ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

Assessment of the common project failure causes at Addis Ababa Housing Development Project Office to propose a solution based on PMKAs

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February, 2020

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Assessment of the common project failure causes at Addis Ababa Housing Development Project Office to propose a solution based on PMKAs

A Thesis Submitted to Addis Ababa University, School of Commerce in Partial Fulfillment of the Requirements for the Degree of Master of Art in Project Management

By

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February, 2020

Assessment of the most significant causes of project failure at Addis Ababa Housing Development Project Office to propose a solution based on PMKAs

BY

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_____	Advisor	_____	_____
_____	Examiner	_____	_____

Abstract

Projects failure is a common phenomenon in the current society. The construction industry is one of the most practical examples of project based industries. Amongst the multitude construction projects here in Addis Ababa, one is the Housing Development Project with the main objective of addressing the housing needs of the city and other socio-economic goals. However, according to the reports the Addis Ababa Housing Development and Administration Bureau, only 180,000 houses have been delivered to the beneficiaries since the establishment of the project office in 2005, that means it has failed to achieve its objectives as of the conventional success metrics. Due to this, it becomes critical to understand the most significant causes that hindered the project to succeed. Hence, this study is aimed to identify the most significant project failure causes of the office, the knowhow and practice of PM theories and concepts, and the ten PMKAs, of course, based on the perceptions of the practitioners in the project execution.

This case study is an exploratory type and used a mixed method approach research design with a multi-level cluster sampling techniques. The data was collected using documents reviews, semi-structured interview and questionnaires; and the analysis was made using thematic analysis and SPSS tools sequentially for qualitative and quantitative date consecutively.

Manpower, Planning and Procurement related causes were found to be most significant, and the assessment revealed that the PM theories and the ten PMKAs neither known well nor practiced in the project office. Eventually an attempt was made to relate the identified most significant causes with the PMKAs. As the most significant project failure causes were directly related with the PMKAs like PMI, PHRM and PPM, a more intense Project Management expertise and practices were recommended for the improvement of the project office's performance.

Keywords: Project failure, project failure causes, Project Management, Project management Knowledge Areas, most significant causes

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LIST OF ACRONYMS

AAHDPO……	Addis Ababa Housing Development Project Office
AC……..	Actual Cost
ACWP……	Actual Cost of Work Performed
AHP……	Analytical Hierarchy Process
AIHDP……	Addis Ababa Integrated Housing Development Program
APPP……..	Artifact-process-performance indicator-performance
AVE……	Average Variance Extracted
BCWP……	Budgeted Cost of Work Performed
BCWS……	Budgeted Cost of Work Scheduled
BWM…….	Best-Worst Method
EV…….	Earned Value
EVMS……	Earned Value Measurement System
FSEs……..	Field Status Expert
FSU……	First Stage Units
HDPO……	Housing Development Project Office
IHDP……..	Integrated Housing Development Program
IT……	Information Technology
MSEs……..	Micro and Small Enterprises
NGOs…….	Non Governmental Organizations
OEQ……	Objective Evaluation Questionnaire
PBOs……..	Production Based Organizations
PCM……	Project Cost Management
PCoM…….	Project Communication Management
PHRM……	Project Human Resource Management
PI-KA……..	Performance Indicator-Knowledge Area
PIM……..	Project Integration Management
PLS……..	Partial Least Squares
PM……...	Project Management or Project Manger/s
PMBOK……..	Project Management Book Of Knowledge
PMI…….	Project Management Institute
PMKA…….	Project Management Knowledge Area
PMKAs……	Project Management Knowledge Areas
PPM…….	Project Procurement Management
PQM……	Project Quality Management
PRM……	Project Risk Management
PSM……	Project Scope Management
PTM……	Project Time Management
PV……	Planned Value
SAW……	Simple Additive Weight
SBOs……	Service Based Organizations
SEM…….	Structural Equation Model
SPM…….	Senior Project Manager
SPSS……	Statistical Package for Social Science
SSU…….	Second Stage Units
WBS……	Work Breakdown Structure

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CHAPTER ONE

1.1 Introduction

In recent years, project management has become an important part of any organization and/or government as a result of the changing nature of managing organizations due to technological advancement, and a complex, competitive global marketplace. Projects require huge capital outlay from organizations and/or governments; however, literatures indicate that huge sums of money are being lost through project failure and Ethiopia's government is no exception to this trend.

Projects failure is a common phenomenon in the current society. According to researches, from past experiences and historical recordings, there have been various projects that have been on the verge of collapsing or totally get canceled because of various reasons. Fidelis et al. (2015) stated that Project failure has become a recurrent feature of construction projects in developing countries. This manifests not only as abandonment of projects, but in the form of structural defaults leading to structural collapse, prolonged projects delivery time, cost overshoots and client dissatisfaction. Understanding project failures is a critical concept to consider in the current world markets. Taking historical examples and the causes attributed to it should actually be treated extensively.

The construction industry is one of the most practical examples of project based industries. This study is aimed to pin point the major problems faced in Addis Ababa Housing Development Projects, mainly focused on the most influential problems that caused the project failure to attain its envisaged objectives, and propose related project management knowledge areas to be considered on the observed top rated problems. Beside the common problems listed above as a general causes for project failure, other technical and managerial problems will be investigated, analyzed and sorted. And then the main problems that highly hindered the project success will be identified so that the responsible entities can address these problems priorly from others with lesser impact.

1.2 Background of the study

Housing is one of the major challenges of the city of Addis Ababa due to the increasing population and high rate of urbanization. It is an acute problem especially for low-income households that account for over 80 percent of the city's population. Accordingly, addressing the city housing needs is complex and it is stated that more than 70 percent of the population

of Addis Ababa lives in slums with inhuman and unhygienic conditions (UN HABITAT, 2008). Likewise, the unemployment rate of the city is reaching about 40 percent. The city economy remains weak making it difficult for the city to accommodate the large number of housing demands and provide urban services as well as create employment opportunities for the rapidly growing population.

It is good to note that access to affordable and adequate house is beyond living in a box of floor, walls, and roof. It is estimated that only 30% of Ethiopia's total housing stock is in fair condition, while the remaining 70% is in need of total replacement. The Center for Affordable Housing in Africa 2013 year book by referring a 2007 survey stated that "in Addis Ababa alone, the demand was between 35,000 and 45,000 housing units to be supplied annually for 10 years to replace the existing (70%) dilapidated stock as well as cater for new household formation. At the current rate of supply, even with the progress of government housing programs, this is unlikely to be met, especially in the middle to lower income bands (Rust and Gavera, (ed.), 2013).

Cognizant of these challenges, the Addis Ababa city government took the initiative to reverse the situation and committed itself to new and innovative approaches through the integrated housing development program in 2004 for the low- and middle income families and also to reduce urban poverty and improve the lives of slum dwellers and to bring sustainable socio-economic transformation. UN-Habitat (2011) reported that Addis Ababa city administration has started an ambitious of housing construction and inner city up grading program. The initial goal of the Integrated Housing Development Program (IHDP) was to construct 400,000 condominium units, create 200,000 jobs, promote the development of 10,000 micro and small enterprises, enhance the capacity of the construction sector, regenerate inner-city slum areas, and promote homeownership for low-income households (Gerawork, Bewket, and Kelemework, 2020). Moreover, it is also expected to encourage saving habits to the people having in mind that they can be benefited from the homeownership objective of the program. Thus, in the same year, the Addis Ababa Housing Development Project emerged from the government's preliminary exploration of more effective and affordable housing construction techniques, to execute and achieve the objectives of the program in different areas of the city.

The AAHDP is a government led program administered and managed by the Housing Development Office to supply mass housing stock and to create job opportunities for

thousands of people especially the youths. Capacity building programs to train and assist small-scale contractors and MSEs in the construction process support the program. One of the unique characteristics of the program is that it has a variety of large numbers of stakeholders with distinct job specifications. The HDPO project office manages and administers the project as a client. Assisting HDPO in contract administration, the consultants supervise and inspect the works. MSEs are responsible for the production of construction material and installation works. The contractors on the other hand are responsible for the construction of major structures of the building with the material provided to them by HDPO and MSEs.

Traditionally, project success has been seen by the PMI's iron triangle of cost, time and conformance to requirement (quality). Timely completion of a construction project within budget and required quality is frequently seen as a major criterion of project success by clients, contractors, consultants and related stakeholders (Tebeje, 2016). On the other hand, some other developments in project management practices, and authors and practitioners' awareness of the existence of numerous stakeholders associated with projects, especially public or government projects have caused a paradigm shift from the traditional definition of project success/failure towards after-delivery stage or post-delivery phase to the impact stage (Damoah, 2015).

However, the Addis Ababa Housing Development Project Office is inevitably suffering from failure. As Lemma, (2018) has revealed in his study, the Addis Ababa condominium housing project implementation is extremely low compared to the housing demand. In eleven years, only 30% of the need was achieved hardly. Dejene, (2017) also stated that, the attempts made by the AAHDPO to deliver house services did not adequately address the housing needs of the citizens. It is known that, the housing projects were not delivered with the scheduled time, estimated budget and with the expected minimum quality requirements. This fact has been witnessed by the city so far as the execution of the housing development in numbers stated are more than 332, 000 since 2005 and out of these houses completed and delivered are counted around only 180,000. But the registered city residents both in 2005 and 2013 are more than 1.2 million. Which shows that there are still around 868,000 back logged houses that their construction has not been started yet (Addis Ababa Housing Development and Administration Bureau, 2018). Therefore, the high investment from the city's limited resource for the mass housing construction is not successful compared to the traditional project success evaluation criteria.

1.1 Problem statement

Addis Ababa, the capital city of Ethiopia has faced very rapid population growth due to immigration and natural growth. As stated by Nigussie (2019), the high percentage of urban slum dwellers coupled with 3.8% population growth bring a significant challenge for Addis Ababa in providing affordable and adequate housing. Due to this fact, the city administration faces the challenge of massive housing construction and delivery to the registered beneficiaries and the rapid population growth hinders the city administration's endeavors by creating more pressure on demand for housing. However, the housing development pace is not so fast to entertain the huge number of population and the need. Because of this, there is severe housing shortage in the city. Most of the residents of Addis Ababa have low and irregular income. So the available houses both from the government and the private real estate developers are not affordable to the low income group of the population. Because of this, a large number of households are forced to live in private rental houses and kebele houses (Dejen, 2017.) Provision of adequate, affordable and decent housing for low income households is clearly in short supply.

It is estimated that only 30% of Ethiopia's total housing stock is in fair condition, while the remaining 70% is in need of total replacement. As a result, Addis Ababa city administration has started an ambitious housing construction plan and inner city upgrading program (UN-Habitat, 2011).

Multitudes of researches have been conducted to assess, investigate and evaluate the success/failure of the Addis Ababa housing development projects so far. However, as stated earlier, the success of the project is only limited to the completion of 180,000 houses that are completed and delivered to the beneficiaries, as witnessed by the Addis Ababa City Administration's reports (2018). But it is also well known that even those completed houses were not on time, within budget and as of the required minimum quality.

In relation to project management, there have been many reasons mentioned by different scholars. Some of the causes for project failure, most mentioned by researchers so far, were underfunding, poor or misunderstanding of project objectives, project complexity, over expectation, communication management, poor prioritization of tasks, resource related issues, conflict in interests, change of government or policies and so on. For instance, according to Damoah, (2015) researches indicate that there are common causes that run through the project management literature. These include: expertise or knowledge in the area, funding,

planning, resources, communication, scope change, and socio-cultural factors. Bahru, (2012) also described the common causes of project failure specifically of Addis Ababa Housing Development Projects, with respect to the participants; i.e. the project office, consultants, contractors and MSEs. Although the problems of each participant have impact on the performance quality of the projects, which is one of the major criteria of project success/failure, she emphasized on the lack of collaborative working atmosphere at the project site. Lack of good communication between project participants, coordination problem between contractor and MSEs and having different priority might create non-conducive working atmosphere in the project site.

