ADDIS ABABA UNIVERSITY SCHOOLOF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

POST GRADUATE PROGRAM

ASSESSING THE EFFECT OF PROJECT MONITORING AND CONTROLLING PRACTICE ON PROJECT SUCCESS: IN THE CASE OF ETHIOPIAN AIRLINES DIGITAL PROJECT MANAGEMENT OFFICE

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A Research Project Submitted in Partial Fulfillment of the Requirements for Obtaining the Degree of Masters of Project Management

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June, 2018

Addis Ababa, Ethiopia

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Declaration

I certify that this research paper entitled "Assessing the Effect of Project Monitoring and Controlling Practice on Project Success in the case of Ethiopian Airlines Digital Project Management Office" has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree.

I also certify that the thesis/project has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Acknowledgement

First of all, I express my deep gratitude to the Almighty God for giving me the strength, patience and guidance to endure and complete this project. I am also greatly indebted to my advisor Seifu Mamo for his countless suggestions, assistance and invaluable advice.

I would like also express special gratitude for all Ethiopian airlines digital staffs and all my colleagues for their valuable cooperation and contribution by providing the important data and information. Specially Ato Biniam ,(Team leader, Digital Project Management Office) for his willingness and support to provide valuables information for the study.

Special thanks go to all my family for their motivation, inclusive encouragement and overall support throughout the study period.

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Acronyms

CIO:	Chief Information Officer
ET:	Ethiopian Airlines
IT:	Information Technology
M&C:	Monitoring and Control
PCM:	Project Cycle Management
PMBOK:	Project Management Body of knowledge
PMI:	Project Management Institutions
PMLC:	Project Management Life Cycle
PMO:	Project Management Office
PRINCE:	PRojectIn Controlled Environments
SPSS:	Statistical Package for Social Science

Abstract

This study aims to assess the Effect of Project Monitoring and Controlling Practice on Project Success in the case of Ethiopian Airlines Digital PMO. To achieve the objective of the study Explanatory and Descriptive research design were used. As a result the researcher mainly deployed quantitative type of research design. Data for the assessment are obtained through five point Likert scale based questionnaire from 43 selected respondents. Collected data was analyzed by using descriptive analysis, correlation and regression analysis using SPSS version 20.0. The results of the collected data shows that there is good project monitoring and controlling practice in the organization, however relatively there is weak project change control process in the PMO. Results also revealed that Pearson correlation between project documentation processes was a moderate with project success, and Pearson correlation between project progress report process and project change control process was a strong with project success. Regression results shows that there was 60.7% of the change in project success was attributed to the combine effect of the independent variables in the model (project progress report, change control and documentation). The overall project Monitoring and Controlling process groups have strong impact on project success, which means that high project monitoring and controlling had likely to generate higher level of project success. To be more successful in projects, the study recommend that organization must focus on project monitoring and controlling practice especially on the project progress follow up and project change control area as they have significant impact on the project success.

Keywords: Project Monitoring and Controlling Process, Project Success

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Today, it is common to use the term “project” and to “work with projects” when doing business in various types of organizations. Project management has become crucial in the management of organizations. Today, many organizations largely depend on projects to achieve their strategic objectives. However, the success of these projects is to a large extent depends on the knowledge, skills, tools, Process and techniques apply by the project manager.

Project management is defined as an application of knowledge, skills, tools and techniques to project activities to meet project requirements. This is accomplished through the application and integration of the project management processes of initiation, planning, executing, monitoring and controlling and closing (PMI, 2008). Recently, many organizations establishing Project Management Office, to manage, facilitate the project activities and achieve the project goal. Establishing PMO in the organization is one approach toward improving overall project management effectiveness that leads to successful project outcomes.

According to Iman and Siew (2008), poor project monitoring and controlling practice is the major causes of project failure. Monitoring and controlling are essential components of any project and are crucial to is success. Several studies have been carried out with an aim of determining the critical success factors which contribute to project success and applying effective project management process is the major essential tool to achieve the project goal and objective (Charles and Humam, 2015).

Project management processes are distinct set of activities with clear cut interfaces of various processes which intended to meet project requirements. Project management will be accomplished following a set of defined processes using project management knowledge, tools,

skills, and techniques, so the right combination of processes and procedure will lead to accomplishing those set objectives. The project team involved should need to consider and select upon set of appropriate processes within the defined processes groups

Project management deals with the organization of project components to ensure successful completion of the project. Project management is the scientific application of modern tools and techniques in planning, financing, implementation, controlling and coordination of activities in order to achieve desired outputs according to the project objectives within the constraints of time, cost and quality. Project management is therefore about managing the processes of a project from the defining stage to planning, execution, control to the closure of the project. A project on the other hand is a specific activity to be carried out which consumes resources and has a beginning and an end. A project has four main resources which need to be managed in order to ensure that the project is successful. These resources are; people, time, money and scope. Projects vary in their size and complexity.

Project management is hence acknowledged as being the most successful approach of managing changes brought about by projects. This is because it has techniques and tools that enable control and delivery of the project activities within given deliveries, timeframe and budget (Shapiro, 2011). Project Monitoring and control process is one of the tools that assist project managers to track performance and also provide the management with information to make decisions in regard to the project.

Project Monitoring and controlling is the most important process in the whole process of project management because with the help from it, it is possible to determine where the project standing on and show how to achieve the project goals. It is always important to find out and evaluate the progress of the ongoing project, because it gives a true picture about the progress of the project. Monitoring and controlling process involves those activities that are designed to observe project execution so that any kind of potential problems can be identified in the whole process. When a certain problem is identified, monitoring and evaluation helps in the formation of solutions to these problems so that the whole project process can be carried out smoothly (Kerzner, H. 2013)

The project manager or project management office (PMO) needs to develop and implement standard project monitoring and controlling process, method and activities for effective and successful project outcome. This research attempted to look and assess the project management Monitoring and Controlling practice in Ethiopian Airlines digital project management office (PMO).

1.2. Background of the Company

Ethiopian Airlines founded On September 8, 1945 and started the first flight in 1946 with Douglas C-47 sky trains and made the first scheduled international flight to Cairo in April 8, 1946. Ethiopian Airlines (ET) is the flag carrier of Ethiopia, and is wholly owned by the Government of Ethiopia. Ethiopian Airlines is the fastest growing Airline in Africa. Over the past seven decades, Ethiopian has become one of the continent's leading carriers, unrivalled in efficiency and operational success. Ethiopian commands the lion share of the pan-African passenger and cargo network operating the youngest and most modern fleet to more than 95 international destinations across five continents.

Ethiopian Airlines is currently implementing a 15-year strategic plan called Vision 2025 to become the leading aviation group in Africa with seven business centers: Ethiopian Domestic and Regional Airline; Ethiopian International Passenger Airline; Ethiopian Cargo; Ethiopian MRO; Ethiopian Aviation Academy; Ethiopian In-flight Catering Services; and Ethiopian Ground Service. Ethiopian is a multi-award winning airline registering an average growth of 25% in the past ten years.

Ethiopian Airlines has been a pioneer of African aviation as an aircraft technology leader. In order to meet the strategies plan, Ethiopian have been conducting different technological projects under Information technology (IT) division, to meet the vision 2025 and to have technological advancement. As a result ET established new digital division structured under CIO. Under digital division there are five section called: Digital marketing, Digital sales, Digital solution, Application Development, and PMO & Business transformation. Currently number of ICT related projects have been done under this division by digital PMO with internal source (In house

development team) and by external international venders. As a result, this study focused on the project monitoring and controlling practice of the Digital PMO.

1.3. Statement of the Problem

Managing successful IT projects has become a significant factor for organizations success and investment in project management is integral to that success. However, many organizations still struggle to achieve success with majority of their IT projects. Too many IT projects are not completed on schedule, on budget, and within scope, resulting in cost overruns, and missed business opportunities (Standish Group, 2013). In 2012 the Standish Group, publishers of the CHAOS studies provided global view of project statistics of which 60% of the projects from US, 25% from Europe, 15% the rest of the world and reported that 43% of IT projects were late, over budget and / or with less than the required scope; and 18% were cancelled prior to completion or delivered and never used (Standish Group, 2013).

Monitoring and controlling process has in the recent become a necessary requirement for projects success. Successful project required to have best project monitoring and controlling practice to manage and control the progress of the project. Project management is the application of knowledge skills, tools and techniques to project activities. Projects generally fail as a result of poor planning, constant changes in the scope and consequently deadline and budget, as well as the lack of monitoring and controlling practice (Mir, Pinnington, 2014).

According to Ethiopian Country Program Evaluation [ECPE] (2010), in Ethiopia, most of the government organizations do not use effective project monitoring and controlling system in appropriate manner for their projects. Regarding researches on project monitoring practice in Ethiopian context, as far as the researcher knowledge there is only two studies conducted. (Geremew, 2016; Dereje, 2016) Geremew tried to assess Public Project Monitoring and Evaluation Practices of Oromia Bureau of Finance and Economic Development and Dereje tried to see the challenges in project monitoring and evaluation in Gilgel Gibe projects. However, there is no any research conducted on the project monitoring and controlling practice in Ethiopian Airlines (ET), even there is no any research conducted on the project management

practice and related areas of ET. This indicates that there should be more research on the project management practice in Ethiopian Airlines context.

Currently there are a lot of IT related projects handled by Ethiopian Airlines (ET) digital PMO to meet the organization strategic plan. The projects under the PMO conducted internally (in house development team) and outsourced for external international venders. Currently there are around 30 projects handles by the PMO. However, as per the review of unpublished office document some projects under the PMO were not finished timely as planned and project delay has shown on some projects. From the preliminary interview with some digital division staffs, there is no clear project tracking and evaluating practices shown.

In addition, besides the best of researcher knowledge, no study had been conducted on the project monitoring and controlling process practice in ET PMO. Hence there is a knowledge gap in this research area in ET and this proposed study will fill the gap by focusing on project management Monitoring and Controlling process practice of the PMO.

