. However, there were other variables like resource availability and utilization which may relate with project success. Therefore, research needs to be carried on those factors to see how these variables relate with project success.

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**APPENDICES**

**APPENDIX A**

**SELF-ADMINISTERED QUESTIONNAIRE FOR UCC STAFF ON DETERMINANTS  
OF ICT PROJECTS' SUCCESS IN UGANDA COMMUNICATIONS COMMISSION**

**Dear respondent,**

I am carrying out a survey on Determinants of ICT projects' success in Uganda Communications Commission in partial fulfillment of requirements for award of a Master's degree in Management Studies (Project Planning and Management) of Uganda Management Institute. It is against this background that you have been selected to participate in the research by completing the questionnaire. It would therefore be very helpful if you assist by answering the questionnaire as per the instructions at the beginning of each section. The information sought is required for academic purposes. Therefore, it will be treated with the highest level of confidentiality.

Thank you.

Yours faithfully,

.....

**Susan M Nakanwagi**

**(Researcher)**

**Section A: Background Variables: Classification of Respondents**

In this Section, you are kindly requested to provide factual information about yourself. Kindly tick (✓) the best opinion.

A1. Age bracket of respondents

1 = Below 30 years;                    2 = between 30 and 40 years;                    3 = Above 40 years

A2. Sex of respondent:

1 = Male;                    2 = Female.

A3. Marital status:

1 = Married;                    2 = Single;

A4. Academic qualification:

1=Diploma; 2 = Bachelors; 3=Masters; 4 = others (specify) .....

A5. For how long have you been working in UCC?

1 = Below five years; 2 = Between five and ten years; 3 = Over ten years.

**Section B: Independent Variable: Determinants**

This section presents issues on the determinants of project success. The determinants are divided into three elements namely; planning, organizing and controlling. Please rate each of the following practices as you view them in UCC using a scale where; 1 = Strongly disagree (SD); 2 = Disagree (D); 3 = Neutral (N); 4 = Agree (A); 5 = Strongly agree (SA).



**B1: Planning**

No.	Indicators of Planning	SD	D	N	A	SA
B1.1	UCC prepares a strategic plan	1	2	3	4	5
B1.2	UCC prepares a business plan	1	2	3	4	5
B1.3	UCC prepares annual plans	1	2	3	4	5
B1.4	The projects are identified during the planning stage in UCC	1	2	3	4	5
B1.5	The ICT projects are identified in line with National priorities	1	2	3	4	5
B1.6	Projects are identified considering the strategic objectives of UCC	1	2	3	4	5
B1.7	I contribute towards the planning of the projects	1	2	3	4	5
B1.8	I participate in the setting of project goals in UCC	1	2	3	4	5
B1.9	I participate in the setting of project objectives in UCC	1	2	3	4	5
B1.10	I participate to the gathering of vital data before implementation of any project in UCC	1	2	3	4	5
B1.11	I participate in the planning for financial resources	1	2	3	4	5
B1.12	The role of each player is clearly defined in the planning process	1	2	3	4	5
B1.13	There is sufficient manpower to complete the projects in UCC.	1	2	3	4	5
B1.14	The role of each player in the implementation of the projects is clearly defined	1	2	3	4	5
B1.15	The personnel on the project team understand how their performance will be evaluated.	1	2	3	4	5
B1.16	Job descriptions for team members have been well understood	1	2	3	4	5
B1.17	Adequate technical training is available for members of the project team.	1	2	3	4	5
B1.18	The intended user departments compile the project requirements	1	2	3	4	5
B1.19	The results of planning meetings are discussed with the applicable personnel.	1	2	3	4	5
B1.20	The outcome of planning meetings is distributed to applicable personnel	1	2	3	4	5
B1.21	The limitations of the project are discussed with the intended users (what the project is not designed to do).	1	2	3	4	5
B1.22	The project leaders possess adequate technical skills.	1	2	3	4	5
B1.23	The project leaders possess adequate interpersonal skills.	1	2	3	4	5

**B2: Organizing**

No.	Indicators of Organizing	S D	D	N	A	SA
B2.1	The UCC prepares annual budgets	1	2	3	4	5
B2.2	The projects are usually linked to the budget	1	2	3	4	5
B2.3	The projects are approved by Top Management before implementation	1	2	3	4	5
B2.4	The plan indicates the funds available for each project	1	2	3	4	5