The common causes of project failure that many literatures went through are discussed in detail in the following chapter, literature review. However standing on what have been discussed so far, it is believed that exploring, scrutinizing extensively and sorting out the most common problems that contributes to project failure by using standard research techniques is necessary. Therefore, this study investigates the common problems touched by previous works, and ranks them to identify the most important (influential) ones with relation to project management knowledge area. As of my reach none of the researches found so far, especially local ones have not tried to identify the most significant causes, to rank them in degree of their significance and relate those causes with the project management knowledge areas. However, too few researches from abroad have tried to rank the common causes, but their degree of significance was yet not studied findout the most influential ones and they rather tried to relate those common causes with their effects than the project management knowledge area. Hence, this study is an attempt to fill this gap by identifying the most significant causes, rank them in their degree of influence and relate those causes with the project management knowledge areas.

Research question

1) What are the most common problems that caused project failure in Addis Ababa Housing Development Project Office?
2) How is their degree of occurrence according to the perception of the key stakeholders?
3) What project management knowledge areas are directly related to the most common project failure causes that can be used to minimize/avoid their effect?

1.2 Objectives of the study

The main objective of this study is to come up with a scientifically studied knowledge about the causes that contributed most to the project failure at AAHDPO and to suggest a project management based solutions that can be used to prevent (at least minimize) the commonly observed causes.

Specifically, this study is expected to:

1) Find out the most critical problems that caused the project to fail,
2) Sort those problems in their degree of occurrence (effect),
3) Point out the knowledge area of project management that can help to mitigate and rectify the most common causes.

1.3 Significance of the study

The output of this study will provide a prioritized list of problems to the project office and the city administration so that they can address the ones that contribute most to the failure, both on the ongoing and proposed projects. Additionally it gives guidance to the responsible offices, that which problem can be tackled by which project management knowledge areas. Beside these, any concerned body that may have either ongoing or proposed government projects can use the result of this study to forecast the possible problems that can challenge the execution, from the inception and planning stages. Generally, it will provide statistical data that can be used by project management practitioners and policy makers in Ethiopia and other developing countries.

1.4 Scope of the study

This study is only the problems that significantly contributed to the housing development projects in Addis Ababa Housing Development office. It attempts to covers the problems related to the phases of project management from inception to evaluation. Although some argues that project success/failure is a matter of perception, dependent on the types of the projects, and others put the intended functionality, impact and significant changes observed on the beneficiaries as a criterion, this study views failure with respect to the iron triangle. This research attempts to relate the critical problems with the project management knowledge area.

1.5 Limitations

This study work is limited to assess, measure observations of the key stakeholders in the occurrence of the common project failure causes and sort them in their degree of occurrence.

In doing so, the observation and perception of the key stakeholders in Addis Ababa Housing Development Project. These stakeholders are the project office, contractors and consultants, since they are direct participants in the project implementation/execution. Therefore, they are believed to be part of both the failure and success of the project. So, the data used are found only in the boundary of the projects being executed by AAHDPO and the reports, studies and individuals in these entities. The study focuses only on the technical and managerial problems and others like political and geographical problems.

CHAPTER TWO

2 LITERATURE REVIEW

2.1 Introduction

This section reviews prior studies that were made on the subject being researched. A literature review is "a useful methodology to gain in-depth understanding of a research topic. A systematic examination of existing publications can help researchers in identifying the current body of knowledge and stimulating inspirations for future research" (Mok et al., 2015,). Hence, literatures that mainly focused on projects, project management, PM knowledge area, project failure and causes and problems associated with project failure were reviewed. Moreover, studies that tried to evaluate the performance of AAHDPO and those investigated problems found to be the causes of its failure were also reviewed. The review generally categorized into theoretical and empirical literature reviews so that a theoretical framework could be established for this study, and to examine what have been done so far in the subject matter.

2.2 Theoretical Literature Review

The issues like project management, PM knowledge areas, project failure, common causes of project failure and how can the PMKAs could be related with success/failure of projects were described based on prior researches and PMBOK of PMI.

2.2.1 Project and Project Management

Many definitions had been given to project by different authors, due to the fact that project is a multidisciplinary word that has different meaning from different perspective and orientations. Engineers, Architects, Managers and so on, have their definitions coined out from their experiences as far as their professions are concerned. However, the Project management Institute (2013) define project as a temporary endeavor undertaken to create a unique product, service, or result.

Project management is one of the very crucial and vastly interdisciplinary shoots of management sciences. Projects, the central theme of project management, imply temporary organizations (or, initiatives) that are usually unique, time-constrained and dependent on temporarily available people (Javed and Liu, 2017).

2.2.2 Project management and the knowledge areas

Project Management Knowledge Areas (PMKAs) are the knowledge areas within project management philosophy, or the Project Management Body of Knowledge, identified by the PMBOK® Guide, an authoritative publication by Project Management Institute, USA.

The Project Management Institute (PMI) has divided the large field of project management into 10 more digestible parts, which it calls the **10 project management knowledge areas** in its "*A Guide to the Project Management Body of Knowledge (PMBOK)"*.

i. Project Integration Management (PIM)
ii. Project Scope Management (PSM)
iii. Project Time Management (PTM)
iv. Project Cost Management (PCoM)
v. Project Quality Management (PQM)
vi. Project Human Resource Management (PHRM)
vii. Project Communications Management (PCmM)
viii. Project Risk Management (PRM)
ix. Project Procurement Management (PPM)
x. Project Stakeholder Management (PSHM)

2.2.2.1 Project Integration Management

Project Integration Management can be defined as interrelated and integrated processes which begin with describing a project in the project charter and ends with closing it. It is the process of coordinating all aspects of project planning and consolidating and following-up processes in parallel to meet the expectations of clients and stakeholders (Alawi, 2020).

PIM is what holds the project together by including such fundamental plans as developing a project charter that is created during the initiation phase, project management plan, the directing and managing of the project work, which is the production of its deliverables and any change control will be also carried out. Project integration management processes include the following (PMI, 2013)

- Develop project charter
- Develop project management plan
- Direct and manage project work
- Monitor and control project work
- Perform integrated change control

- Close project or phase

2.2.2.2 Project Scope Management

Project Scope Management refers to all works and activities of project achievement and identifying which tasks are relevant to the project and which are not (Alawi, 2020).

Scope relates to the work of the project. Project Scope Management includes planning scope management, developing Work_Breakdown_Structure (WBS) and producing scope statement. A Work Breakdown Structure (WBS) is a graphic breakdown of project work, and the scope statement is a comprehensive bulleted list reduces major project risks. A scope statement is likely going to change over the course of the project to control the scope, such as if a project falls behind schedule. PMI (2013) listed the following specific efforts as part of project scope management:

- Plan scope management
- Collect requirements
- Define scope
- Create WBS
- Validate scope
- Control scope

2.2.2.3 Project Time Management

Project Time Management: "it is defined as the process through which a project action plan is converted into an operating schedule to ensure accomplishing the project within specific time (Alawi, 2020).

Project time management divides the project is into tasks, which are scheduled with start dates and deadlines, as well as budgets for each task. And things are constantly changing over the phases of any project, which means revising these things often.

These tasks are then put in an order that makes sense, and any dependencies between them are noted. These dependencies are then determined to be either finish-to-start (FS), finish-to-finish (FF), start-to-start (SS) or start-to-finish (SF). Earned value management is performed regularly to make sure that the actual plan is proceeding as it had been planned.

Accordingly, project time management includes the processes required to manage the timely completion of the project such as the following (PMI, 2013):

- Plan schedule management

- Define activities
- Sequence activities
- Estimate activity resources
- Estimate activity durations
- Develop schedule
- Control schedule

2.2.2.4 Project Cost Management

Project cost management: “it is defined as a set of processes required to plan and estimate costs, budgeting, project funding, financial resourcing, and manage and control the project costs to ensure completing the project as planned (Alawi, 2020).

PCM involves the project budget, which means having good estimating tools to make sure that the funds cover the extent of the project and are being monitored regularly to keep stakeholders or sponsors informed. Project cost management processes include the following (PMI, 2013):

- Plan cost management
- Estimate costs
- Determine budget
- Control costs

2.2.2.5 Project Quality Management

Project Quality Management is the process in which quality is assured and controlled in all activities and inputs of project, using quality assurance and quality control techniques, where project quality is assessed and reviewed in a continuous and regular manner (Alawi, 2020).

Plan quality management is part of the overall project management plan, though it can be a standalone document if it contains the quality specs for the product or service. The process needs to include quality assurance, which is just a way to make sure that quality standards are being met. Therefore, to control quality, the deliverables must be inspected to make sure that those standards outlined in the quality management plan are being met. In order to do so, (PMI, 2013) listed the following project quality management processes :

- Plan quality management
- Perform quality assurance
- Control quality

2.2.2.6 Project Human Resources Management:

Project Human Resources Management includes the processes required to make the most effective use of people involved in projects. It includes all the stakeholders; sponsors, customers, partners, individual contributors and others. This area also involves processes and activities required to manage and organize project team including perfectly planning of resources and project team management (PMBOK, 2017). PMI (2013) stated project human resource management processes as the following:

- Plan human resource management
- Acquire project team
- Develop project team
- Manage project team

2.2.2.7 Project Communication Management

Project Communication Management can be defined as "a process of planning, collecting, distributing, managing, and controlling project information to ensure delivering them to stakeholders at right time (Alawi, 2020).

It is at this point that the dissemination of communications is determined, including how it's done and with what frequency. It helps to target who needs what and when and also how communications need to occur when issues arise in the project, such as changes. Project communications management processes include the following (PMI, 2013):

- Plan communications management
- Manage communications
- Control communications

2.2.2.8 Project Risk Management

Project Risk Management is an integrated administrative function of project management that includes processes dealing with the diagnosis, analysis and response to risks, as well as monitor, develop, and improve such response continuously (Alawi, 2020).

Risk management plans will identify how the risks will be itemized, categorized and prioritized. This involves identifying risks that might occur during the execution of the project by making a risk register. Project risk management involves processes such as the following (PMI, 2013):

- Plan risk management

- Identify risks
- Perform qualitative risk analysis
- Perform quantitative risk analysis
- Plan risk responses
- Control risks

2.2.2.9 Project Procurement Management

Project Procurement Management is defined by Project Management Body of Knowledge as the process of obtaining supplies of goods and services in order to accomplish a project within proper time and quality (Alawi, 2020).

This deals with outside procurement, which is part of most projects, such as hiring subcontractors. This will obviously have an impact on the budget and schedule. Planning procurement management starts by identifying the outside needs of the project and how those contractors will be involved.

Procurement Management processes includes the following (PMI, 2013):

- Plan procurement management
- Conduct procurements
- Control procurements
- Close procurements

2.2.2.10 Project Stakeholder Management

Project Stakeholder Management involves processes required to identify people, groups, or organizations that affect or be affected by the project, to analyze stakeholders' expectations and their impact on a project, and to develop proper management strategies to get stakeholders engaged effectively in the decisions and implementation of the project (Alawi, 2020).

The stakeholders must be happy, as the project has been created for their needs. Therefore, they must be actively managed like any other part of the project. Stakeholder satisfaction should be considered as the heart of any project. A well-structured project management involves the following processes (PMI, 2013):

- Identify stakeholders
- Plan stakeholder management

- Manage stakeholder engagement
- Control stakeholder engagement

Javed and Liu (2017) have conducted a research to evaluate the PM knowledge areas by using the Gray Incidence model, AHP, SAW and BWM methods. The data used for this research was found from thirty 3 project management related professionals among the 107 that were invited. They were from both manufacturing (PBOs) and services industries (SBOs) in Pakistan. A workshop was held and At the end of the workshop, they have been given a briefing on the important terms and definitions involved, in light of the *PMBOK Guide*, they were inquired to rate the perceived comparative significance of each PMKA for project success, as compared to other PMKAs, using 5-point likert scale, which was ranging from 1 (least important) to 5 (most Important).