The above listed reasons show that it is the right time and worth doing this research in order to share a lesson to Ethiopian Airlines about project monitoring and controlling process and practice. Therefore, this research tried to assess the effect of project monitoring and controlling processes practice of the ET digital PMO on projects success.

1.4. Research Question

To address the issues mentioned under the statement of the problem, the following research questions were developed. The main research question for the study is:

What is the effect of Project Monitoring and Controlling Practice on the project success of Ethiopian Airlines digital PMO?

1.4.1 Specific Research Questions

1. How is project monitoring and controlling processes carried out in the PMO?
2. How does the project progress report process affect the project success of the PMO?

3. How does the project change control process affect the project success of the PMO?
4. How does the project documentation process affect the project success of the PMO?

1.5. Objectives of the Study

1.5.1. The General Objective

The main objective of this study is to assess the effect of project monitoring and controlling process practice on the projects successes of ET digital PMO.

1.5.2 The Specific Objectives

- To identify the current monitoring and controlling process practices of the PMO
- To determine the relationship between the project progress report process and project success.
- To examine the influence of project change control process on project success.
- To determine the effect of project documentation process on project success.

1.6. Significance of the Study

Conducting this study is important and needed for several reasons. First, to assess the project monitoring and evaluation practices and to determine what is being done correctly. And it helps to identify areas for improvement for the organization.

The study help to show the current position of the PMO in using effective project Monitoring and controlling process and help decision makers to improve their project monitoring and controlling practice in order to increase the probability of success of their projects within time, within budget and according to the specifications and to ensure the projects to serve the purpose for which they are implemented as well.

Second, this research is thus intending to fill the literature gap related to project management practice in Ethiopian airlines PMO. The study identified the project monitoring and controlling process and the effects on the project success, so it help the office to understand it’s the strength

and weakness, which may help the management to appreciate the extent of the problems and take appropriate remedial actions. In addition, this study will serve as a base for those who want to make detailed and more in-depth studies on the same or related topic in the organization.

1.7. Scope of the Study

In Ethiopian airlines there are several departments under different divisions and lot of projects done on each divisions, there is no central PMO for the organization. Therefore, this study only focused and limited only on the project monitoring and controlling practice of Project Management Office under CIO on the Digital.

With regard to the project management practice, from the five Project Management Process Groups (Phases) this study focused only on the project Monitoring and controlling process group practice and its effects on the projects successes of the project management office. The study will not cover the other project management processes and knowledge areas of the project management. Therefore, future researchers have option of expanding the scope of study including other project management process and knowledge area.

1.8. Limitation of the Study

The study is limited to address the project monitoring and controlling practice effects on the project success of Ethiopian airlines digital PMO. Data were collected from the selected staff members from the Ethiopian airlines Digital department under CIO; therefore this study will not represent the overall Ethiopian Airlines project monitoring and controlling practice. The study only focused on ET digital PMO monitoring and controlling practice, which limits the generalizibility of the research findings.

1.9. Organization of the Study

The research consists of five chapters. Chapter one the introductory part contains background of the study, statement of the problem, research questions, research objectives, significance of the study, limitation and scope of the study and Organization of the study.

Chapter two provides a literature review informing the reader of what is already known in this area of study. Chapter three discusses the methodology employed in the study, including, research design, research approach, sample size, data source and collection method, procedure of data collection and method of data analysis. Chapter four describe the result and discussion containing the introductory, details of the respondent profile, result presentations, description and analyses of data collected via proposed instruments, Finally, chapter five contains conclusions and recommendations.

1.10. Definitions of Terms

This section presents the definition of the key terms used in the study. The terms are defined within the context of the research paper.

Monitoring and controlling process: Monitoring is the systematic and regular collection and analysis of data prior to and during project implementation. Project control is a project management function that tracks the project progress towards achieving the stated objectives within project constraints; identifies deviations; evaluates alternative courses of action and takes remedial actions.

Monitoring: Monitoring is the continuous checking of the main elements of project such as: inputs, activities and outputs, through regular reporting. Checking the planned implementation against the actual implementation, in order to be able to report on how the project is progressing and if there is need for corrective action and to facilitate decision making.

Evaluation: Evaluation is the periodic assessment that could be end term or midterm to decide whether the project goal and objectives met or not.

Projects: a temporary endeavor undertaken to create a unique product or service, temporary means that the project has a definite ending point, and unique means that the product or service differs in some distinguishing way from all similar products or services.

Practice: Practice is the actual application or use of monitoring and evaluation system within the organization.

Project management processes: These are the logical sequence of stages a project management follows. It begins with feasibility study and initiating, planning, execution, monitoring and controlling and closing.

Project success criteria: Project success criteria are the set of principle and standard by which the project will be judged at the end to decide whether or not it has been successful. Project success criteria adopted the so-called Iron Triangle of ‘Time, Cost and Quality’ as the set of principles for evaluating the success of a project.

CHAPTER TWO

2. Literature Review

2.1. Project Management Process Groups

A process is a set of interrelated actions and activities performed to achieve a pre-specified product, result, or service. Each process is characterized by its inputs, tools and technique, and the resulting output (PMBOK, 2008). “A project is a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, within budget, and according to specification” (Wysocki, 2014). In order to ensure the project success, the project team must select the appropriate processes required to meet the project objectives, use a defined approach that can be adapted to meet requirements, comply with requirements to meet stakeholder needs and expectations, and balance the competing demands of scope, time, cost, quality, resources and risk to produce specified product, service or result.

Project management processes can be applied globally and across all the industry. It has been shown to enhance the chances of success over a wide range of projects; however, the knowledge, skills, and processes described should not be applied uniformly on all projects, because some of the processes might not be appropriate for the project. It is up to the project team to determine the suitable processes (PMBOK, 2008). Project management process groups are the building blocks of every project management life cycle (Wysocki, 2014). The Process Groups are not a PMLC. They are simply groupings of processes by project phases. A specific PMLC is defined using these processes (Kerzner, 2009).

Project management processes are grouped into five categories known as project management process groups (Initiating, Planning, Executing, Monitoring & Controlling and Closing) (PMBOK, 2008). Initiating process group is the processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase. Planning process group is the process of establishing the scope, the objectives as well as the defined course of action required to ensure the objectives are met. Executing process group is the process

of completing the work defined in the planning process, the work done must satisfy the project specifications defined in the project management plan. Monitoring and controlling process group is the tracking, reviewing and regulating of the progress and the performance of the project (PMBOK, 2008). Effective monitoring and controlling will enable the project manager to identify the problems encountered during the course of the project. Suitable corrective action will be taken to ensure the project is back on track and eventually lead to project success (Karangwa, Mbabazi and Mbera, 2016). Changes will also take place in this process. Closing process group is the mean of finalizing all the activities and to formally close the project or phase (PMBOK, 2008).

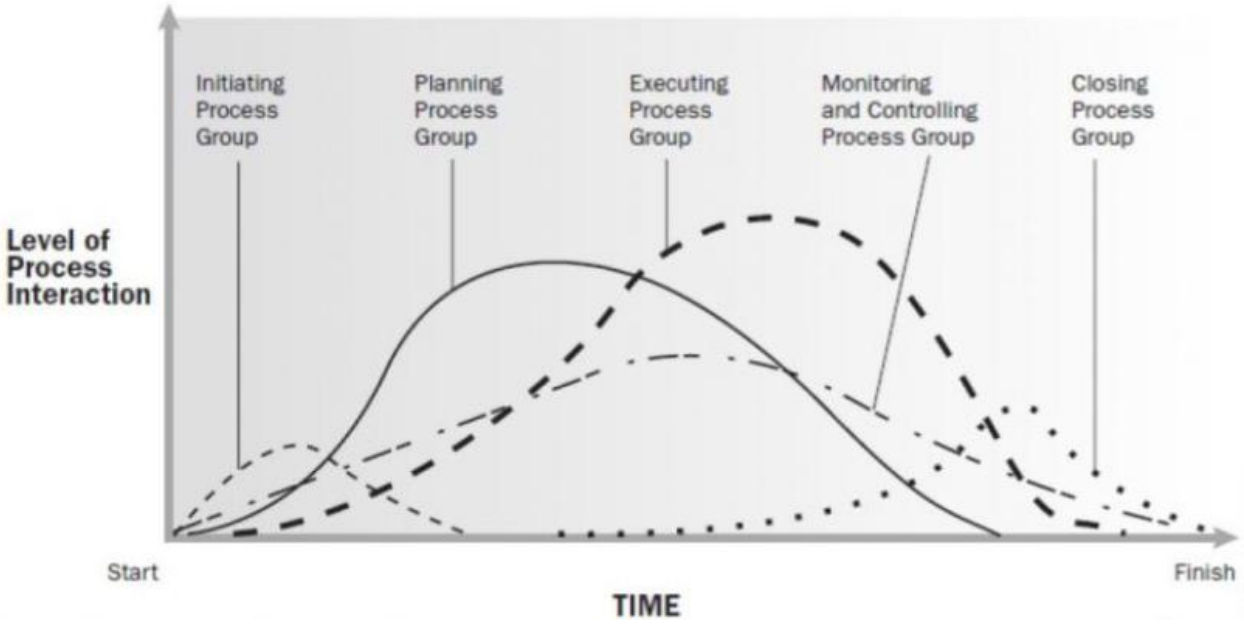

Figure 2.1: Level of Process Interaction over the time in a Project (PMI, 2013)

Initiating process group is active at the very beginning of the project; also its level is lower compared to other process groups. Once the level of the initiating process group starts to decline, the level of planning process group activities starts to increase. Then the executing process group follows the planning process group and it reaches the highest level of interaction among all process groups. The last process group which is towards the end of the project or phase is the closing process group (Team FME, 2013).

The monitoring and controlling process groups have the longest duration in terms of process interaction in a project or phase. The main reason of this is monitoring and controlling processes check all other process groups whether the project is healthy and will meet its objectives (Team FME, 2013).