B2.5	Project team personnel understand their role on the project team	1	2	3	4	5
B2.6	Project activities are assigned according to experience	1	2	3	4	5
B2.7	There is a clear information flow system in the organization	1	2	3	4	5
B2.8	The intended users are told whether or not their input was assimilated into the project plan.	1	2	3	4	5
B2.9	The intended users are kept informed of the project's progress.	1	2	3	4	5
B2.10	The project managers in UCC are competent.	1	2	3	4	5
B2.11	Appropriate technology is selected for project success	1	2	3	4	5
B2.12	Appropriate equipment is selected for project success	1	2	3	4	5
B2.13	The people implementing projects in UCC understand them	1	2	3	4	5
B2.14	I coordinate all project activities in my department	1	2	3	4	5
B2.15	Project activities are assigned according to skills.	1	2	3	4	5
B2.16	Project activities are assigned according to expertise	1	2	3	4	5
B2.17	My boss delegates duties always.	1	2	3	4	5
B2.18	I easily communicate with my boss.	1	2	3	4	5
B2.19	There is a clear information flow system in my department	1	2	3	4	5
B2.20	My boss has clear leadership skills.	1	2	3	4	5

### **B3: Controlling**

<b>No.</b>	<b>Indicators of Controlling</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
B3. 1	There is regular inspection of the ongoing projects	1	2	3	4	5
B3. 2	UCC has adequate personnel to monitor the implementation of project	1	2	3	4	5
B3. 3	UCC has adequate personnel to supervise the implementation of project activities	1	2	3	4	5
B3. 4	Managers monitor implementation regularly	1	2	3	4	5
B3. 5	Managers evaluate performance regularly	1	2	3	4	5
B3. 6	Progress reports are prepared	1	2	3	4	5
B3. 7	Top management is responsive to the requests for additional resources, when the need arises.	1	2	3	4	5
B3. 8	Top management share responsibilities with project team for ensuring the project's success.	1	2	3	4	5
B3. 9	I agree with Top management on the degree of my authority on the project.	1	2	3	4	5
B3. 10	Top management supports the project team in a crisis.	1	2	3	4	5
B3. 11	Top management grants us the necessary authority concerning the project.	1	2	3	4	5
B3. 12	Top management supports the decisions of the project team	1	2	3	4	5
B3. 13	The managers ensure that employees arrive for work on time	1	2	3	4	5
B3. 14	My boss ensures that all employees arrive for work on time	1	2	3	4	5
B3. 15	My boss ensures that am present at work daily.	1	2	3	4	5
B3. 16	My boss monitors my performance regularly.	1	2	3	4	5
B3. 17	My boss evaluates my performance monthly.	1	2	3	4	5
B3. 18	I give weekly reports of the activities carried out.	1	2	3	4	5

B3. 19	I am guided when performing my assignments.	1	2	3	4	5
B3. 20	Individuals supplying input receive feedback on their input.	1	2	3	4	5
B3. 21	Officers are appointed to supervise the implementation of the projects	1	2	3	4	5
B3. 22	Officers from the UCC participate in monitoring the projects	1	2	3	4	5
B3. 23	Using the progress reports, the divergence from the planned is always noted	1	2	3	4	5
B3. 24	Monitoring reports are always prepared	1	2	3	4	5
B3. 25	Evaluation reports are always prepared	1	2	3	4	5

### Section C: Dependent Variable: Project Success

In this Section, project success is conceptualized as the iron triangle (cost, time and quality), benefits to the organization, benefits to the stakeholders, project performance and meeting project objectives. Please kindly rate each of the project success using a scale provided. Kindly tick ( $\sqrt{\quad}$ ) the best opinion using the scale where; 1 = Strongly disagree (SD); 2 = Disagree (D); 3 = Neutral (N); 4 = Agree (A); 5= Strongly agree (SA).

#### C1: Cost

No.	Indicators of Cost	SD	D	N	A	SA
C1.1	The projects are always completed within the initial budgeted amounts	1	2	3	4	5
C1.2	Projects implemented within the budgeted costs are perceived to be successful	1	2	3	4	5
C1.3	UCC implements its projects with the budgeted costs.	1	2	3	4	5
C1.4	Project activities implemented by UCC are worth the value of the costs.	1	2	3	4	5
C1.5	UCC has the capacity to manage funds in a transparent manner.	1	2	3	4	5
C1.6	There is always a detailed budget for the project	1	2	3	4	5
C1.7	The increased costs result from inflation	1	2	3	4	5
C1.8	The increased costs result from price adjustments	1	2	3	4	5
C1.9	Projects implemented beyond the budgeted costs are perceived to be unsuccessful	1	2	3	4	5
C1.10	Increased project implementation costs are attributed to laxity in project supervision	1	2	3	4	5
C1.11	Increased project implementation cost are attributed to laxity in project monitoring	1	2	3	4	5