They have also done a comparative analysis among the results found from the two organizations.

The results reveal that for the project management professionals from manufacturing sector, Project Quality, Time and Integration Management are the most important knowledge areas whereas Project Risk and Procurement Management are viewed as least important areas. Whereas, the results from service sector for the project management professionals reveal that, Project Cost, Quality and Communication, and Time Management are the most important knowledge areas whereas Project Risk and Integration Management are viewed as least important knowledge areas.

Overall, according to the results found from using other three models, The only difference is the interchange in the position of Project Integration and Project Human Resources Management related knowledge areas. Hence, the researchers generalized that Project Quality, Communication and Cost, and Time Management are likely the four top most significant PMKAs for the Pakistani project management professionals who are more likely to overlook Project Risk and Integration Management.

The results from all methods reveal that in manufacturing industry, project knowledge areas related to quality, time and integration are perceived to be the most important while that of risk and procurement are relatively least important. In service industry, knowledge areas related to cost, communication, quality and time are perceived to be the most important while that of risk and integration are relatively least important. However, overall, knowledge areas related to quality, communication, cost and time are most important while that of

procurement and risk are relatively least important. Only the position of project integration and human resources management related knowledge areas interchanged their position in GRA and other methods. However, the supposedly underrating of project risk management was a striking finding. The study suggests that by overlooking the significance of project risk management, the Pakistani project management professionals are more likely to make the projects more vulnerable to unforeseen circumstances.

2.2.3 Project failure and Common causes of project failure

According to Wikipedia, the free encyclopedia, Failure is the state or condition of not meeting a desirable or intended objective. The criteria for failure depend on context, and may be relative to a particular observer or belief system. Project failure can be defined as a "project that fails to perform a duty or an expected action, non-occurrence or non-performance". Whereas Project success can be defined as the achievement of something desired, planned or attempted. It is also said that success is an event that accomplishes its intended purpose. Anything short of that is failure. Based on an examination of the literature and interviews with experienced project managers, three distinct aspects of project performance (outcome) were identified as benchmarks against which to assess the success or failure of a project. These aspects are (Pinto, 1990):

1) The implementation process itself;

2) The perceived value of the project; and

3) Client satisfaction with the delivered project.

McManus and Wood-Harper (2008) has conducted a study on project failure and identified number of causal factors of project failure. They stated that project management is intrinsically tied to the time, cost, quality paradigm and projects that are challenged are typically forced to make trade-offs in budget, time estimates, features and functions (quality). Such trade-offs lead to escalation in which key personnel are pitted against each other. Based on the findings, the causal factors are categorized as management and technical as listed below.

The Management causal factors that accounted for 65% of the project failure rate according to the findings of the researchers are:

- Poor leadership in project delivery

- Poor stakeholder communication
- Poor competencies (and skill shortages)
- Poor stakeholder management
- Poor estimation methods
- Poor risk management
- Insufficient management support

Likewise, The Technical causal factors that accounted for 35% of the project failure rate are:

- Inappropriate and ill-defined software requirements
- Inappropriate technical designs
- Inappropriate development tools
- Inappropriate user documentation
- Poor test planning
- Poor technical support

The researchers also tried to study the factors that can contribute to project cancelation. According to the Results of the researchers' analysis, the cancellation of projects can be attributed to a combination of factors that included the following:

- Business process alignment
- Poor requirements management
- Business benefits overstated
- Differences between management and client
- Lack of management judgment (leadership)
- Insufficient domain knowledge
- Loss of key personnel
- Poor communication with stakeholders
- Poor systems integration
- Poor change management procedures

Alwaly and Alawi (2020), attempted to study the factors that affect the application of PM knowledge areas of PMBOK GUIDE on the construction projects. They also identified factors affecting the application of this guide in construction projects in Yemen. In order to achieve the objectives of the study, questionnaire was developed as a main instrument of the study to collect the primary data. The questionnaire consisted of three main parts: the first

part relates to general information and the second part relates to the extent of Implementation of the PMBOK® Guide. This study targeted the engineers of the Social Fund for Development, and questionnaires were distributed to the study sample, and were then subjected to statistical analysis using the statistical program (SPSS).

The researchers' analysis on the application of PMBOK® guide according to knowledge areas indicated that project quality management ranked first. The result showed that the independent variables related to (educational qualification) had an effect on the level of PMBOK guide application to construction projects in Aden Governorate. The results of this study showed that the PMBOK® Guide in construction projects in Yemen applied partially and Closing Process Group and Project Quality Management; are ranked highest from Process Group and Knowledge Areas respectively. Qualification is found to be the most significant variable.

Finally, they concluded that the projects' management can be effectively performing their jobs if they utilize and applied PMBOK® guide in a proper way when they are aware of the benefits as well as added value that PMBOK® guide. The study recommended that, there is need for the constructions' management and projects managers in Yemen to be exposed to PMBOK® guide and how it could be applied in their construction projects.

An experience driven literature by Newsome (2018), on the key reasons why project fail; has identified four key reasons for project failure. These reasons are:

1. Wrong people for the project
2. Lack of communication
3. Lack of collaboration, and
4. Lack of commitment

The literature focused on human resource management, specifically project team development and management as the identified key reasons of project failure indicate. As well, the writer suggested also four keys to success as: and the key

1. "Right Sizing" for the team for the job,
2. Opening a communication dialogue,
3. Creating a spirit of collaboration and
4. Developing a team culture.

2.2.4 The relationship between PM knowledge areas and success/failure criteria

Krishnaswamy and Selvarasu (2016) have attempted to explore interrelationship between the three performance indicators of project success/failure with the PMI's project management knowledge areas. In fact, it is an attempted from mere identification of relationship to the exploration of the strength of relationship between and beyond the Performance Indicators – PM Knowledge Areas (PI-KA), the input artifacts and performance output deliverable.

The study has been done with triangulation of researcher-respondent interactions among Field Status Experts (FSEs), Senior Project Managers (SPM) and Project Managers (PM) with focused discussion, experience survey and personal/online survey, respectively. The researchers claimed that there is a perceptual difference in the adoption of the project knowledge expertise, and they stated that a qualitative study has been adopted in their study. The perceptual study in the form of exploratory research design with a mixed model approach has been adopted. The PLS Regression and PLS-SEM data modeling tool has been employed to find the total effect of hypothetically proposed paths from Artifact-PKA-PI-Performance with and without moderators. Partial Least Squares (PLS) is an approach to Structural Equation Models (SEM) that allows researchers to analyze the relationships simultaneously. Average Variance Extracted (AVE) has been used for the normality assessment whereas variance inflation factor (VIF) has been used for Multicollinearity assessment. Cronbach's Alpha has been computed in addition to AVE for Indicator collinearity assessment.

According to the findings and conclusion of the research, the more emphasis should be always given to the knowledge area and the process in the PMBOK throughout the projects. The requirements are always presented in the project management plan which is artifact of the business process and there is proven connectivity with KAs. The relationship is not with all KAs but it is with Integration management and Human Resource Management. The other KAs certainly play a vital role independently or exogenously sin the performance. In addition, the age, experience, accreditation, salary and time zone have a notable expiation of its variances. The performance itself can be of two forms as deliverable and acceptance. This importance given to the status report is almost double than the acceptance which means the documentations have been explained in the project management than the formalization of acceptance of deliverable. Eventually, the researchers proposed the mixed model of Artifact-process-performance indicator-performance deliverable (APPP) towards promotion of successful project management.

Ehsan and Sheikh (2010), has studied the effect of project management competencies on project success. The study insights about how project manager's areas of knowledge are correlated with each other and what are the contributions of these knowledge areas on success of projects. In this study, knowledge areas required of a Project Manager were identified based on the PMI's "A Guide to the Project Management Body of Knowledge" dimensions. These dimensions were assessed on the basis of a survey that is conducted on 84 respondents related to project management.

After the data were collected and analyzed, the researchers concluded that all of the PM knowledge areas significantly contribute to the success of projects. According to the results found from this study, project manager's knowledge areas play a vital role in the successes or failure of projects and an experienced Project Manager will possess particular uniqueness that will enhance the team performance and his planning based on his project management skills that include integration, scope, time, cost, quality, human resource, communication management, risk and procurement management.

2.3 Empirical Literature Review

An empirical literature review is more commonly called a systematic literature review and it examines past empirical studies to answer a particular research question (Nakano and Muniz, 2018). Empirical research is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief. Under this section, prior researches conducted on the subject matter of this research were assessed and reviewed to affirm the facts and issues raised here as a Related Literatures.

2.3.1 Related Literatures

Among the papers entirely focused on the subject at hand, Damoah, (2015), made to investigate the causes and effects of project failure in government projects in developing countries that took Ghana as a case study. This research used an exploratory research design, and a mixed approach which constitutes both qualitative and quantitative approaches. It used a mixed method of sampling technique by following a sequential sampling approach with semi-structured interview and questionnaires, then qualitative and quantitative analysis for the qualitative and quantitative data respectively. On the quantitative data, Statistical analyses performed comprised descriptive analysis, Means, Spearman Rank Correlation Coefficients, and Kruskal-Wallis H test of difference in ranks.

Isaac tried to investigate on multiple literatures and practical cases in Ghana's government projects to find out the causes of project failure and their effects. By doing so, he stated that

there are a lot of different reasons for project failure in different contexts. He also claimed that the causes of project failure in developing countries are not much different from those in developed countries, except for the failure caused by the adoption of Western project management models, methodologies, and project management practices (otherwise known as socio-cultural factors). According to the researcher, Most African projects fail because they do not have their own project management models. Failure of projects in Africa is attributable to human and technological factors, and management concepts being applied, but this can be traced to the use of Western project management concepts, which are not workable in Africa due to the cultural differences that exist between the Western world and African countries. Regarding the effects of project failure, he said "Many effects of project failure have been cited in management and project management literature; however, a review of the literature indicates that the effects are specific to specific projects and/or specific industries".

He first defined failure in different perspectives, and claims that project failure is on increase mentioning multiple literatures and examples. While defining failure, he says "what constitutes project success or failure 'depends on the issues of definition, measurement and interpretation', thus, it is the practitioner who determines what constitutes this failure/success. Some authors specifically assert that project success is a matter of perception".

Mentioning a prior research into 214 projects, he stated that only one in eight information technology projects can be considered truly successful. And with another example, UK has wasted over US$4 billion on failed IT projects between 2000 and 2008, as he said. Adding on Health and Information Systems in South Africa, IS projects in China, and all World Bank-funded projects in Africa are all examples of either total failure or partial failure, according to his findings.

As an example mentioning schedule delays in road construction projects in Zambia, he identified the reasons behind such a delay. These were financial processes and difficulties on the part of contractors and clients, contract modification, economic problems, materials' procurement, changes in drawings, equipment unavailability.

Through his research, He identified 32 factors that account for Ghanaian government project failure. These are: monitoring, corruption, political interference, change in government, bureaucracy, fluctuation of prices, lack of continuity, planning, delays in payment, release of funds, change in project leadership, management practices, procurement processes, project

funding, commitment to project, selection of project managers, project team formation, project management techniques, feasibility studies, communication, supervision, scope change, capacity, task definition, definition of specification, requirement, regulations, culture and belief systems, user involvement, labor, pressure groups (media, NGOs, political activities etc.), and natural disaster. The extent of failure differs from criterion to criterion. In ranking the failure criteria, he stated that the worst performing criterion is meeting the projected time, followed by cost, deliverables, stakeholders' satisfaction, contribution to national development and contribution to the sector where the project is implemented respectively.