2.2. Project Monitoring & Controlling Processes

Monitoring and controlling is the most important step in the whole process of project management because with the help of it, it is possible to determine the actual progress and status of the project. The processes in this group are used to follow, review, and facilitate the flow and performance of a project; identify any areas in which changes to the plan are required; and initiate the corresponding changes (Larson and Gray, 2011).

It is always important to find out and evaluate the progress of the ongoing project because it gives a true picture about the progress of the project. In essence monitoring and controlling involves those activities that are designed to observe project execution so that any kind of potential problems can be identified in the whole process. When a certain problem is identified, monitoring and controlling helps in the formation of solutions to these problems so that the whole project process can be carried out smoothly (Kerzner, H. 2013)

The integrative nature of project management requires the monitoring and controlling process group to interact with the other process groups, as shown in Figure 2. These five project management process groups describe project in terms of phases (PMI, 2013).

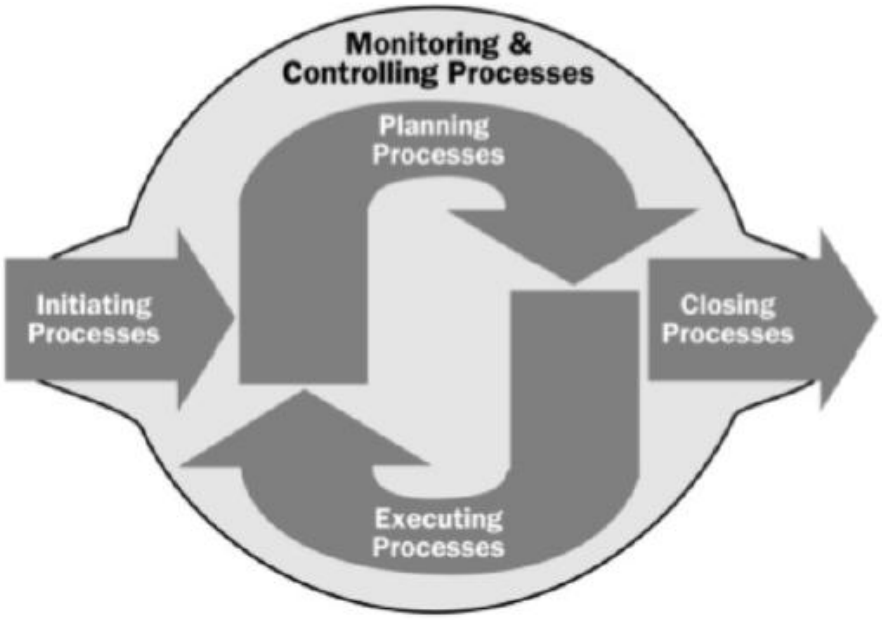

Figure 2.2: Project management process groups (PMI, 2013)

The processes in monitoring and controlling are used to follow, review, and facilitate the flow and performance of a project; identify any areas in which changes to the plan are required; and initiate the corresponding changes. Pinto and Slevin (1989) identified that monitoring and feedback-timely provision of comprehensive control information and troubleshooting-ability to handle unexpected crises and divisions from plan as critical success factors.

The Monitoring and Controlling Process Group consists of those processes required to track, review, and organize the progress and performance of a project; identify any areas in which changes to the plan are required; and initiate the corresponding changes (Wysocki, 2014). The processes in the Monitoring and Controlling Process Group are: monitor and control project work, perform integrated work control, control scope, control schedule, control schedule, control cost, control communication, control quality, control stakeholder engagement, control risk, control procurement (PMBOK, 2013).Those processes required to track, review and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate corresponding changes (PMBOK, 2013).

Regularly measures and monitors progress are required to identify variances from the project management plan so that corrective action can be taken, when necessary, to meet project

objectives (Larson and Gray, 2011).Controlling and monitoring are the responsibility of the project manager throughout the project life cycle. Controlling and monitoring processes are a part of the other processes as well. Figure 2 explains that other process groups can be put in a certain order, but controlling processes are done at every phase of the project. With suitable control, the project manager can take corrective actions such as resource adjustments, change project plan and use of overtime to get required results.

Controlling processes are used to compare and measure ongoing activities against the project plan. When monitoring is continuous, the project team receives vital information of progress and health of the project. The important part of monitoring is the change control. The project plan may have to be modified influenced by reported progress or stakeholder request. Scope verification and control is also a controlling process. The scope change may occur due to a new regulation, an error in defining original scope or value-adding change such as a new software addition. Other areas to be controlled are obviously costs, schedule, quality and risks. A part of the monitoring and controlling processes is also performance reporting. Performance reporting includes status reporting, progress measurement and forecasting (Liberatore, 2007). The main Processes of Monitoring and Controlling Process Group are: status reporting; conducting project status meetings, establishing reporting system, and change management and documentation (Wysocki, 2014).

Project Status Reporting

There are five types of project status reports: current period, cumulative, exception, stoplight, and variance. Current period reports cover only the most recently completed period. They report progress on activities that were open or scheduled for work during the period. Cumulative reports contain the history of the project from the beginning to the end of the current report period. They are more informative than the current period because they show trends in project progress (Wysocki, 2014).

Exception reports indicate variances from the plan. These reports are typically designed for senior management to read and interpret quickly. Stoplight reports are a variation that can be used on any of the previous report types (Wysocki, 2014). Reporting mechanisms are time-

sensitive and project manager need to be able to take appropriate action as and when deviation occurs. If the reporting mechanisms are slow then the manager will not able to control the project. So the project report should have to be timely, accurate and genuine (Team FME, 2013)

Project Status Meetings

To keep close track of progress on the project, the project manager needs information from his or her team on a timely basis. This information will be provided during a project status meeting. At a minimum, status meeting should be conducted at least once a week. To use the status meetings correctly and efficiently, it's important to figure out who should be in attendance. The purpose of the meeting is to encourage the free flow of information, and that means ensuring that the people who need to have information to do their jobs get the information at the status meeting (Wysocki, 2014).

Establishing Reporting System

After project work is under way, it needs to make sure that it proceeds according to plan. To do this, establishing reporting system is required to provide information of how the project is proceeding as compared to the plan. A reporting system has such characteristics as: Provides timely, complete, and accurate status information; does not add so much overhead time as to be counterproductive; is readily acceptable to the project team and senior management; has an early warning system of pending problems; and is easily understood by those who have a need to know (Wysocki, 2014).

A practical issue that needs to be addressed is how the executing activities will be monitored and how progress will be reported. Project team members are usually expected to maintain up-to-date timesheets and records of the activities they are involved with. Their team leader then collates the data and passes it to the project manager. The quality of this performance data is absolutely critical to the success of the project. Many projects run into trouble because reported progress does not match what is actually happening and the project manager acting on this information is unaware that problems are quietly stacking up (Team FME, 2013).

Change Control

As well as monitoring activities against the plan this process group also includes controlling changes and recommending preventive action in anticipation of potential problems.

No matter how carefully planned a project has been, changes will need to be made as it progresses. These will result from both external influences as well as problems that arise within the project environment. The four main sources of change are:

Environmental: resulting from changes in legislation, government policy, or business strategy.

Organizational: High-level business decisions may change the basic terms of reference of the project for example; there may be a change to the overall scope of the project.

End-User: resulting from changes in customer requirements. It is also possible that feedback gained during the review or testing of a product may show that it is unsuitable in some unexpected way.

Technical: New technology may offer a better solution to that originally planned. Alternatively, technical problems may prevent a product from working in the way that it was supposed to.

All of these potential changes need a process to control them and their effect on the project. This process, called change control, should ensure that proposed changes are interpreted in terms of their potential effect on project timescales, costs, benefits, quality, and personnel. Where there is a proposed alteration to the project's products, change control should analyze the change and assess its impact, prioritize and plan the necessary work, and finally control its implementation. (Team FME, 2013). Any person associated with a project should be able to raise any concern they have at any time. The concern may involve a perceived problem or a suggestion for an improvement to some area of the work, documentation, or project organization. These issues should be reviewed at regular meetings (Wysocki, 2014).

The Scope Change Management Process

Because change is constant, a good project management methodology has a change management process in place. Two documents are part of every good change management process: the project change request and the Project Impact Statement. The first principle to learn is that every change is a significant change. What that means is that every change requested by the client must be documented in a project change request. That document might be as simple as a memo but might

also follow a format provided by the project team. In any case, it is the start of another round of establishing Condition of Statement. Only when the request is clearly understood can the project team evaluate the impact of the change and determine whether the change can be accommodated. The response to a change request is a document called a Project Impact Statement. It is a response that identifies the alternative courses of action that the project manager is willing to consider (Wysocki, 2014).

Project Documentation

Throughout the project, the project manager will generate reports relating to quality issues and conformance. This will include the project status report and weekly status reports. A quality audit will be performed periodically to ensure accuracy of the information. Throughout the project, the project manager will develop lessons learned to be placed in the repository. The lessons learned will address any issues or problems encountered in the quality of the project and the associated resolutions (Team FME, 2013).

The project manager must produce and distribute all the project documentation necessary to reflect any changes to the project plans and/or schedule. The Communication Matrix developed in the Planning Phase will detail the recipients, communication methods, and number of copies required (Wysocki, 2014).

2.3. Effects of Monitoring and Controlling on Project Outcome

Project monitoring is the systematic and regular collection and analysis of data over a period of time to identify and measure changes. Monitoring involves the collection of data prior to and during project implementation (Wysocki, 2014). The primary purpose of monitoring is to document the implementation process, facilitate decision making, and provide feedback for plan review and lessons learnt. According to PRINCE 2, project control is project management function that comprises of monitoring, evaluating and comparing actual versus planned results (ILX Group, 2015). It tracks the project progress towards achieving the stated objectives within project constraints; identifies deviations; evaluates alternative courses of action and takes remedial actions (Larson & Gray, 2011).