## C2: Time

No.	Indicators of Time	SD	D	N	A	SA
C2.1	The projects are always completed on time	1	2	3	4	5
C2.2	Increased implementation time is attributed to inefficiency of the project implementers/ partners	1	2	3	4	5
C2.3	Increased project implementation time is attributed to laxity in project supervision	1	2	3	4	5
C2.4	Increased project implementation time is attributed to laxity in project monitoring	1	2	3	4	5
C2.5	Implementation time influences the cost of the project	1	2	3	4	5
C2.6	It is important to accomplish a project within the stipulated time	1	2	3	4	5
C2.7	Projects that are not accomplished in time have poor quality output	1	2	3	4	5
C2.8	When projects are not accomplished on time, project success is compromised.	1	2	3	4	5
C2.9	UCC projects achieve the set objectives on time.	1	2	3	4	5
C2.10	There are detailed plans for the successful completion of the project.	1	2	3	4	5
C2.11	Failure to complete the projects on time is attributed to supervision	1	2	3	4	5
C2.12	Failure to complete the projects on time is attributed to monitoring	1	2	3	4	5
C2.13	Project implementation time influences the cost of the project	1	2	3	4	5
C2.14	Increase in implementation time leads to drop in project quality	1	2	3	4	5
C2.15	Increase in implementation time leads to increased costs due to inflation	1	2	3	4	5

## C3: Quality

No.	Indicators of Quality	SD	D	N	SA	A
C3.1	The completed projects meet the specifications	1	2	3	4	5
C3.2	The completed projects meet the requirements	1	2	3	4	5
C3.3	UCC views project quality as a very important aspect	1	2	3	4	5
C3.4	A Quality assurance mechanism is in place	1	2	3	4	5
C3.5	The Quality assurance mechanism is adhered to	1	2	3	4	5
C3.6	The unsatisfactory quality of completed projects is due to poor designs	1	2	3	4	5
C3.7	The unsatisfactory quality of completed projects is due to poor specifications	1	2	3	4	5
C3.8	The unsatisfactory quality of completed projects is due to laxity in monitoring	1	2	3	4	5
C3.9	The unsatisfactory quality of completed projects is due to laxity in supervision	1	2	3	4	5

C3.10	Stakeholders measure the performance of UCC as per the expectations.	1	2	3	4	5
C3.11	High performing organizations produce high quality outputs irrespective of the time taken.	1	2	3	4	5
C3.12	High performing organizations produce high quality outputs irrespective of the costs involved.	1	2	3	4	5
C3.13	High performing organizations always accomplish projects in the stipulated time	1	2	3	4	5
C3.14	High performing organizations produce outputs that match the needs of stakeholders	1	2	3	4	5
C3.15	Projects implemented by UCC meet the expectations of the beneficiaries	1	2	3	4	5

**Thank you very**

**APPENDIX B**

**INTERVIEW SCHEDULE FOR THE DIRECTOR TECHNOLOGY, NETWORKS AND SERVICES IN UCC**

**TOPIC: Determinants of ICT Projects' Success in Uganda Communications Commission**

Interviewer: Susan M Nakanwagi

Interviewee: Director Technology, Networks and Services

Date of interview: ..... Time: .....

Name of interviewee: ..... Position: .....

Venue: .....

**Step I: Self-introduction**

**Step II: Questions and discussions**

1. Give a brief profile about UCC.
2. Comment on the planning practices in your department as regards to project success.
3. What is your view regarding organizing in your department as regards to project success
4. Comment on the control skills in your department as regards to project success
5. Comment on the success of various projects in UCC.

**Thank you for your time and assistance.**

## APPENDIX C

### RELIABILITY ANALYSIS – CRONBACH ALPHA

#### Reliability Statistics for planning

Cronbach's Alpha	N of Items
.877	23

#### Reliability Statistics for organizing

Cronbach's Alpha	N of Items
.883	20

#### Reliability Statistics for controlling

Cronbach's Alpha	N of Items
.934	25

#### Reliability Statistics for time

Cronbach's Alpha	N of Items
.846	15

#### Reliability Statistics for cost

Cronbach's Alpha	N of Items
.841	11

#### Reliability Statistics for quality

Cronbach's Alpha	N of Items
.809	15

**APPENDIX D**  
**INTRODUCTORY LETTER**