Regarding the effects, he had put that; it slows down economic growth, loss of revenue by state, unemployment, bad image for government, collapse of local businesses, cost escalation, government sector underdevelopment, loss of foreign aid/grants, discourages investment, stricter donor regulations, loss of election, financial institutions lose confidence in the state, loss of revenue by the citizens, lack of capacity, substandard infrastructure, it slow down citizens' human empowerment, loss of worker hours, pollution, armed robbery and theft, relocation of services, denial of citizens' basic rights, loss of properties, emotional stress on citizens, accidents and deaths, imprisonment, and abandonment of homes.

As a result of his research, he identified 26 possible effects of Ghanaian government projects failure on key stakeholders. These are: it slows down economic growth, loss of revenue by state, unemployment, bad image for government, collapse of local businesses, cost escalation, government sector underdevelopment, loss of foreign aid/grants, discourages investment, stricter donor regulations, loss of election, financial institutions lose confidence in the state, loss of revenue by the citizens, lack of capacity, sub-standard infrastructure, it slow down citizens' human empowerment, loss of worker hours, pollution, armed robbery and theft, relocation of services, denial of citizens' basic rights, loss of properties, emotional stress on citizens, accidents and deaths, imprisonment, and abandonment of homes. And he stated that the general public was, however, of the opinion that political effect is the biggest effect of such failure, followed by economic, social and psychological respectively. His findings showed that the most affected stakeholders are the general public, followed by the government, contractors, local businesses, financial institutions, consultants, and donor agencies respectively.

Another research conducted by Fidelis et al. (2015) also claimed the failure of projects from a cost perspective is a worrisome trend in the construction industry in Nigeria. The aim of this

research therefore was to critically analyze the factors that may lead to project failure in Anambra State, South East, Nigeria, with a view to ameliorating the high level of project failure.

The research employed the field survey approach which took the researchers to several project sites for the collection of data. The factors bearing on project management were analyzed to find out their individual and collective impacts using suitable analytical tools.

Data sources they have used included both primary and secondary data sources. The primary data referred to firsthand information obtained from the surveys while the secondary data referred to already published information which were further applied to the research. Primary Sources of Data The major sources of data used in this research included Project Managers, architects, Estate Agents, quantity surveyors, civil and structural engineers, and builders. Secondary data sources included Textbooks (print and online), Journals articles, Real estate magazines and newspapers, Conference/Workshop papers and proceedings.

As Instruments for Data Collection, an Objective Evaluation Questionnaire (OEQ) was used in primary data collection. Additionally, the respondents were allowed to include any other factors not captured in the questionnaire and which they deemed important towards project failure. Tools for data analysis were the Statistical Package for Social Sciences (SPSS) which included Factor Analysis, a quantitative multivariate analysis which tries to represent the interrelationship among a set of continuously measured variables.

In their research they stated that project cost variation is inevitable because of inflation and other unforeseen events, more often than not, poor project conception and design by themselves make it impossible to make credible estimates of the costs of materials and of the project itself. This trend has become a handy excuse for corrupt contractors and administrators who resort to varying the cost of ongoing projects in order to make money from the situation. Sometimes, the ultimate cost of the project after all the variations done is several magnitudes higher than the projected cost at the start. This is wrong and points at the inability of governments and project owners to engage the services of professional project managers to oversee ongoing projects. In fact, technical competence in architecture, or building, civil engineering or management alone cannot qualify one as a professional project manager without the requisite training.

According to Emoh et al. (2015), the rate at which construction projects fail, or are abandoned, some even under construction, is retrogressive in most developing economies. The rate of project failure, manifesting as abandonment, structural collapse, cost overshoots

and client dissatisfaction, is indeed high. Many of the factors established as being highly important border on having the right skills and expertise. As far as project success is concerned, the inference made is that possibly, the many cases of abandonment or collapse may not be unconnected with lack of the required expertise.

The frequent changes in the prices of raw materials have been identified as the most important single factor occasioning project failure. This is not unexpected, given the high rate of importation of raw materials, whose prices will then depend on the stability of the dollar. Import substitution is an urgent need in Nigeria's construction industry sector. Unless the most essential materials can be produced locally, the volatility of prices of raw materials will make successful project implementation very tasking.

They also added that variation of project scope is an important cause of project failure and should, where possible, be avoided. This may be because such variations are accompanied by sometimes serious contract price variation of several times the original project cost. When the client cannot pay, the result is project failure. There should be clear articulation of needs and designs from the outset, to give little room for this variation.

After the analysis, they found out that the rate of project failure, manifesting as abandonment, structural collapse, cost overshoots and client dissatisfaction, is indeed high. Many of the factors established as being highly important border on having the right skills and expertise. As far as project success is concerned, the inference made is that possibly, the many cases of abandonment or collapse may not be unconnected with lack of the required expertise. Uneducated men are known to parade the streets looking for contracts to implement. Because they cannot make accurate design or cost estimates, the outcome is a high rate of project failure.

The five most important causes of project failure are:

1) Increase in the price of raw materials

2) Poor planning of Project Implementation

3) Variation of Project Scope

4) Award of Contract without reference to availability of funds

5) Political Pressure

The researchers conclude that the most important factor for project failure is increase in the price of starting materials. As a recommendation they suggested that the results their research to be widely disseminated and used in community enlightenment, and in further policy guidance and regulation. They also recommended that the study be applied to the entire South East, Nigeria in order to generate better client satisfaction in subsequent projects.

Locally, a research done by Bahru (2012), assessed the housing projects executed by AAHDPO and explored what could have been the causes of the project failures with respect to the quality aspect of the buildings. She explained the structure of the project office and the vital stakeholders in it, such as the project office, the consultants, the contractors and the MSEs. The main objective of this study was to identify why small-scale contractors and MSEs struggle to deliver good quality houses despite the AAHDP Office's efforts to promote them, and to draw conclusions about what needs to be improved for them to be able to improve their performance.

The study also aimed to identify major and minor defects in the newly constructed houses. The objective is addressed through three research questions that are formulated to find out the effect of the capacity building schemes, to find out the constraints of small-scale contractors and to identify defects observed in the constructed houses.

This research involves both qualitative and quantitative approaches for data collection and analysis. To gather quantitative data, four survey questionnaires were administered to small-scale contractors, MSEs, consultant and housing occupants. For qualitative approach, in-depth interviews were carried out to purposefully selected respondents. In addition, observation and film were used. Lastly, data were collected from documents such as policy documents, reports and contract documents. The main activities in the research design are core problem identification, research objective to tackle the problem, operationalize the variables through intensive literature review, identify population, data collection and data analysis and concluded the research.

With respect to each stakeholder, she stated the problems observed that contributed to the failure especially in quality. Mentioning a study by AAHDPO, she stated that it is the poor performance which contributes to low quality housing in relation to physical aspects such as structural failure, wall cracking, and sanitary and electrical installation problems. Construction or design faults are the main factors, which contribute to low quality construction. Construction fault may be a result of poor workmanship, poor quality material,

and lack of technical know-how, lack of commitment, lack of stakeholder's cooperation and etc.

The researcher claimed that AAIHDP is weakened in providing a financial mechanism to lift up the contractors and in providing adequate training to equip both contractors and MSEs with technical and managerial capability. Because of their satisfactory educational and professional experience, most contractors are rated technically capable to undergo construction. However, due to lack of experience in handling a project of their own, managerial problems were observed on most contractors. In addition, unavailability of unskilled labour, inaccessibility of the project site, late material delivery and working with large number of subcontractors are other constraint that affects their performance.

MSEs on the other hand lack both technical and managerial know how, thus it make them incapable to manufacture quality products. They also have constraints caused by the disagreement of membership in the association

Access to finance, insufficient profit and long payment processing are also the main constraints of the contractor, which affect their motivation to carry out their duties. Similarly, the majority of MSEs were concerned and worried about the stability of their job. This together with insufficient profit from the project, lack of working space and supply of less quality raw material affects their performance negatively.

She also claimed that administering a large project like this has its own difficulties. However, the consultants are being helpful in assisting HDPO with supervision and contractual matters; even though it does not help the project to avoid major defects during construction. HDPO has its own constraints like lack of work force, lack of construction material and above all lack of applying construction management. These constraints reflect back to the project participants and affect their performance. Non-existence of testing mechanism for raw materials and prefabricated building components also allows the usage of non-suitable materials in the construction.

The last but important constraints are lack of collaborative working atmosphere at the project site. Lack of good communication between project participants, coordination problem between contractor and MSEs and having different priority might create non-conducive working atmosphere in the project site.

The findings concerning the support programs indicate that HDPO provides capacity building schemes such as training, financial, material and equipment supports to small-scale and MSEs. The findings further reveal that the training provided to small-scale contractors is only a 3-4 days training which is only concerned with introducing the program. On the other hand, the training given to MSEs involves management and technical support but still it is short-term training.

The research eventually analyzed the constraints that could contribute to the poor performance of small-scale contractors and MSEs. The main constraints identified are technical incapability of MSEs and managerial incapability of both small-scale contractors and MSEs. Besides more constraints related to stakeholder management, culture, material, environment and equipment are identified. Problem in collaborative working atmosphere, lack of construction management practice, lack of quality control practice, lack of strict supervision, lack of testing mechanism, lack of technical and managerial knowhow, lack of equipment support are some of the constraints.

Finally based on the findings the researcher recommended that special attention need to be given to both small-scale contractors and MSEs in order to improve their performance. In addition, the whole construction management process should be improved then cooperation between stakeholders, strict inspection of construction materials and inspection of works executed should be practiced.

Gerawork et al. (2020), has conducted a performance evaluation of Housing Construction Project on the 20/80 condominiums at Bole Arabsa site, Addis Ababa. The objective of this paper is to measures the performance of governmental housing construction projects using earned value analysis. The research is a case study type and mainly conducted at the BOLE ARABSA site. From the case study, the finding indicates that almost all sample blocks from Bole Arabsa site suffering delays and few cost variations. Material shortage, unit rate change, and work variation were the main reason for the negative cost and schedule variations.

Because they have a Greater number of ongoing blocks as compared to other project offices under the Bole Arabsa project site, paper mainly focused only on Bole and Yeka sub-city project office among six other project offices that owns governmental housing (20/80 condominium) construction projects. The BOLE sub-city project office had a total number of 80 blocks or 5004 number of house units, and at the YEKA project office, there are 85 blocks or 5,207 residential house units and 181 shops. The researcher used a purposive (judgmental)

sampling to select projects undertaken by Contractors whose grade level 3, 2, and 1 from the Bole sub-city project office. Projects undertaken by contractors whose grade level 4, 5, and 6 have been taken, in the same way, from the YEKA project office to compare the performance of different grade contractors.

The study has used the main EVMS variables (indicators): BCWS (Budgeted Cost of Work Scheduled) or PV (Planned Value), BCWP (Budgeted Cost of Work Performed) or EV (Earned Value) and ACWP (Actual Cost of Work Performed) or AC (Actual Cost). The comparison of earned value cost and actual cost indicates the cost performance of a project.

In her conclusion, she found out that almost all Sample blocks schedule performance implies delay. The main factors stated were:

a) Material shortage (the consultant prepared a wrong quantity of material)

b) Materials were not delivered as per the schedule,

c) Water shortage and Electric power problem,

e) The slow decision-making process and

f) Design modification.

Additionally, under these two project offices, there were also few cost variations mainly due to Unit rate change and Work variation, according to her conclusion.

Based on these findings, the researcher recommended that:

a) The housing development project office need to practice earned value management at each work level to measure their performance, investigate the major risk area, and improve housing project performance.
b) The stakeholders shall document the challenges or risks they face for each period during project execution to identify and manage risks for another similar project.
c) The government shall cooperate with real estate developers to increase the competition and improve construction performance.
d) The stakeholders shall focus on proper planning and good scheduling. It Enables the timely procurement of necessary resources, reduces material waiting time, and reduced schedule and cost variation on the condominium construction site.