Project monitoring and control have increasingly become key functions of project management as projects grow bigger and more complex. It is the process of tracking, analyzing and reporting progress with respect to objectives. This task helps stakeholders to understand the current state of the project, activities undertaken, and the budget, schedule and scope forecasts. Monitoring and control cycle consists of: making a plan; implementing the plan; monitoring and recording the actual output; report the actual output, the planned parameters and the variations and finally; take corrective action on the variations (Shrenash, Pimplikar, & Sawant, 2013). This phase of the project provides an understanding of the project's progress so that appropriate corrective action can be taken when the project's performance deviates significantly from the plan. In traditional project management, control would involve identification of deviations from the project plan and put things back on track. However, the adaptive project management approach identifies changes in the business environment and adjusts the plans accordingly.

This task is carried out throughout the life of the project by taking measurements that help the project team understand progress. This stage has an impact on the business objectives and acceptance of the eventual project outcome in terms of quality. The performance of an organization requires that improvement is seen as a long term and continuous process to improve and sustain high quality project results and therefore ensure project success in all dimensions (Shrenash, Pimplikar, & Sawant, 2013).

2.4. Project Success

The use of projects as a vehicle to achieve business objectives has increased over the past decades (Papke-Shields et al., 2010; Todorovic et al., 2015). Along with increased business practice and growth in membership of project management professional bodies the subject of project management has received large interest from scholars (Cooke-Davies, 2002). However, despite column-miles of studies and publications the academia fails to present a consistent interpretation of the term "project success" (Baccarini, 1999; Thomas and Fernández, 2008). In an extensive review of literature on project success Müller and Jugdev (2012) concludes that no clear definition exists and stresses the need for measurable constructs of project success.

Projects are by definition unique, temporary endeavors and vary in size, context and complexity. Thus, a criterion for measuring the success of a project varies (Mir and Pinnington, 2014) and a general definition of project success and ways to assess it is therefore unlikely (Westerveld, 2003). The task is further obstructed by different interpretations and criteria of success from different stakeholders (Mir and Pinnington, 2014).

Project success is one of the most researched topics in project management because of the importance in understanding how to define success and what factors contribute to achieving it. Despite this the term project success still remains diffuse and often in the eye of the beholder (Judgev & Müller, 2005). The measures used to judge the success or failure of a project, called success criteria, and are the dependent variables that measure success per Morris and Hough (1987). Defining and agreeing upon project success criteria to make project success measurable is a way to overcome the subjective interpretation of project success (Müller & Turner, 2007b).

The major aim of the manager of project work is to ensure success of undergoing project.
Therefore, it includes the duty of manager to determine success of ongoing project in terms of cost, time and expectation of stakeholders. As stated by Scott, (2013) the main indicator of success of the project is comprised of on time finishing of work, finish the work under predicted budget, and most significantly meet the exact desire of customers. As found in several literature works that ultimate success of a project lies in the accomplishment of the proposed reason. One significant part to ensure the success of the project is associated with expressing deliverables of the project. Another view from other relevant researcher has provided the concept that consideration of time and spending of money on the objective of project purpose usually define success. The assurance of project success is associated with administrators of organization that connects all assets, abilities and unpredictable parameters of project (Scott, 2013).

With project management research still in its early stages studies on project success focused on the three aspects of cost, time and quality (Cooke-Davies, 2002), also called the "iron-triangle" (Papke-Shields et al., 2010). These dimensions of performance are still considered highly relevant and frequently used in practice for assessment of project success (Scott-Young and Samson, 2008; Papke Shields et al., 2010).

(Pinto, 2013) define three factors that determine the success of a project: Quality, costs and time, also called the iron triangle (EL-Sheikh & Pryke, 2010).

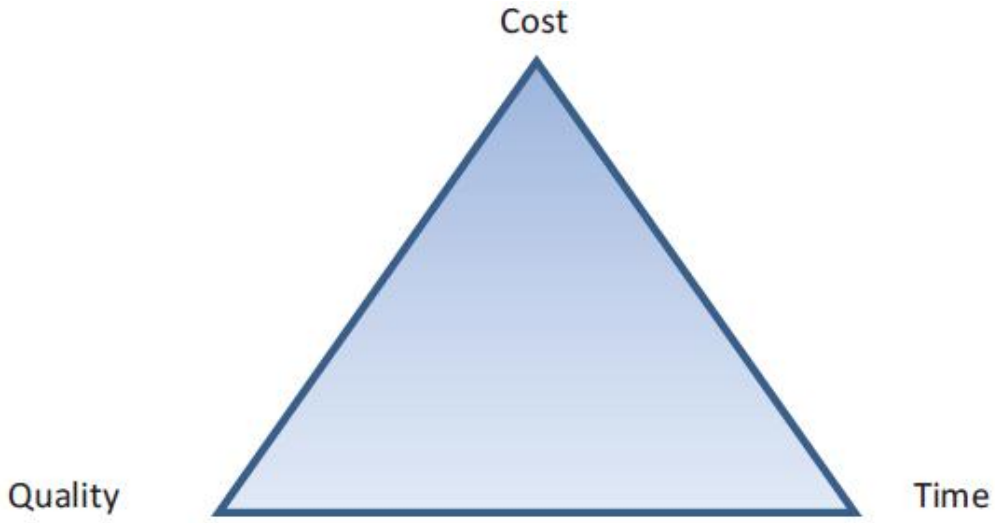

Figure 2.3: Iron triangle

There is consensus among researchers that combining these three measures is the best way to project success (Phua, 2004). Costs, quality and time are specific standards for measuring project success, because all of them can relatively easily be statistically measured. Project has to be completed within the predefined time schedule and budget, respectively measured by quality, delivery time and costs. If one or more of these objectives are not met, the principal's perceived project success is expected to be lower (EL-Sheikh & Pryke, 2010).

2.5. Project Management Success Criteria's

Having established the distinction between project management success and project success it is necessary to elaborate further on how project management success is measured. As mentioned earlier project management success is measured according to the traditional "iron-triangle" of time, cost, and quality.

Time

All projects are constrained to a time frame during which they are to be completed. No projects are intended to continue forever. Thus, one of the basic requirements that control project management and determine its success is whether it is completed on established schedule (Pinto, 2013).

Cost

All projects are constrained to a limited budget, no company has unlimited resources to spend on projects. Projects also compete for resources between each other. In order to use resources efficiently projects must adhere to approved budget. Thus the second requirement that control project management is whether it is completed within budget guidelines or not (Pinto, 2013).

Quality

All projects are produced to meet some form of technical specification determined at project initiation. Thus measuring success equals determining to what extent the project fulfills the specification (Pinto, 2013).

2.6. Conceptual Framework

In this study the independent variable is Project Monitoring and Control. The process and indicators of project progress report, change control and documentation process. The dependent variable is project success.

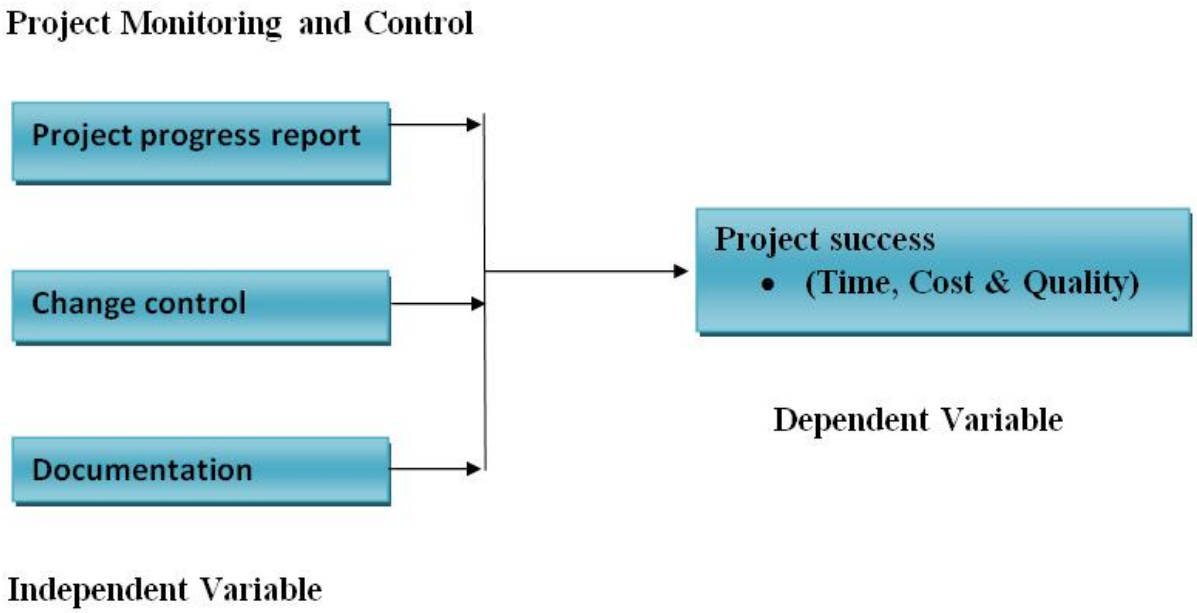

Figure 2.4: Conceptual Framework Source:- adopted form, Karangwa, Mbabaz & Mbera (2016).

CHAPTER THREE

3. Research Methodology

3.1. Description of the Study Area

The study was conducted at Ethiopian airlines digital division PMO under CIO. Under digital Division there are five sections: Digital marketing, Digital sales, Digital solution, Application Development, and PMO & Business transformation. From these sections the main participants on the project management process are Digital solution, Application Development, and PMO and Business transformation. So the study area was the given three sections and data were collected from the given three sections.

3.2. Research Approach

Based on the nature of the research question, the objectives of the study and the availability of relevant information, this study used quantitative research. Quantitative research is a formal, systematic process that describes the relationships among variables.