An assessment of such a 20/80 Condominium Housing Projects performance in Addis Ababa has been done also by Lemma (2018). It is also a case study of Akaki Kality sub city housing development project office. It was objected to evaluate the level of housing performance and the extent of government tentative responses and solutions for problems that are raised by customers in the Integrated Addis Ababa House Construction projects. Moreover, it was intended to the extent of household; conceptualize housing affordability of unreasonable burden on household incomes and the challenges of 20/80 condo housing project performance in Akaki kality sub city.

The research design was an exploratory type and both primary and secondary sources of data are preferred to obtain the required data. The Researcher used quantitative and qualitative approach to address the research questions. The instruments used were semi-structured questionnaires and key informants interview, in which questionnaires were distributed to 106 selected respondents, while informant interviews were conducted with purposively selected officials. The interviews were made with the highest experienced members of the project from different department such as project managers, finance department, purchasing and supply management, administrative department, senior experts, contractors, consultant etc. The primary data were gained through the questionnaires and interviews, while the secondary data were gathered from published and unpublished documents, different research, magazines, pamphlets, internets, the weekly, monthly and annual performance reports of the project office and the consultants in intact. Descriptive statics such as; percentage, frequency, mean and standard deviations was employed to analyze the information as this study is quantitative in nature, and also the qualitative data collected through the interviews were analyzed with a qualitative analysis method.

By doing so, the researcher stated the major factors that affect the quality of condominium housing project as: low human resource competence, consultants lack knowledge, technical profession, and experience in the area, lack of leadership skills and project management, lacks the required quality materials provided by the government and small scale enterprises and wastage of resources at the project sites during construction.

For the time delay, he identified also as slow speed in decision making on critical issues of the project, design and specification changes in the meantime, poor labor productivity and lack of sufficient experience and competence, poor working culture, slow material supplies, shortage of electric and water supply around the project area, poor planning, scheduling, and handling of the of time.

The researchers tried to categorize the problems found in relation to the stakeholders that are the government bodies, the consultants, the contractors and the MSEs. Problems in selection of competent consultants and reliable contractors, absence of good methods and systems in purchasing and finance and supply management, slow speed in decision making, 68 poor in planning and leading and controlling the project activities, lack of leadership skills of project manager, poor coordination and communication with contractors and consultants and suppliers, Financial constraints faced by the owner, and finally lack of sense of ownership and degradation of moral obligation were regarded as to the government bodies or the project office.

The main problems found to be on the consultants side were; there is lack of knowledge and experience in the organization‘s consultant, poor management and difficulty in controlling contractors, poor coordination and communication by the consultant with the project stakeholders, slow response regarding to testing and inspection and progress payment to contractors, lack of commitment to ensure construction work according to specification and design, there is benefit relationship with contractors by affecting the project performance, underestimation of deadlines, complexities and costs for the project works.

Likewise depending on the contractors key constraints described are lack of experience and technical profession in the contractor‘s organization, poor planning and scheduling and handling of the project, financial difficulties and delays in payments to subcontractors, insufficient coordination and communication with project stakeholders, lack of leadership quality in the contractor's organization, low commitment by team leaders and experts to achieve the proposed cost and time and quality of projects, wastage of resources around the project sites, construction mistakes and defective works during the project process, and the worst thing that complained by the respondents are some contractors do not have commitment and love to their country, only their mind set is to get money from the government.

Eventually, the study revealed that the Addis Ababa condominium housing project implementation is extremely low compared to the housing demand. In eleven years, only 72 30% of the need was achieved hardly. The planned quality, time and quantity of the project did achieve as per the demand. The prospect also is not promotable. The study found that it has exhaustive factors for the weak implementation of condominium housing in the city.

Although the main challenge for the implementation is accounted to the government, both the consultants, contractors and all stakeholders have their contribution.

Based on the findings, the researcher recommended that, the government should look on other options to attain the demand. Finally, yet importantly, all parties in the project need to coordinate all their efforts for the construction of quality houses for the better and developed housing delivery system according to the results of the study.

2.4 Conceptual Framework of the study

This study is aimed to assess, categorize and rank the common project failure causes and then to propose the related PMKAs for the upper most ranked causes. This road map of the study is presented on the figure 1:1 below.

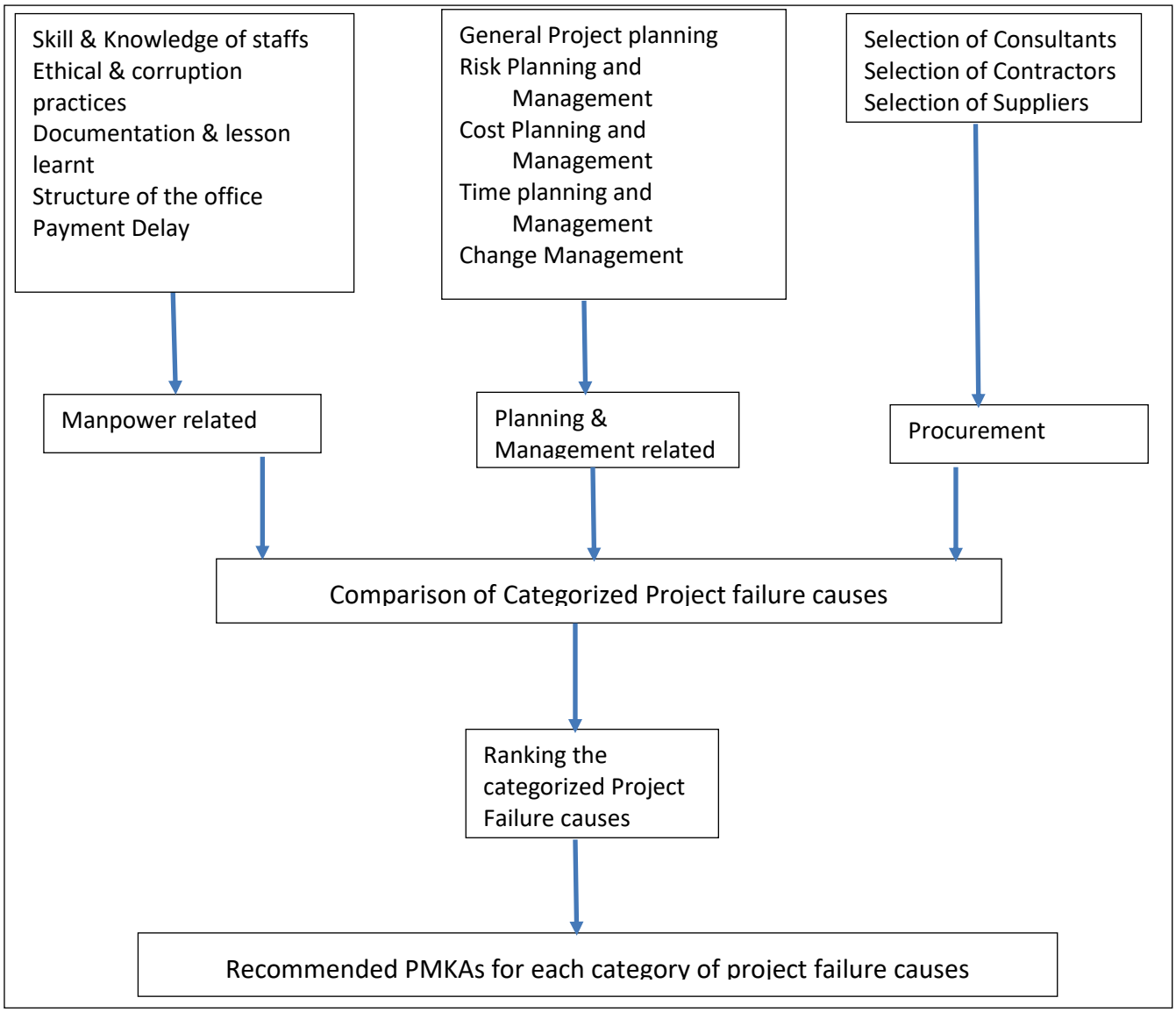

Figure 1:1 Conceptual framework for the study

CHATER THREE

3 Research Methodology

3.1 Introduction

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically (Kothari, 2004). Research methodology is the overall philosophy and approach to the research process from the theoretical underpinning to the collection and analyses of the data. As the name suggests, methodology discusses all the necessary approaches, procedures, and/or methods that the researcher uses in collating the required and necessary data for the study being conducted. In such essence, research methodology describes the whole processes and procedures use in the undertaking of research investigation (Bryman, 2012). This chapter outlines the research strategy, approach and design used by the study and what type of research is this, with a brief description of each. Then it highlights the methods; tools and techniques employed for research population and sampling, data collection and analysis, to answer to the research questions.

3.1.1 Research Strategy

A research strategy concerns the plan put in place by a researcher to answer the research question(s); thus, how the research question(s) are answered by the researcher (Saunders et al., 2012). It is the link between the research methodology and research philosophy as well as the choice of data collection methods and analysis. Saunders et al. (2012) categorize research strategy into eight (8) types: Experiment, Survey, Archival Research, Case Study, Ethnography, Action Research, Grounded Theory, and Narrative Inquiry.

This research project is a case study conducted on AAHDPO. In case studies, the researcher focuses on achieving an understanding of the dynamics that are present within a single setting, strategy used here lied on the case study category. Case studies are normally associated with studies that have a specific location such as a community or organization (Saunders et al., 2012).

3.1.2 Research Approach

The research approach can be categorized into two types – deductive and inductive (Saunders et al., 2012). However, they can either be used as a standalone approach during research or they can be used together in a single study (Saunders et al., 2012).

The first part of the research seeks to find out from the stakeholders of the project in focus, that are Project office, Consultants and contractors, their perceptions about the subject matter. Thus, using semi-structured interviews to explore their views on the subject matter will help the researcher to gain in-depth data or information.

Nevertheless, as the second part of the study seeks to rank the study's variables in order to find out the most important ones, this requires quantitative data; hence, there needs to use a deductive approach. This will help to establish the most important failure causes of the AAHDPO projects. In fact, using a mixed approach will bridge the gap between the deductive and inductive divide.

3.1.3 Research design

According to Bryman (2004, 2012), research design means general orientation to the social science research. Thus, research design is concerned with the general plan of how a researcher goes about answering the research question(s) (Saunders et al, 2012). Research design can be grouped mainly into three categories – quantitative, qualitative and mixed methods research.

This research adopts both quantitative and qualitative approaches – thus, a mixed methods approach. Data collected from the semi-structured interviews in the form of perceptions are analyzed with the use of qualitative data analysis techniques. On the other hand, data collected from the questionnaire in the form of frequency, scale, percentage, numbers and/or statistics are analyzed with the use of quantitative data analysis techniques.

The mixed methods approach is used because the study seeks to explore causes of project failure and the extent of project failure due to theses causes, and also to establish the most important failure causes. With exploratory studies, qualitative data collection is appropriate whilst, in attempt to find the most important causes, quantitative data collection is appropriate. Therefore, the research questions and objectives shaped the choice of the techniques being used.

3.1.4 Type of the study

Saunders et al. (2012) classify research studies into three types – Exploratory Studies, Descriptive Studies, and Explanatory Studies. The particular type followed in a piece of research is determined by the research questions being skewed (Saunders et al., 2012). Thus, it is the research questions that shape the type of research to follow. Based on the explanation

of the three types of studies, this research uses the exploratory type to answer the research aims.

An exploratory design is conducted about a research problem when there are few or no earlier studies to refer to (Saunders et al., 2012). This study often involves a search of literature to gain insight into the subject matter, interviewing 'experts' in the subject matter, and conducting semi-structured interviews or focus group interview or discussions (Saunders et al., 2012).

Therefore, this study is a case study, included both an inductive and deductive approaches, and used a mixed method research design to explore the most significant project failure causes at the AAHDPO. It employed a mixed method sampling techniques as well as both qualitative and quantitative data collection and analysis instruments, tools and techniques to draw the final conclusion, so that the research questions could be adequately answered. An explanation of the methods used in this research that includes the population and sampling, data collection and analysis, ethical consideration and reliability are presented in detail here after.

3.2 Research Methods

Method is about how the research was conducted; in other words, the actual steps followed to collate data and analyze. Kothari (2004) described Research methods as all those methods/techniques that are used for conduction of research, it refers to the methods the researchers use in performing research operations. In other words, Research methods refer to the behavior and instruments used in selecting and constructing research technique.

3.2.1 Study Population and Sampling

The research population preferred for this study is the Addis Ababa Housing Development Project Office and its stakeholders. These stakeholders are the project main office, other project offices, consultants and contractors, and Micro and Small Enterprises (SMEs) in some part. The project head office, consultants and contractors that were engaged in the project from the beginning to the end were considered in this study, while the MSEs were not included due to their limited participation in the project and their loose relation with the main project office, which is the main focus of this study. Therefore, the study population for this research came to be the individual units working in the stakeholders of the project.

3.2.1.1 Sampling Frame

A sampling frame is the process of selecting a sample from a well-defined target population and this includes listing of elements in the population. In other words, this is a complete list of all the cases or elements in the population from which the sample for the study can be drawn (Saunders et al., 2012). In this research the sampling frame is needed to be the individuals in the stakeholders in the AAHDPO projects, as the subject matter is the project failure causes in that specific office.

In this research, three sets of stakeholders were selected to participate in the collection of the data – the consultants, the contractors and project management office (practitioners). Consultants and Contractors are stakeholders who are directly involved with the implementation of the projects. They will therefore be able to give first-hand information on why projects fail in AAHDPO.

Likewise, Project management office (practitioners) is also valuable elements in this research, for both the secondary and primary data required for this study. Project experts in these organizations possess the technical know-how on project management and can therefore provide expert opinion about the subject matter. Therefore, the sampling frame of this research is the list of individual experts in the selected consultant and contractor and the project main office's technical divisions.

3.2.1.2 Sampling Design

Social and behavioral sciences methodologists often place research sampling methods into two groups – probability and non-probability (purposive) (Saunders et al., 2012); however, there is a third, which is a combination of the two main sampling methods, and this is called mixed methods (MM) sampling (Teddlie & Yu, 2007).

Due to the specificity of the study to a particular type of universe, which is the Addis Ababa Housing Development Projects, the appropriate sampling design is a multi-stage cluster sampling integrated with the Mixed Method of probability and non-probability (purposive) sampling approaches. The reason for this is that there are a number of consultants and contractors participating in the projects run by the AAHDPO. These consulting and constructing firms have also a number of different divisions or departments inside them. Of course the AAHDPO also has multiple departments. Therefore, assuming the consulting and constructing firms as a cluster, since they are different entities, and the project office as one entity, there needs to select good representing samples from each category of stakeholders. The AAHDPO was taken as a whole, and a decent portion of the other entities are required to be selected, considering them as clusters. Then from the selected clusters, the

departments closely connected to the projects' management were needed to be selected for sake of acquiring the most relevant information and data required for this study. As Rahi (2017), stated Multi-stage sampling or Multi stage cluster sampling involves a sequence of stages. In this multistage sampling design both probability and non-probability sampling techniques were used since both qualitative and quantitative methodologies, which are the constructs of mixed methods approach, were employed. Multistage sampling is described by Sedgwick (2015), as it is based on structures of natural clusters within the population and different type of cluster is sampled at each stage, with the clusters nested within each other at successive stages.

Beside the multi-stage cluster sampling, due to the use of two types of data which are qualitative and quantitative, as well as the respective data collection methods (semi-structured interview and questionnaire), each method requires separate sampling techniques. In this case, this research used a mixed methods sampling technique in a sequential approach. The reason for this choice is that the first part of this study needs to gather qualitative data (non-probability) in the form of perceptions and views, since it is an exploratory study, which seeks to gather in-depth information about the phenomenon under investigation. And the second part, as well, needs quantitative data collection so that the variables drawn from the earlier data could be analyzed and ranking, and identifying the most significant causes could be possible.

MM sampling strategies involve the selection of units or members for a piece of research by using both probability sampling (to increase external validity) and non-probability (purposive) sampling strategies (to increase transferability) (Teddlie & Yu, 2007). In this type of sampling strategy, two sampling strategies are used to complement each other; thus improving research validity and reliability (Teddlie & Yu, 2007). In a sequential sampling strategy, one of the two strategies is used together in a sequential order; thus, one precedes the other. That is, one sampling method from the probability sampling tradition is carried out first and one from non-probability sampling follows and vice versa, depending on the aim of the research. In this tradition, the data findings from the preceding sampling are used to inform or shape the selection of the next sampling units (Teddlie & Yu, 2007). Thus, it either moves from quantitative to qualitative or from qualitative to quantitative strand as Teddlie and Yu put it.

Depending on the sampling strategies explained above and the research questions here in focus, this study used the Multi-Stage sampling and Mixed Method sampling. Multi-Stage

Cluster sampling is used to select the First Stage Unit (FSUs) and Second Stage Units (SSUs) purposively, and then the sample individuals for the qualitative data are selected purposively, which is a non-probability sampling technique, and for the sample elements for the quantitative data are selected with simple random sampling, which is a probability sampling technique. This is due to the need of a general perception about the case under investigation to be found from the purposively selected sample elements, and then a more deepened knowledge could be gained from the randomly selected elements, to measure the significance of the causes and to rank them.

3.2.1.3 Sample Selection and Sample Size Determination

First the stakeholders (considered here as cluster) were the AAHDPOs, Consultants and Contractors. There are number of project offices working on the housing development in different geographical areas of Addis Ababa. However, the main office was selected for the sake of accessing full-fledged information about the subject matter and for the availability of the relatively qualified and experienced experts regarding projects and their management. Likewise, there are lots of consultants and of contractors participating in these project offices. Nevertheless, some of them were working with the AAHDPO starting from the beginning of the housing development project in 1997 E.C. As experience is one of the criteria the researcher used to select the samples purposively, the most experienced consultants and contractors were selected based the information found from the project office. It's also based on their availability, and willingness to be part of this study, in spite of their experience in the project. Therefore, the project main office, the most experienced consultant and contractor firms were selected in the first stage of the multi-stage cluster sampling used in this research. These entities, the main project office, one consulting and one contractor firms are the First Stage Units (FSUs).

Secondly, since each entity has different departments, the ones most related to the projects and the project management were selected with the same reason mentioned above. These selected Second Stage Units (SSUs) were the construction, the contract administration and project management divisions of each FSU clusters. Here also the selection is done purposively, considering their close attachment with the projects and the project management tools and techniques. In the last stage, the sample individuals for the key informants interview were purposively selected from the SSUs. These individuals are selected depending on the relevant expertise they possess, the responsibilities they have in the projects, their work experience in the cases under study, and their willingness to take part in this study. Since, the

firsthand information should be gathered from the most experienced and the closest individuals, mainly the project managers, department heads and owners, in case of consultants and contractors, are given the priority. By doing so, the owners of the selected consultant and contractor, with one project management expert from each, totally four individuals were selected for the interview. Likewise, the directors of the three relevant directorates, and team leaders of the more technical divisions in the directorates, two teams/individuals from each, were selected and came up to be six individuals from the AAHDPO. As a whole, the interviewees were 10 professional and experienced individual from all the three stakeholders.

Whereas, for the quantitative data collection, the sample elements are chosen randomly from the SSUs, those possess the technical knowhow about the projects' status, the concept of project management and the knowledge areas in PM. The selected project office, consultant and contractor in FSUs have 155, 24 and 31 employees respectively, working in the selected divisions of each during the second stage of the sampling method employed here. The third stage of this sampling method was used in the selection of the respondents for the questionnaire, which is unlike to the previous stages, a probable sampling technique. The number of respondents for the questionnaire was selected by using the sampling formula of Chohran (1977), as cited by Singh and Masuku (2014). As shown below, the sample size (n = 87) is determined considering a target population of 210 employees from the total population of the three SSU clusters. The confidence interval is taken as 5% and the confidence level to be 90%.

$$n_o = [(Z_{\alpha/2})^2 \, p \, q] / e^2$$

Where no is the sample size,

Z is the abscissa of the normal curve that cuts off an area α/2 (α = 0.1 equals the desired confidence level is 90%),

e = the desired level of precision, (taken confidence level = 90% where by α = 0.1)

P = is estimated proportion of an attribute in the population (taken as 0.5 and q = 1-P = 0.5; for conservative estimate)

The value for Z is found in statistical tables which contain the area under the normal curve.

$$n = n_o / [1 + \{(n_o - 1) / N\}]$$

Where n is the sample size and N is the population size.

n_o is the sample size previously found.

Finally, all the drawn samples from each cluster in SSUs were combined together and constituted the final sample size for further analysis.

$$n = \sum_{i=1}^{n} n_i$$

n_i : Number of sampling units to be drawn from i^{th} stratum.

155==47
24==18
31==22
This means that the lowest acceptable number of responses must be 87 at a 95% level of confidence with level of error at 10%. However, to strengthen the validity, the researcher distributed 100 questionnaires to the individuals in the selected clusters.

Table 3-1 ***Respondents distribution in the stakeholders of the projects***

Clusters of the SSUs	Number of employees (only professionals)	Percentage of the strata from the total target population	Proportional sample size of the clusters
AAHDPO main office	155	73.81%	47
Consultant	24	11.43%	18
Contractor	31	14.76%	22
Total	210	100%	87

Source: Own survey, 2013

3.2.2 Data collection and analysis

Both secondary and primary types of data were collected for this study in general. The secondary data were found from literatures and documents like reports, whereas the primary data were gathered by using semi-structured interview and questionnaires, which are qualitative and quantitative data respectively. For gathering these required data, as described in the research design section, the combination of multi-stage and mixed methods approach is used. First, a key informants interview was conducted with purposively selected experts from AAHDPO main office and the selected consulting firms and contractors. These data were used to get a general picture of the project under study, and to visualize the history of completed projects and the status of the current projects. These were the qualitative data collection. Based on the information found from these two sources and with respect to the ten knowledge areas in Project management, a questionnaire was prepared. Then, the

questionnaires were distributed randomly to the individuals in the SSUs, i.e. the purposively selected divisions of the office, consultants and the contractor.

3.2.2.1 Data collection instruments

In order to achieve the research objectives, the study uses both semi-structured interview and questionnaire to gather information from two groups of stakeholders of AAHDPO projects. The choice of the two methods is based on the research objectives and research questions. The nature of the research topic made these forms of data collection more appropriate. They will provide raw data about the project and first-hand information which is from the original source (Mingers, 2004). This study used two data collection methods, semi-structured interview and questionnaire. The semi-structured interview was used to gather the qualitative data and the questionnaire was used to gather the quantitative data from the practitioners that are consultants, contractors and project management office. This study used a mixed methods strategy – a combination of qualitative and quantitative approaches.

Semi-structured interview: based on prior knowledge and related literatures a checklist for interview questions was prepared. This informants interview gathered the qualitative data. A purposeful selection was made to identify the interviewees. This sampling approach used non-probability sampling techniques. As described by Patton (2002), in this sampling approach, there is far less emphasis on generalizing from sample to population and therefore greater attention is paid to a sample 'purposely' selected for its potential to yield insight from its illuminative and rich information sources. The selection was based on the criteria that those being selected could have a certain level of knowledge in the subject area being investigated so that the information gathered would be reliable.