Quantitative methods emphasize objective measurements and the statistical, mathematical or numerical analysis of data collected through survey. So, in order to meet the objective of the study, answer the given research question and to examine the relationship between the dependent variable and the independent variables the study applied Quantitative research method.

3.3. Research Design

Cooper and Schindler (2003) summarizes the essentials of research design as an activity and time based plan; always based on the research question; guides the selection of sources and types of information; a framework for specifying the relationship among the study variables and outlines the procedures for every research activity.

Since the main objective of the researcher is to assess the effect of project monitoring and controlling process on project success. Explanatory and Descriptive research design were used.

As a result to analyze this relationship the researcher mainly deployed quantitative type of research design. Exploratory research design emphasizes on discovery of ideas, an insights which is especially useful when breaking a broad vague problem statement into a smaller and more precise research question. It is also useful in clarifying concepts and testing measurement methods. Descriptive research design is typically concerned with describing the characteristics of a phenomenon. Descriptive research seeks to determine the answer to who, what, where, and how questions. It also estimates the frequency or proportion and association of variables or it makes some specific predictions (Babbie, 2004). As a result these designs enable to assess and describe the practice of project monitoring and controlling in the Ethiopian Airlines digital PMO.

3.4. Population and Sample

Target population refers to the entire group of individuals or objects from which the study seeks to generalize its findings (Cooper and Schindler, 2003). Under digital division there are five section Digital marketing, Digital sales, Digital solution, Application Development, and PMO and Business transformation. From these sections the main participants on the project management process are Digital solution, Application Development, and PMO and Business transformation. There are a total 43 staffs under these three sections.

The target population for this study included all the above three sections. The Census was included:

- 5 Experts form Business transformation,
- 30 Experts form application development,
- 4 Experts from Digital solution and
- 4 Project managers from Project Management Office.

3.5. Data Sources and Types

In this study, both primary and secondary data used to obtain relevant data. In order to realize the target, the study used well-designed questionnaire survey as best instrument to gather primary data from the selected population.

In addition, the study used secondary data such as: reports related to project management, project management working manual of the company, project reports of the PMO, other relevant documents like journals and other relevant published and unpublished materials that relate to project monitoring and controlling process and project success.

3.6. Data Collection Procedures

The researcher used questionnaires as primarily data collection instrument. Owen (2002) recommends use of questionnaires for its potential to reaching out to a large number of respondents within a short time; ability to accord respondent's adequate time to respond; offers a sense of privacy and confidentiality to the respondent. The researchers therefore select this instrument as a quick and cost effective way to collect data.

The questionnaire were developed using five scales ranking i.e, Linkert scale; where 1 represents strongly disagree, 2 Disagree, 3 Neutral , 4 Agree and 5 Strongly Agree. Self-Administer Drop off survey data collection technique was used. Research Questionnaire prepared for the study contained two parts; The General information of respondent's part and the project monitoring and controlling process part. Under the second parts of the questionnaire total of 24 questions under five sections were prepared with regard to the project monitoring and controlling process and projects success. The section include: the statement regarding with project progress report, change control, documentation, project success and project monitoring and controlling with project success.

3.7. Reliability and Validity

The reliability of an instrument reflects its stability and consistency within a given context. It is the consistency of measurement over time, whether it provides the same results on repeated trails. It is defined as a characteristic of an instrument that reflects the degree to which the instrument provokes consistent responses. Validity is described as the degree to which a research instrument measures what it intends to measure (Radhakrishna, 2007).The main data gathering instruments employed in this study were questionnaire. The questionnaire was taken from two researches (Karangwa, 2016 and Nicholaus, 2016) whose validity and reliability tested and

conducted successful researches. Therefore, the questionnaire validity and reliability were tested by those researchers.

Besides, modification done to customize to the context of this research discussing with experienced researchers in and outside the organization. To confirm whether the adapted instrument is understood by the respondents or not and ensure if it works in this research context a pilot test was conducted. A total of 10 questionnaires were distributed to the respondents from digital staffs, based on their easily accessibility. Then the returned 10 pilot instrument questioners are coded, analyzed, and a Cronobach's Alpha test is identified by SPSS IBM version 20.00.

Table 3.1: Reliability Statistics

Reliability Statistics		
	Cronbach's Alpha	N of Items
Project progress report	0.929	9
Change Control	0.821	4
Documentation	0.873	4
Project Success	0.848	3
Project monitoring and controlling and Project Success	0.921	4

Source: Own survey, 2018

The reliability of the questionnaire was evaluated through Cronbach's Alpha which measures the internal consistency. The Alpha measures internal consistency by establishing if certain item measures the same construct. Cronbach's Alpha was established for every objective in order to determine if each scale (objective) would produce consistent results should the research be done later on. The findings of the pilot study shows that all the four scales were reliable as their reliability values exceeded the prescribed threshold of 0.7 (Mugenda, 2003).

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure (Kothari, 2004).In order to ensure the validness of this study the instruments were checked and evaluated by professionals in the subject matter area. Moreover my advisor had evaluated and commented on the instruments before they are distributed to the respondents.

3.8. Ethical Consideration

The researcher followed ethically and morally acceptable processes throughout the research process. The data collected with the full consent of the participants. In this regard, the names of the respondents not be disclosed and Information were not available to anyone who were not directly involve in the study. In order to safeguard the rights of the participants, the researcher also explained the benefits of the study to the participant.

In addition, The researcher used proper citation, follow truthful collection & analysis of data, maintained data confidentiality, obtained the consent of the case organization and staffs and keep the identity of respondents unanimous based on their consent to meet the ethical obligations of the research.

3.9. Data Analysis

The collected data analyzed using quantitative data analysis methods. The data analysis for the questionnaire was done using SPSS (Statistical Package for Social Science) version 20 after giving numerical code for each response paper. SPSS was selected for the reason that it is readily available and user-friendly analysis tool with which the researcher is acquainted with.

Descriptive statistics such as percentage, frequency and measures of central tendency (mean and standard deviation) were used to summarize the responses. The collected data from the study presented with Descriptive method, in tabulated form to make all the data readable and understandable by all concerned parties. Pearson's product moment correlation and multiple regression models were used to assess the relationship between each independent variable on the dependent variable and the aggregate effect too using SPSS.

CHAPTER FOUR

4. Data Presentation and Analysis

4.1. Introduction

This chapter presents the final results of the analysis of the data obtained from the respondents. This includes background information of respondents, the statistical methods of analysis i.e. descriptive analysis, correlation analysis, and regression analysis. The study targeted a total of 43 respondents. However, only 40 respondents responded and returned their questionnaires contributing to 93% response rate. According to Mugenda (2003) a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent; therefore, this response rate is adequate for analysis and reporting. The questionnaire were developed using five scales ranking i.e, Linkert scale; where 1 represents strongly disagree, 2 Disagree, 3 Neutral , 4 Agree and 5 Strongly Agree. To analyze the collected data with that of the objective set for this research, Statistical procedures were carried out using SPSS Statistics version 20.00.

4.2. Descriptive Analysis

4.2.1. Background Information of Respondents

This section of the analysis deals with the personal data of the study participants (the demography of the respondents) which include: gender, age, level of education, position in the organization and year of working experience.

Table 4.1: Background information of respondents

Response	Frequency	Percent
Gender		
Male	36	90%
Female	4	10%
Total	40	100%
Age of the Respondents		
18 – 25	8	20%
26 – 35	26	65%
36 – 45	3	7.50%
46 – 55	3	7.50%
Total	40	100%
Level of Education		
BA/BSc	38	95%
MA/MSc	2	5%
Total	40	100%
Position in the organization		
Middle Management	3	7.50%
Team Leader	6	15%
Project Manager	3	7.50%
Technical Expert	24	60%
Business Process Expert	4	10%
Total	40	100%
Year of Experience		
Less than 1 year	3	7.50%
1 to 5 year	23	57.50%
5 to 10 years	9	22.50%
Above 10 years	5	12.50%
Total	40	100%

Source: own survey, May 2018

The study involved both male and female respondents. As shown below in Table 4.1, the majority of the respondents were male at 90%, while 10% were female. From the table above, 20 % of the respondents were aged between 18-25 years; 65 % of the respondents were between 26-35 years old; 7.5% of the respondents were in the 36-45 years age category; 7.5 % of the respondents were between 46-55 years range. The age distribution of the respondents revealed different levels of job experience in their respective functional areas. This implies that

Employees are mature enough to provide accurate data which improve the quality of the study and it is possible to say that respondents from different age group have participated in this study.

The responses indicated that majority of the respondent were BA/BSC holders with total number of 38 which represents 95% from the total employee participant of this study. While the remaining 2 (5%) have MA/MSc. With regard to the respondents educational background it shows that the respondent are literate enough in order to understand and answer the research instruments correctly and respondents with different educational background are represented in the study. As it shown on the above Table, the current position of 7.5 % of the respondent were Middle Level Management, 15 % were team leader , 7.5 % were Project Manager , 60 % were Technical Expertise and the remaining 10 % were Business Process Experts. This implies that the respondent were from different organizational work position which the ability to view the subject matter from different perceptive and to provide the accurate and reliable data.

Out of the total respondent, 23 (57.5%) of them have an experience from 1-5 years. While 9 (22.5%) of them have an experience from 6-10 years, 5 (12.5%) of them have an experiences more than 10 years and the remaining 3 (7.5%) have an experience less than one year. This implies that most of the respondents have a lot of working experience which provides them with the ability to view the subject matter under consideration in detailed and elaborated manner.

4.2.2. Mean and Standard Deviation of project monitoring and controlling process and project success

The objective of this study is to assess the effect of project monitoring and controlling process practice on project success in the case of Ethiopian Airlines group digital PMO. In order to measure the extent of actual practices, 24 items were provided for the selected employees under Digital division.

Respondents were asked to indicate their level of agreement on statements that characterize project monitoring and control process and its effect on project success. The Descriptive statistical results of the responses from strongly agree to strongly disagree were tabulated in 7.

Table 4.2: Project Progress Report

Project Progress Report			
Statements	**N**	**Mean**	**Std. Deviation**
Assessment on projects performance are regularly conducted	40	3.53	1.037
Projects progress are monitored and compared with the planned project specifications	40	3.48	1.176
Project status reports are regularly conducted and respective project stakeholders are informed	40	3.75	1.193
Internal Project status meetings conducted with reasonable intervals	40	3.48	1.154
The actual Projects progress regularly compared against with the project schedule/plan	40	3.40	1.194
The Project status reports are accurate, up-to-date and timely	40	3.08	1.141
All members of the project team are kept informed of the status of the projects	40	3.40	1.194
Project status updated data are available to track projects and its performance, in order to identify problems early	40	3.23	1.121
There is effective projects status reporting practice/system	40	3.05	1.037

Source: own survey, May 2018

The respondents moderately agreed with the given statements under project progress report with means from 3.05 to 3.75. The findings indicate respondents were not uniformly in agreement, as deduced from the standard deviations. There were significant standard deviations ranging from 1.037 to 1.194. The finding indicates that there is good practice with regard to project progress report process of the office.

Table 4.3: Change Control

Change Control			
Statements	**N**	**Mean**	**Std. Deviation**
Project change control procedures are well defined at the beginning of the project	40	2.59	1.130
Authority and responsibility for change requests is defined in advance	40	3.30	0.992
The effects of project change assessed in terms of project timescales, costs and quality before the change is approved	40	2.85	1.145
Project changes follow formulated procedures for review and approval	40	2.58	1.230

Source: own survey, May 2018

For the statements given under project Change Control the respondent level of agreements were with mean value from 2.59 to 3.30, which indicate that there is poor practice on the project change control process. First, for the well-defined Project change control procedures at the beginnings of the project the respondent moderately disagreed with mean 25.9 with a standard deviation of 1.130. The effects of project change assessed in terms of project timescales, costs and quality before the change is approved has a mean value 2.85 with standard deviation of 1.145 and for Project changes to follow formulated procedures for review and approval the response with mean 2.58 with standard deviation of 1.230. The response also shows that the respondent moderately agreed on Authority and responsibility for change requests were defined in advance with a mean value 3.30 and standard deviation of 0.992.

Table 4.4: Documentation

Documentation			
Statements	**N**	**Mean**	**Std. Deviation**
The timescale, budget and customer requirements of each projects are clearly defined and documented	40	3.14	1.149
Project progress report and meetings well documented	40	3.15	0.975
Business requirement for any Project changes are well documented	40	3.13	1.042
Decisions to approve or reject changes are well documented	40	3.01	1.008

Source: own survey, May 2018

Form the response, the respondent moderately agreed with the statement which was given under documentation process with a mean value 3.14, 3.15, 3.13 and 3.01 and standard deviation 1.149, 0.975, 1.042 and 1.008 respectively, which means the respondent moderately agreed that, the timescale, budget and customer requirements of each projects were clearly defined and documented, Project progress report and meetings were well documented, Business requirement for Project changes were documented well and Decisions to approve or reject changes were well documented accordingly.

Table 4.5: Project Success

Project Success			
Statements	**N**	**Mean**	**Std. Deviation**
Projects under your division completed on time as planned or earlier	40	2.32	1.085
Projects under your division completed according to the budget allocated or below	40	3.02	1.095
Projects under your division completed and met the quality and customer/business requirement	40	3.49	1.079

Source: own survey, May 2018

With regards to the project success the respondent agreed that project under the office were completed according to the budget allocated and with the expected customer requirement and quality with a mean value of 3.02 and 3.49 respectively. On the other hand the respondent disagreed on the statements which Projects under their division completed on time as planned or earlier with a mean value of 2.32 and standard deviation of 1.085. This indicates that project under the office were mordantly completed as per the planned budget and quality however there were poor practice to complete within the planned timeline.

Table 4.6: Project monitoring and controlling and Project Success

Project monitoring and controlling and Project Success			
Statements	**N**	**Mean**	**Std. Deviation**
The cost, time and quality of the projects are effectively monitored and controlled throughout the project phases	40	3.10	1.081
Effective project monitoring and controlling process/tool exist to complete the projects within the planned timeline	40	2.91	1.074
Effective project monitoring and controlling process/tool exist to complete the projects with the planned budget limits	40	3.11	1.085
Effective project monitoring and controlling process/tool exist to deliver the projects as per the customer requirements	40	3.52	1.095

Source: own survey, May 2018

From the response, on the statements regarding with the relationship of Project monitoring and controlling process with Project Success the respondents moderately agreed with all the given

statements except on existence of effective project monitoring and controlling process/tool to complete the projects within the planned timeline, which has a mean value of 2.91 with standard deviation 1.074. The mean value for the rest of statements; the cost, time and quality of the projects are effectively monitored and controlled throughout the project phases, Effective project monitoring and controlling process/tool exist to complete the projects with the planned budget limits and Effective project monitoring and controlling process/tool exist to deliver the projects as per the customer requirements, is 3.10, 3.11 and 3.52 respectively, which indicate that moderately there is effective project monitoring and controlling system to meet the project success.

Table 4.7: summary of Mean and Standard Deviation project monitoring and controlling process and project success

	N	Mean	Std. Deviation
Project Progress Report	40	3.43	.931
Change control	40	2.83	.992
Documentation	40	3.28	.905
Project success	40	2.94	1.017
Project Monitoring and control and Project Success	40	3.16	1.075

Source: Own Survey, May 2018

The above descriptive statistics clearly indicates the corresponding arithmetic mean and standard deviation of every construct totals (total of every individual categorical construct). Thus, Project Progress Report categorical total has a mean of 3.43 and a standard deviation of .931, Change Control categorical total has a mean of 2.82 and a standard deviation of 0.992 and Documentation categorical total has a mean of 3.28 and a standard deviation of .905, Which shows that Project Progress Report and project Documentation of the PMO is above the average cut-off point of three.

This analysis of mean of categorical constructs showed that the mean values of Project Progress Report and project Documentation of the PMO is above the average standard, while project change control has a mean value less than the average standard. This implies that the project change control process is weak and employees are moderately satisfied with project monitoring and controlling process indicators in the ET digital PMO. While Project success categorical total

has a mean of 2.94 and a standard deviation of 1.017, this implies that the practice of project monitoring and controlling processes affected the project's successes of the organization and it is revealed that the project progress follow up and reporting process, the project change controlling practice and project documentation had a greater influence on projects success of the PMO.

4.3. Correlation Analysis

According to Pallant (2010), correlation analysis is used to describe the strength and direction of the linear relationship between two variables. In this analysis, Bivariate Pearson Product-Moment Coefficient (r) has been used to see the relationship between the dependent and independent variables. Correlation analysis, in this study determines the strengths of relationship between (project monitoring and controlling process and project success).

The Pearson's correlation indicates the strength of a relationship between variables by a value that can range from -1.00 to 1.00; where 0 to 0.29 is considered weak positive correlation; 0.3 to 0.49 is moderately positive correlation; and 0.5 to 1 corresponds to strong positive correlation. Conversely, 0 to -0.29 is considered weak negative correlation; -0.3 to -0.49 is moderately negative correlation; and -0.5 to -1 corresponds to strong negative correlation (Pallant, 2010).

Table 4.8: Correlation matrix for the project monitoring and controlling process

Correlations

		Project Progress Report	Change control	Documentation
Project Progress Report	Pearson Correlation	1	.450*	.445*
	Sig. (2-tailed)		.027	.029
	N	40	40	40
Change control	Pearson Correlation	.450*	1	.622**
	Sig. (2-tailed)	.027		.000
	N	40	40	40
Documentation	Pearson Correlation	.445*	.622**	1
	Sig. (2-tailed)	.029	.000	
	N	40	40	40

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

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

Source: own survey, May 2018

Table 4.9: Pearson Correlation between project monitoring and controlling process indicators and project success

Project monitoring and controlling process indicators		Project success
Project Progress Report	Pearson Correlation	.674**
	Sig. (2-tailed)	.000
	N	40
Change control	Pearson Correlation	.635**
	Sig. (2-tailed)	.000
	N	40
Documentation	Pearson Correlation	.491**
	Sig. (2-tailed)	.000
	N	40
**. Correlation is significant at the 0.01 level (2-tailed).		

Source: own survey, May 2018

Correlation results presented in Table 9, show that there is significant strong positive relation between Project Progress Report in project monitoring and controlling process and projects success (sig=.000, r= .674).

There is significant strong positive relation project change control and projects success (sig=.000, r= .635).

The results implies there is moderate positive correlation relation between documentation and projects success (sig=.000, r =.491).

Table 4.10: Pearson Correlation between project monitoring and controlling process and project success

		Project success
Average project monitoring and controlling process indicators	Pearson Correlation	.709**
	Sig. (2-tailed)	.000
	N	40
**. Correlation is significant at the 0.01 level (2-tailed).		

Source: own survey, May 2018

Table 4.9, respectively illustrates that the Pearson correlation between three statements of project success with project monitoring and controlling process of three indicators that contain 17

statements is measured and indicates inter-correlations between project success and the total three indicators of project monitoring and controlling process. This implies that project monitoring and controlling process has high correlations with project success. According to Hair, (2007) when taking into account the correlation between the independent variable (project monitoring and controlling process) and the dependent variable (project success), the more the degree of the correlation, the stronger linear relationship between them would be.

From the analysis, it is noted that project monitoring and controlling process is positively correlated (r = 0.709, sig=.000) with project success.

4.4. Regression Analysis

Multiple regression analysis was employed to examine the effect of project monitoring and controlling process practice on project success. multiple regression analysis is "an analysis of association in which the effects of two or more independent variables on a single, interval scaled dependent variable are investigated simultaneously" (Zikmund et al., 2010).