Questionnaire: this also prepared by using prior researches in the area and the information found from the informant interview. Random sampling, which is a probability sampling technique, was used to selects respondents for the questionnaires. The reason for this strategy is that one of the objectives of the research is to find statistical findings to establish which of the failure criteria and causes are more important; therefore, a sample was required that could represent the sample population. However, if all the stakeholders working on the projects with AAHDPO were considered, the research population would be too large and there is a very large geographical distance between them (Bryamn, 2012), the study used a simple sampling technique, which is within the probability sampling tradition.

3.2.2.2 Data Analysis Techniques

Since the data collected were both quantitative and qualitative types, as described above, it needed separate analysis techniques for each type. The qualitative data was analyzed by using thematic and content analysis methods, the qualitative data analysis tools. As the SPSS is the conventional data analysis tool for statistical or quantitative data, percentage, frequency and the likes were used to analyze the quantitative data so that a conclusion could be reached about the case and recommendation could be drawn as well.

Specifically, the first part of the study uses thematic and content analysis to analyze the qualitative data.

***Thematic Analysis*:** Bryman, (2012) defines thematic data analysis as "a category identified by the analyst through his/her data; that relates to his/her research focus (and quite possibly the research question); that builds on codes identified in transcript and/or field notes; and that provides the researcher with the basis for theoretical understanding of his or her data that can make a theoretical contribution to the literature relating to the research focus".

Content Analysis: Qualitative content analysis groups materials or data into categories that represent similar meanings (Moretti et al., 2011). Thus, the research method involves subjective interpretation of the content of textual data by systematically classifying the data through coding and identifying themes or patterns. From the definitions and arguments put forth by various research method theorists, it can be said that thematic and content analyses are mutually complementary, and therefore they are more appropriate for qualitative data analysis.

3.3 Validity and Reliability

Validity and reliability, which often determine the robustness and the quality of the study (Saunders et al., 2012) are often confused as meaning the same. Even though the meanings overlap, there are distinctions among them. This section explains how validity and reliability of the data for the research were ensured.

3.3.1 Validity

Validity answers the question as to whether a research instrument such as a questionnaires or interview actually measures what it was intended to measure or whether its scores have meaning for a participant (Saunders et al., 2012). Validity is dependent on accuracy and precision; accuracy is the degree to which bias is absent from a sample, and precision is

measured by the standard error of estimate – a type of deviation measurement, where the smaller the standard error of estimate, the higher the precision of the sample.

To ensure the research findings are valid, the researcher used the literature review as a guide. As discussed in the literature review, the reviewed literature is directly related to the research objectives and therefore using this as a guide helped obtain the necessary data from the respondents. This ensures that the research instruments being used are appropriate for this study and that the semi-structured interview and questionnaire questions reflect the topic under study (Saunders et al., 2012). The research instruments (questionnaires, interview questions) are reviewed by experts in the field, as Saunders et al. (2012) advocate. Further, the study's data instruments have been adopted from previous studies, with minimal alterations made to meet the requirements of this research.

3.3.2 Reliability

Reliability is the degree to which a result can repeat itself over time. In other words, reliability refers to consistency (Saunders et al., 2012; Bryan, 2012). Reliability can be defined as "The extent to which results are consistent over time and an accurate representation of the total population under study and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable". Reliability of a measurement instrument is the extent to which it yields consistent results when the characteristic being measured has not changed. The ultimate test of a sample design is how well it represents the characteristics of the population it was intended to represent (Cooper & Schindler, 2001). In other words, if a test can be repeated more than once and the results are the same, then that research result can be classed as reliable. For example, a reliable questionnaire is one that will give the same results or answers from the same sample over different periods.

Moreover, both data collections were piloted before the full collection of data occurred. Saunders (2009) argues that "Prior to using your questionnaire to collect data it should be pilot tested…the purpose of the pilot test is to refine the questionnaire so that the respondents will have no problem answering the questions and there will be no problem in recording the data". In other words, the questionnaire is pre-tested to establish that the questions are fully comprehensible and are understood by the respondents, in order to ensure the soundness and suitability of the research instruments.

Prior to the full interview, initial pilot interviews were conducted to ensure that the interview question guide was appropriate for the full interview. This consisted of three (3) participants (one from each category of participants). Secondly, prior to the distribution of the questionnaire, 15 questionnaires were piloted. By pre-testing, the researcher followed the steps that Foddy prescribes to be followed in order to ensure the research questions' validity and reliability. Moreover, this is also in conformance with Saunders et al, (2012) three common approaches to ensuring reliability of questions: tests re-test, internal consistency and alternative form.

Further, data from the pilot interviews were analyzed to ascertain if there was a need to make any necessary amendments. After the analysis of the pilot interview, some questions were eliminated whilst others were added. In the questionnaire pilot, the analysis of the 15 questionnaires was made using Cronbach alpha.

CHAPTER FOUR

4 Data Analysis, Findings and Results

4.1 Introduction

This chapter presents the data collected, the analysis made and the results found in this study. Two data collection methods were used – semi-structured interview and questionnaire. Therefore, this section is divided into two main parts: qualitative data analysis result, and quantitative data analysis results, both containing presentation of data followed by the results and findings respectively. The qualitative analysis result presented the data found from semi-structured interview and documents review, while the quantitative analysis result presented the data found from the questionnaires.

The analysis and findings of the data collected are presented based on the objectives and with respect to the research questions of the research study, which are: (1) what are the common causes for project failure in AAHDPO, (2) which causes are the most significant ones, and (3) what project management knowledge areas are highly related with and could be used against these causes. The result of the qualitative and quantitative data analysis is presented respectively.

4.2 Qualitative data Presentation and Analysis Result

As for the qualitative data were found from Document review and Semi-structured interview, this section presents the data analysis findings and results of those data.

4.2.1 Documents review

Mainly the document review was made in order to get factual and appropriate information about the status of the project performance in AAHDPO. Although many literatures mentioned and confirmed the failure of these projects before, the documents found in the office, reviewed for the sake of this research also confirmed the failure. One of the documents was the study by the experts in the office that proposed a new structure for the project office (2019), revealed that the project hasn't achieve its objectives, neither in time, cost nor quality. According to this and other documents reviewed, the project office has only completed 180,000 houses since its establishment in 1996 up to 2010, and there are 132,000 houses under execution. Although, this study labeled the performance of the project office as "Unsatisfactory", based on the literatures and the conventional performance metrics for project failure/success, i.e. time, cost and quality, it is a failure since it couldn't meet the

objective in the specified metrics. As Maru (2017), referring the PMBOK and other related researches, said "project is said to be successful if it is completed on schedule, within the budget and in conformance with predetermined performance specifications".

Another finding from the documents review is about project management and the employees' qualification with respect to PM. Neither the existing nor the proposed structure of the office has project management professionals in any of the positions. As the documents reviewed here, the employees in the office are more related to architecture, engineering and a few of construction management fields, beside the supporting staffs, which are of different types of fields. Yerukneh, (2019) described the office as it has adequate senior and junior staffs with knowledge, skill and experience required in the construction industry, there is no single person with the professional background of project management.

As a cause for failure of projects (unsatisfactory performances), the documents stated some common problems mentioned in earlier studies. These problems were: contractors' incapability, competence of consultants, price escalation, improper or complex procurement processes in international and local purchases, natural phenomena (rainy seasons, slumping or rocky land etc...), and the likes. These and other more project failure causes were described in multitude of related researches, of which some were reviewed in the literature review section of this study.

Therefore, during the documents review the fact that the project can be assumed to be in a failure state is confirmed. Additionally, it's revealed that the structure of the project office is in short of project management experts and could hardly apply the PMKAs. This fact has been also confirmed by Yerukneh (2019), on her study that assessed the project management maturity of the office. Beside these findings, some common causes of the project failure were also disclosed. The study conducted to propose a new structure for the office, hasn't mentioned any failure cause, but it clearly stated that the study is required because of the unsatisfactory performance of the project office. However, the importance of restructuring the project office can reveal the failure of the projects has a direct relationship with the structure and manpower of the office.

4.2.2 Semi-structured interview

For the qualitative approach 10 individuals, 8 from AAHDPO in different positions, educational status and years of experience, 1 from Consultants' and 1 from contractors' side in the area were interviewed from the purposively selected offices. The respondents were as

presented below with their demographic details like educational status, work position and work experiences. This will help to show how appropriate the representatives are.

Table 4-1 Respondents' demographic distribution

Respondents	Offices they belong to	Working Position	Educational Status	Work Experiences		
				Current position	Other	total
1st respondent	AAHDPO	Department head	Msc/ 2nd degree	8 years	10	18
2nd respondent	AAHDPO	Senior Engineer	Bsc/1st degree	6	2	8
3rd respondent	AAHDPO	project manager	Msc /2nd degree	10	10	20
4th respondent	AAHDPO	Senior officer	Bsc/1st degree	5	2	7
5th respondent	AAHDPO	Chief executive	Bsc/1st degree	5	17	22
6th respondent	AAHDPO	Senior officer	Bsc/1st degree	10	1	11
7th respondent	AAHDPO	Chief executive	Msc /2nd degree	5	6	11
8th respondent	AAHDPO	Senior officer	Bsc/1st degree	7	9	16
9th respondent	Consultant	Owner /Engineer	Msc /2nd degree	4	14	18
10th respondent	Contractor	Owner /Architect	Msc /2nd degree	3	4	7

Source: Own survey (2013)

In the main, semi-structured interviews were conducted to seek the perceptions of project management practitioners, contractors and consultants about the subject matter. Specifically, this first data collection explores the common and most significant causes of project failure, and the application of project management. The ultimate purpose of this data collection was to validate the findings from the literature and document review and to explore further themes on the subject under investigation. Data from the aforementioned reviews and semi-structured interview are then used as a guide to develop a questionnaire.

To get the respondents' profiles, they were asked to introduce themselves. This captured their age, education, position, years of experience in current position, experience in project management, overall work experience, and the sector and industry in which they work. The main reason this information is collected is for the researcher to know the level of knowledge that respondents have in relation to the subject matter. This will help improve the validity and reliability of the data being collected. However, because this is the preliminary stage of the data collection, this part does not analyze the respondents' personal profiles in detail.

Discussion

The most frequent project failure cause by the interviewees is lack of capacity of either the contractors, consultants or the staff in the project office. The transcribed data were used to develop the themes through the thematic analysis process as a whole. But Lack of capacity is presented here for discussion because the width of the concept and its relationship with most

of other failure causes rose by the respondents. It has been mentioned in relation with the contractors, the consultants and the staffs in the project office. On the other hand, it is also related with the skill and knowledge, finance, equipment and organization with respect to each stakeholder of the project, contractors, consultants and the project office.

Lack of capacity – This was explained by respondents to mean two things – skills or knowledge and material resources. Most of the respondents from the project office believe that the capacity of the contractors is the very cause of most of the projects delayed or were under the required quality. These respondents claimed the way the contractors were awarded the projects, which is not the conventional procurement procedures. By lack of capacity, they mean either the skills and/or knowledge of the contractors, or the tools and equipments required for the construction work. One of the respondents explained this by saying "even some contractors do not have the technical skill or knowledge, and also the equipments the work needs". According to this respondent, some of the contractors were just beginners in the construction business which are fresh graduates or civil servants in government offices worked mostly in municipal services. These sorts of contractors lacked both the skill or knowledge and the equipments necessary for the work. They may get most of the equipments by rental, but due to the size of the project being executed in one place, the rental service couldn't accommodate all the needs of these contractors.

The respondents from the consultant side also confirmed the lack of capacity of the contractors in both ways the earlier ones explained. These respondents added that the capacity of the project office in project management is also in question. Most of the workers in the project office, including the manager and department heads do not have the required skills and knowledge of project management. They rather work just by following the trends and traditional ways, according to this respondent.