According to Hair Jr. et al. (2007), Multiple Regression Analysis, a form of general linear modeling, is an appropriate statistical technique when examining the relationship between a single dependent (criterion) variable and several independent (predictor) variables. They explained that idea of using multiple regression analysis is to use the independent variable whose values are known to predict the single dependent value selected by the researcher. In this study multiple regressions were conducted in order to examine the relationship between project progress report, change control and documentation with project process.

Multicollinearity Test: in multiple regression analysis, multicollinearity refers to the correlation among the independent variables. According to (Kline, 1998) multicollinearity is not a threat if a correlation value is less than 80%. Before conducting the multiple regression analysis, the researcher examined the result of multiple correlations among the independent variables and found that, the pair wise correlation between the independent variables is less than 80%.As it shown in Appendix: E.

Table 4.11: Results of multiple regressions between project success and the combined effect of project monitoring and controlling process predictors

Model Summary[b]									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.798[a]	.637	.607	.638	.637	21.050	3	36	.000
a. Predictors: (Constant), Documentation, Project Progress Report , Change control									
b. Dependent Variable: Project success									

Source: own survey, May 2018

R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of multiple determinations for multiple regressions. It is commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted R^2, also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. From the analysis, as per the Table 4.10, the adjusted R square was 0.607 the model estimated shows that there was 60.7% positive variation in project success as a result of changes in the project monitoring and controlling process groups explained by model. 39.3% of the variation in project success was explained by other factors other than project monitoring and controlling process adopted by the ET Digital PMO. In other way, it is noted that 60.7% of the changes in the project success variables could be attributed to the combined effect of the predictor variables or there is 60.7% of variation in project success due to project monitoring and controlling process. The implication is that 39.3% per cent of the changes in project success can be attributed to other factors

Table 4.12: Analysis of variance results of the regression analysis between Project success and predictor variables

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.715	3	8.572	21.050	.000[b]
	Residual	14.660	36	.407		
	Total	40.375	39			
a. Dependent Variable: Project success						
b. Predictors: (Constant), Documentation, Project Progress Report , Change control						

Source: own survey, May 2018

From the analysis, it is noted that the probability value of 0.000 ($p<0.05$) indicates that the regression relationship was highly significant in predicting how project progress report, change control and documentation influenced project success. The critical F-value is 3.622 at 99% level of confidence. Thus, with F calculated (=21.050) > F critical (=3.622); the model generally statistically significant. Further, the findings show that the overall model was significant.

Table 4.13: Regression coefficients of the relationship between project success and the predictive variables

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	.004	.088		.047	.453
	Project Progress Report	.417	.119	.406	4.659	.000
	Change control	.357	.134	.348	3.263	.002
	Documentation	.057	.146	.051	.390	.699
a. Dependent Variable: Project success						

Source: own survey, May 2018

The regression model is derived from Table 4.10 as:

$$\mathbf{Y = 0.004 + 0.417X_1 + 0.357X_2 + 0.057X_3 + \epsilon}$$

Where: Y = Project Success

$\mathbf{X_1}$ = Project Progress Report

$\mathbf{X_2}$ = Change control

$\mathbf{X_3}$ = Documentation

ϵ = Standard Error

The regression model provided statistical control through which the study established the influence of each predictor variable. Holding all variables at zero will result in a positive project success equal to 0.004. In a similar way, keeping all other independent variables constant, a unit change in project progress report will result in 0.417 increments in project success. This means that project progress report had a great influence on increasing the project's success in the study organization. The statically significance level of this variable is 0.000; this is at 95 percent confidence interval.

The findings also indicate 0.357 increments in project success with change control excluding the other independent. This means, when project change control increase by a level the project success will increase by around 36 %, keeping other factors constant. This implies that project change control had a significant effect on increasing project's success in the study organization. The statically significance level of this variable is 0.002; this is at 95 percent confidence interval.

In addition, a unit increase in documentation while holding the rest of independent variables constant would lead to a 0.057 increments in favorable project success. The results also show that the coefficients for each variable are non-zero. This therefore means that all the independent variables influence the response variable. However, since the p-values for documentation is greater than 0.05, this predictor is not very significant. On the other hand, project progress report and project change control are significant predictors of project success with a p-value of less than 0.05

CHAPTER FIVE

5. Conclusion and Recommendations

5.1. Summary of Findings

The primary purpose of monitoring is to document the implementation process, monitor the progress of the project, facilitate decision making, control scope change, and provide feedback for plan review and lessons learnt (ILX Group, 2015). Project monitoring and control is project management function that monitors the project progress, evaluating and comparing actual versus planned results. The finding of the study on the project monitoring and controlling process practice of the PMO shown below:

- With regard to the project progress follow up and progress, the respondent asked their level of agreements for the provided nine project progress report indicator statements. The statements are mainly concerned on regular project performance assessment, actual project status comparison with the planned, project status meeting with reasonable interval, on time and accuracy of timely project report, updated data availability and effectiveness of the reporting system. The respondents moderately agreed with the above listed project progress report indicators. According to (Pinto & Slevin, 1988) if the given process is implemented in the organization, we can say that there is good practice of project progress follow up and reporting practice.

- With regard to the documentation process the level of agreement of the respondents were above the average standard which indicates that there is sufficient documentation practice in the project monitoring and controlling processes of the PMO.

- The study result also indicated there is poor project change control process on the PMO. As per the response, authority and responsibility for project scope change request are outlined well in advance. However, the respondent levels of agreements on the other project change control process are under the average standard. Such as, the project change control procedures are not well defined at the beginning of the project, there is

poor practice to assess the effect of project change in term of project timescales, costs and quality before the change is approved, risk and impact analysis is not well conducted for changes in project, and fail to follow formulated procedures for review and approval of project changes. According to Larson and Gray (2011) who asserted that project control process, the result implies that there is poor project change controlling practice in the PMO.

- With regard to the project success as per the collected data from the respondent the mean value show that there is good practice shown to complete projects under as per the planned quality, however most of the projects completed with a poor time and cost performance. The document review by the researcher also shows that some of the projects were not completed timely as planned.

- In general the results of the collected data analysis of the study shows that the there is good project monitoring and controlling practice in the organization, however relatively there is poor project change control process in the PMO which result to complete the project beyond the preplanned timeline.

5.2. Conclusions

The main objective of this research was to assess the effect of project monitoring and controlling practices on project successes of Ethiopian Airlines Group Digital PMO. The study targeted a total of 43 respondents. However, only 40 respondents responded and returned their questionnaires contributing to 93% response rate. Respondent from different age group, educational background, and year of experience are represented in the data collected.

The result of background of respondents shows that majority of the total respondents are male with total of 36 (90%) while the remaining 4 (42.8%) were female. with regard to age most of respondents around 65 % are in the age range between 26-35, this implies that they were mature enough to provide accurate data. Majority of the employee sample group were BA/BSC holders with total number of 38 which represents 95% from the total employee participant of this study. Also majority of respondents have a working experience from one to five years with total number of 23 which represent 57.5% from employee participant of this study and 9 (22.5%) of

the respondents have an experience from 6-10yeras and the remaining 5 which is 12.5% of them have working experience more than ten years in the organization. With regard to the working job position, the current position of 7.5 % of the respondent were Middle Level Management, 15 % were team leader , 7.5 % were Project Manager , 60 % were Technical Expertise and the remaining 10 % were Business Process Experts.

The statistical result obtained with descriptive statics show that majority of respondents are moderately satisfied with the existing current Project Progress follow up and Report practice and project Documentation practice of the PMO, while the respondent less satisfied with the current project change controlling practice of the PMO. Furthermore, the overall result show that the project monitoring and controlling processes practice of the PMO affected the project's successes of the organization, and it is revealed that the project progress follow up and reporting process, the project change controlling practice and project documentation had a greater influence on projects success of the PMO.

The correlation analysis result is used to understand the degree of relationship between the independent variable (project monitoring and controlling processes) and dependent variables (Project Success). From the analysis, it is noted that project monitoring and controlling processes is positively correlated ($r = 0.709$, P. value .000) with Project Success. This implies that there is significant and positive relationship between the project monitoring and controlling processes practices and project success.

Multiple regression analysis was conducted to test the influence among predictor variables. The regression analysis results showed that, 60.7% of the changes in the project success variables could be attributed to the combined effect of the predictor variables and probability value of 0.000 ($p<0.05$) indicates that the regression relationship was highly significant in predicting how project progress reporting practice, change control and documentation process influenced the success of the projects.

Moreover, the value of $p < 0.05$ for the project progress report (P=.000) and Change control (P=.002). From the analysis, it is noted that that project progress report and Change control

process have significant effect on project successes and can be considered as good predictors. Also, the regression result shows that variable documentation has positively affected the project success but statically insignificant, at 95 percent significant level. Hence, the variable is statically insignificant explaining the variation of project success. The finding indicate that the project monitoring and controlling process had likely to generate higher level of project success, as the project progress follow up and report conduct effectively, change on the project controlled and good project documentation practice exist.

Finally, the study concludes that project monitoring and controlling process plays significant contribution to the project success. Among all the project monitoring and controlling process, project documentation has moderate positive relationship between the project successes; whereas project progress report process and project change control process has strong project relationship with project success. In addition, both project progress report and project change control has strong influence the project success, in other hand the project documentation has positive influence on project success but with the insignificant level. However, the overall project monitoring and controlling process have strong impact on the project success.

5.3. Recommendation

The basic purpose of project monitoring and controlling process should be to accomplish the project success According to Iman & Siew (2008), poor project monitoring and controlling practice is the major causes of project failure. Monitoring and controlling are essential components of any project and are crucial to is success. If the monitoring and controlling process are well implemented throughout the project phases, it has stronger impacts to achieve the project goal and for project success.

Based on the major result and findings of the study, the following recommendations have been drawn:

- The study recommends that organization need to focus on project monitoring and controlling practice especially on the project progress follow up and project change control area as they have significant impact on the project success.
- The organizations need to have well defended and clear project scope change control procedures at the beginning of the project.

- In order to reduce the project change request and to complete the projects as per the planned time limit, the organization need to have clear communication with customer and business requirement should be clearly defined and documented in advance.
- Project monitoring and control is an ongoing process throughout the project life cycle (from initiating to closing), so to have successful project achievement the organization should have to regularly assess the status of the project against the planned time, cost and quality.
- Projects need to be defined clearly and the planning process should involve the respective project stakeholder and client (customer), in order to identify the exact customer requirements and to build the Scope of the project. This help to avoid frequent change request, delay and cost overrun.
- The cost, time and quality (the customer expectations and business requirement) of the projects should effectively monitor and controlled regularly throughout the project phases and documented.
- Project progress follow up and reporting and project change control are the main process in the project monitoring and controlling process that have significant impact on the project success. Organizations need to have up to date progress recording system which helps to track the project status.
- With regard to project changes, the study suggests that Business requirements for project change request should be well defined and documented
- Project change request should involve clear communication and risk and impact analysis should have to conduct before approval the change request.
- Finally, the study suggests the introduction of effective monitoring tools; training of staff on use of monitoring tools; use of effective communication and improved reporting and documentation in order to improve the monitoring and control process and to improve the project success rate of the organization.

5.4. Direction for Future Research

This study was conducted to assess the effect of project monitoring and controlling practice on project success in Ethiopian airlines, the study conducted only on the selected PMO under digital division. The sample was drawn from digital division staffs under CIO, thus this study may be

limited in its generalisibility of the findings to the overall organization. So, future research should have to draw sample of respondents on more number of divisions under the organization for the sake generalizing the results of the study.

The practice of project management is in its early ages in Ethiopia and only few researches were conducted that are relevant to project management. Concerning the overall project management practice of an organization, the researcher could not find researches conducted in Ethiopian airlines context. Thus, future researches can be conduct in detail and on other project management process and knowledge areas to contribute for project management growth in Ethiopia.

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Appendixes

APPENDIX A: Questionnaire

Questionnaire
Addis Ababa University School of Commerce
Post Graduate Program
Department of Project Management

Dear Respondents

Dear Participants, I am student of MA (PM) at Addis Ababa University, School of Commerce. I am conducting a research on **"Assessing the Effect of Project Monitoring and Controlling Practice on Project Success in the case of Ethiopian Airlines Digital Project Management Office"**

Confidentiality: I want to assure you that, this research is only for academic purpose authorized by AAU, Thus your ideas and comments are highly honored and kept confidential. To create conducive environment for your free and genuine responses you are not required to write your name. The quality of the result of this research is based on the accuracy of the information you provided. To the end, I would like to forward my deepest gratitude for your unreserved cooperation in filling the questionnaire.

Henok Abebe
Email: henoka222@gmail.com

Thank you for your cooperation.

General Guideline:

- No need to Write your Name
- Please put **a tick "√" mark** for your choices.
- The response scale for the questions is as below:
  - **5= Strongly Agree,**
  - **4= Agree,**
  - **3= Neutral,**
  - **2= Disagree,**
  - **1= Strongly Disagree**

Section 1: Background Information

1.1. Gender

1. Male ☐ 2. Female ☐

1.2. Age

1. 18 - 25 ☐
2. 26 - 35 ☐
3. 36 - 45 ☐
4. 46 - 55 ☐
5. Above 56 ☐

1.3 Educational Background

1. Diploma ☐ 2. BA/BSc ☐ 3.MA/MSc ☐ 4. Ph. D ☐

If other, please specify…….

1.4. Position in the organization

1. Top Management ☐
2. Middle Management ☐
3. Team Leader ☐
4. Project Manager ☐
5. Technical Expert ☐
6. If other, please specify…….

1.5. Year of Experience

1. Less than 1 year ☐
2. 1 to 5 year ☐
3. 5 to 10 year ☐
4. Above 10 year ☐

Section 2: project monitoring and controlling process

The following are statements on project monitoring and controlling practice in relation to project success. With regard to your Digital PMO projects monitoring practices, please indicate your level of agreement using the scale: *Strongly Agree (5), Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).*

Nbr	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
Project Progress Report						
1	Assessment on projects performance are regularly conducted					
2	Projects progress are monitored and compared with the planned project specifications.					
3	Project status reports are regularly conducted and respective project stakeholders are informed.					
4	Internal Project status meetings conducted with reasonable intervals.					
5	The actual Projects progress regularly compared against with the project schedule/plan					
6	The Project status reports are accurate, up-to-date and timely.					
7	All members of the project team are kept informed of the status of the projects					
8	Project status updated data are available to track projects and its performance, in order to identify problems early.					
9	There is effective projects status reporting practice/system.					
Change control						
10	Project change control procedures are well defined at the beginning of the project					
11	Authority and responsibility for change					

	requests is defined in advance					
12	The effects of project change assessed in terms of project timescales, costs and quality before the change is approved.					
13	Project changes follow formulated procedures for review and approval					
Documentation						
14	The timescale, budget and customer requirements of each project are clearly defined and documented.					
15	Project progress report and meetings well documented.					
16	Business requirement for any Project changes are well documented.					
17	Decisions to approve or reject changes are well documented					
Project success						
18	Projects under your division completed on time as planned or earlier.					
19	Projects under your division completed according to the budget allocated or below.					
20	Projects under your division completed and met the quality and customer/business requirement.					
Project Monitoring and control and Project Success						
21	The cost, time and quality of the projects are effectively monitored and controlled throughout the project phases.					
22	Effective project monitoring and controlling process/tool exist *to complete the projects within the planned timeline*					
23	Effective project monitoring and controlling process/tool exist *to complete the projects with the planned budget limits.*					
24	Effective project monitoring and controlling process/tool exist to *deliver the projects as per the customer requirements*					

This is End of the Questionnaire

Thank you again for your genuine and honest response!!

APPENDIX B:

Results of Descriptive Statistics, of Project monitoring and controlling and project success

Descriptive Statistics			
project monitoring and controlling process and project success			
	N	**Mean**	**Std. Deviation**
Assessment on projects performance are regularly conducted	40	3.53	1.037
Projects progress are monitored and compared with the planned project specifications	40	3.48	1.176
Project status reports are regularly conducted and respective project stakeholders are informed	40	3.75	1.193
Internal Project status meetings conducted with reasonable intervals	40	3.48	1.154
The actual Projects progress regularly compared against with the project schedule/plan	40	3.4	1.194
The Project status reports are accurate, up-to-date and timely	40	3.08	1.141
All members of the project team are kept informed of the status of the projects	40	3.4	1.194
Project status updated data are available to track projects and its performance, in order to identify problems early	40	3.23	1.121
There is effective projects status reporting practice/system	40	3.05	1.037
Project change control procedures are well defined at the beginning of the project	40	2.59	1.13
Authority and responsibility for change requests is defined in advance	40	3.3	0.992
The effects of project change assessed in terms of project timescales, costs and quality before the change is approved	40	2.85	1.145
Project changes follow formulated procedures for review and approval	40	2.58	1.23
The timescale, budget and customer requirements of each project's are clearly defined and documented	40	3.14	1.149
Project progress report and meetings well documented	40	3.15	0.975
Business requirement for any Project changes are well documented	40	3.13	1.042
Decisions to approve or reject changes are well documented	40	3.01	1.008
Projects under your division completed on time as planned or earlier	40	2.32	1.085
Projects under your division completed according to the budget allocated or below	40	3.02	1.095
Projects under your division completed and met the quality and customer/business requirement	40	3.49	1.079

The cost, time and quality of the projects are effectively monitored and controlled throughout the project phases	40	3.1	1.081
Effective project monitoring and controlling process/tool exist to complete the projects within the planned timeline	40	2.91	1.074
Effective project monitoring and controlling process/tool exist to complete the projects with the planned budget limits	40	3.11	1.085
Effective project monitoring and controlling process/tool exist to deliver the projects as per the customer requirements	40	3.52	1.095

APPENDIX C:

Correlation result of the dependent and independent variable

```
CORRELATIONS
  /VARIABLES=Q1 Q2
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Correlations

[DataSet0]

Correlations

		project monitoring and controlling process	Project success
project monitoring and controlling process	Pearson Correlation	1	.709**
	Sig. (2-tailed)		.000
	N	40	40
Project success	Pearson Correlation	.709**	1
	Sig. (2-tailed)	.000	
	N	40	40

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

APPENDIX: D

Regression result for the dependent and independent variable

Regression

```
[DataSet1] C:\Users\heni\Documents\VARABLES.sav
```

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Documentation, Project Progress Report, Change control[b]	.	Enter

a. Dependent Variable: Project success

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.798[a]	.637	.607	.638	.637	21.050	3	36	.000

a. Predictors: (Constant), Documentation, Project Progress Report , Change control

b. Dependent Variable: Project success

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.715	3	8.572	21.050	.000[b]
	Residual	14.660	36	.407		
	Total	40.375	39			

a. Dependent Variable: Project success

b. Predictors: (Constant), Documentation, Project Progress Report , Change control

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.004	.088		.047	.453
	Project Progress Report	.417	.119	.406	4.659	.000
	Change control	.357	.134	.348	3.263	.002
	Documentation	.057	.146	.051	.390	.699

a. Dependent Variable: Project success

APPENDIX:E

Correlation matrix for the project monitoring and controlling process

Correlations

		Project Progress Report	Change control	Documentation
Project Progress Report	Pearson Correlation	1	.450*	.445*
	Sig. (2-tailed)		.027	.029
	N	40	40	40
Change control	Pearson Correlation	.450*	1	.622**
	Sig. (2-tailed)	.027		.000
	N	40	40	40
Documentation	Pearson Correlation	.445*	.622**	1
	Sig. (2-tailed)	.029	.000	
	N	40	40	40

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

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

Note that: A pair wise correlation below 80% indicates the absence of series problem of multi-Collinearity in the regression equation as indicated in the above correlation matrix.