The respondent contractor also claimed for the lack of capacity both in the office and the consultant side. They complained about the working individuals in the project office that they lack the capacity of management by mentioning the provision of the material from the office, and payment processing and approvals. They said "supplies of the materials were not managed properly as some contractors were given while they have surplus on their site, but some others were in short of these materials". Regarding the payment, they added "even though almost all payment approval process were too slow and complicated, there are still some contractors that get their payments relatively faster than others applied for payment before them. This really needs a strong management system to get better". They stated that

the bureaucracy and corruption being exercised in these two activities are the lack of the management.

Regarding the information obtained about the status of the application of the ten project management knowledge areas, the unstructured interview indicates that structurally the project office has been independently operating and ensuring multi-project capabilities such as inter-project dependencies. It also has full authority manage its resources. However, the office has no project management graduates in order to apply basic project management concepts. In addition, although most of the respondents replied that they have been provided trainings in project management, the unstructured interview has revealed that the trainings lack consistency and sustainability which affects its effectiveness.

The data gathered through interview were first transcribed and analyzed with the used of thematic analysis. Thematic analysis is a method of analyzing qualitative data. It is usually applied to a set of texts, such as interview transcripts. It helps to closely examine the data to identify common themes – topics, ideas and patterns of meaning that come up repeatedly. Vaismoradi et.al, (2013), described thematic analysis as an independent qualitative descriptive approach, and defined as a method for identifying, analyzing and reporting patterns (themes) within data.

After the interview data is transcribed, first initial codes were generated, and then themes were searched for. As Braun and Clarke, (2006) defined it; "*a theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set*". Searching for themes involves sorting different codes into potential themes. Some codes formed main themes or sub-themes, whereas other codes were discarded (or might be kept as outliers). The themes were refined by reviewing the coded data and the level of themes, and then named.

4.2.3 Finding and Result

During initial coding 175 words, phrases or sentences that showed a cause for the project failure were identified. These codes were further analyzed and categorized into subthemes and then to the main themes. Eventually, the themes produced were Planning, Procurement, Manpower, M & E, Resources, Communication, organizational, External and Stakeholders. These themes also have sub themes that are interrelated in some way and mentioned by the respondents more frequently. The most frequently mentioned failure causes were consolidate under the themes Planning, Procurement and Manpower, while the remaining themes contain

relatively lesser mentioned failure causes were Monitoring & Evaluation, Resources, Communication, External and Stakeholders. The top three themes are selected for further study here and explained at the end of this section.

Likewise, the staffs were interviewed about the knowhow of PM and PMKAs, however the findings were not satisfactory. There is a little knowhow about the concepts and theories of Project Management and the ten knowledge areas of PM. By looking at the so far identified most significant causes and other related researches, the researcher chose the PMKAs that are relevant to the developed themes to relate them with those causes. A previous research conducted to assess the PM maturity of the office indicated that the PM level of the office is low. Therefore, the project office‘s low maturity level affects the process of making choices about resource allocation, balancing competing demands, examining any alternative approaches through creation and the use of appropriate knowledge, tailoring the processes to meet the project objectives and managing the interdependencies among the project management knowledge areas (Yerukneh, 2019). Other researches also indicated that the project office doesn’t have a Risk Management practices, like Ferede (2019), and Zenebe (2019). Schedule Management is also detected by Ayen (2019), and Corruption which is related to the employees of the office was declared by Bezabih (2017) as a challenge in most construction projects of Addis Ababa.

According to PMBOK® Guide (2017), project integration management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the project management process groups. As Project Integration Management’s major processes are Project Plan Development, Project Plan Execution and Integrated Change Control, i.e. the roadmap of the project, it contains the solution for most of the problems rose as a cause to project failure. Hence the first PMKA chosen is Project Integration Management that can be related to the Planning theme and subthemes in it. The other themes Manpower is directly related to Project Human Resource Management, while Procurement can be addressed by Project Procurement Management KAs.

Manpower

Manpower theme have the subthemes like Skill and Knowledge of the staffs, Decision making, Project managers’ competence, ethical issues like commitment, moral degradation and unaccountability of employees, corruption, use of PM tools and techniques and so on.

These all subthemes are practices of either the project managers and other staffs of the project office.

The remaining themes were: M & E, Resources, External (Natural, Economic, & Political etc.), Communication and Organizational problems (structure, bureaucracy, lack of system etc.), and Stakeholders involvement in accordance with the frequency they have been mentioned by the respondents for the interview questions. The distribution of the subthemes into the main themes is as presented in the table below.

Table 4-2 ***Distribution of the subthemes in the theme Manpower***

Subthemes contribution to the main theme Manpower		
subthemes	contribution in No.	percentage
Skill & Knowledge	25	52.08
Ethical & corruption	11	22.92
PM Competence	7	14.58
Documentation & lesson	2	4.17
PM tools and Techniques	3	6.25
total No. of Subthemes	48	100.00

Source: Own survey (2013)

Planning

Planning theme contained Risk, Cost, Time, Change and General planning subthemes. The General Planning subtheme differs from the others, because some raised causes were scope definition, design, funding and land preparation were mentioned by too few respondents comparing to the later ones. Since these activities are expected to be executed and completed during the project initiation stage processes and they are inputs for the project planning process, they were merged in a single subtheme named as General Project Planning. Risk, Cost, Time and Change management/planning are activities in the project planning process, and their distribution to the main theme Planning is presented in the table below.

Table 4-3 ***Subthemes in Planning theme***

Subthemes' contribution to the main theme Planning		
Subthemes	Contribution in No.	Percentage
General Project planning	14	35.00
Risk Planning and Management	12	30.00
Cost Planning and Management	8	20.00
Time planning and Management	3	7.50
Change Planning and Management	3	7.50
total No. of subthemes	40	100.00

Source: Own survey (2013)

Procurement

Procurement theme includes Contractors' capacity, Consultant capacity, and Improper procurement of the office itself. The contractors and consultants are not part of the project office, but they have a vital role in the project implementation. Since the main focus of this study is the project office, their incapability couldn't be the direct cause of the projects' failure of the office, but the selection process of such incapable partners. Hence, the procurement process of the office is taken as the main theme to bundle the selection of the contractors and consultants as well as the complex and improper procurement process itself, as presented below.

Table 4-4 ***subthemes of the main theme Procurement***

subthemes' contribution to the main theme Procurement		
Subthemes	contribution in No.	percentage
Capacity of contractors	19	55.88
Capacity of consultants	10	29.41
General procurement issues	5	14.71
total subthemes appeared	34	100

Source: Own survey (2013)

Amongst the generated 175 initial codes, 48 codes lied under the Manpower theme which counts 27.43%, other 40 failed into the Planning theme and took 22.86%, while 34 others found to be in the Procurement theme holds 19.43%. these the top three themes caught 69.71% of the total project failure causes rose by the respondents, ant the remaining codes distribution and the share of the themes they belong to is presented here under in a table.

Table 4-5 ***Themes and No. of codes with minimum frequency in the transcribed data***

Themes	**M&E**	**Resources**	**External**	**Communication**	**Org. structure**	**Stakeholders**
No. of Codes	13	13	12	7	5	2
Percentage	6.86%	5.14%6	6.29%	3.43%	2.86%	1.14%

Source: Own survey (2013)

As presented in the discussion above, the most frequently mentioned project failure causes by the respondents were mainly Manpower, Planning and Procurement related problems. If we see the subthemes in a more detail, the Skill and Knowledge, Ethical & Corruption practices are the most frequent subthemes in Manpower main theme. Likewise, the General Project Planning, Risk Planning and somehow Cost Planning subthemes are the most frequent ones. In the Procurement theme, as well, Capacity of Contractors and Capacity of Consultants have

the largest share by far from the other subthemes in procurement. This implies that, even the main themes contained also other subthemes which are not perceived as most significant by the respondents, these causes have contributed more than the others to the project failure of AAHDPO. In other words, the subthemes Skill & Knowledge, Ethical & Corruption practices of the staffs in the office, the Project Planning, Risk and Cost planning and management practice in the office, and the Capacity of Contractors and Consultants took the lion's share by their contribution to the failure of the project.

As we look at the subthemes share from the total codes generated from the data transcribed, the Skill & Knowledge of the staffs in the office has 16%, the Capacity of Contractors took 10.86%, the General Project Planning holds 8%; while Ethical & Corruption practices of the staffs, Risk Planning, Capacity of Consultants and Cost Planning contained 7.43, 6.86, 5.71 and 4.57 percent respectively. The remaining Improper Procurement, Documentation and Lesson Learnt have 2.86 and 2.29 percent, whereas the Time Planning, Change Planning and Structure of the office get percent each.

Therefore, the possible most significant causes of project failure in AAHDPO are found to be Manpower, Planning and Procurement related. Under these main themes, Skill & Knowledge of the staff, Capacity of Contractors and Consultants, General Project Planning, Ethical and Corruption practices of the staffs, Risk Planning and Cost Planning problems are the most significant causes of project failure in the office, according to the findings of this study so far. As described earlier these themes and subthemes, or plausibly, the significant project failure causes were used to develop the questionnaire. A greater emphasis is given to the subthemes (causes) with higher contribution to the themes and that contained more codes generated from the transcribed data. Beside these themes and subthemes, the PIM, PHRM and PPM Knowledge Areas were also used in the development of the questionnaire, since the main objective of this study is to suggest the PMKAs that have to be used to address the most significant project failure causes identified in this study.

4.3 Quantitative Analysis Results

The data used here were also gathered from the random employees of the purposively selected organizations and work sections in them. The demographic information, like educational status, work position and experiences, of the sample individuals were collected to ensure that they are relevant enough to the subject of the survey. Their data are presented in this section. Then their replies were categorized, analyzed and the findings were summarized after a thorough discussion.

4.3.1 Data Presentation

Though the sample size determined in the methodology was 80, 100 questionnaires were distributed to ensure maximum response rate and most possible accuracy. However, only 92 questionnaires were found to be complete and usable. The distributions of the respondents by their offices, work experiences and educational status are presented here after.

Table 4-6 ***Respondents Distribution by Offices***

		Frequency	Percent	Valid Percent	Cumulative Percent
	AAHDPO	76	82.6	82.6	82.6
	CONTRACTOR	7	7.6	7.6	90.2
	CONSULTANT	9	9.8	9.8	100
	Total	92	100	100	

Own survey (2013)

All the employees in the sample were engineers by profession, since they were selected, though randomly, from the purposely selected departments and offices. Regarding their distribution in the selected offices, their work experiences and educational status, are presented below.

Table 4-7 ***Respondents distribution by work experience***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 yrs and above	20	21.74	21.74	21.74
	10 to 20 years	41	44.57	44.57	66.30
	10 years and below	31	33.70	33.70	100
	Total	92	100	100	

Source: Own survey (20013)

As it can be seen from the tabular summary, 44.57 % percent of the respondents have worked between 10 to 20 years and 21.74 % of them worked more than 20 years. Though the rest 33.7 % have less than 10 years of work experience, they may still have enough exposure to the problems so that they can contribute useful information to the survey. However, the 66.3 % of the employees, who have been working for more than 10 years, are experienced enough to understand the problems and challenges the organizations are facing. They are also able to suggest a possible way of tackling and/or resolving these problems and challenges. The overall distribution of the sample is believed to be satisfactory for the reliability of the survey on the information they provide.

Table 4-8 *Educational Status of the Respondents*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<BSc	13	14.1	14.1	14.1
	>MSc	1	1.1	1.1	15.2
	BSc	64	69.6	69.6	84.8
	MSc	14	15.2	15.2	100.0
	Total	90	100.0	100.0	

Source: Own survey (2013)

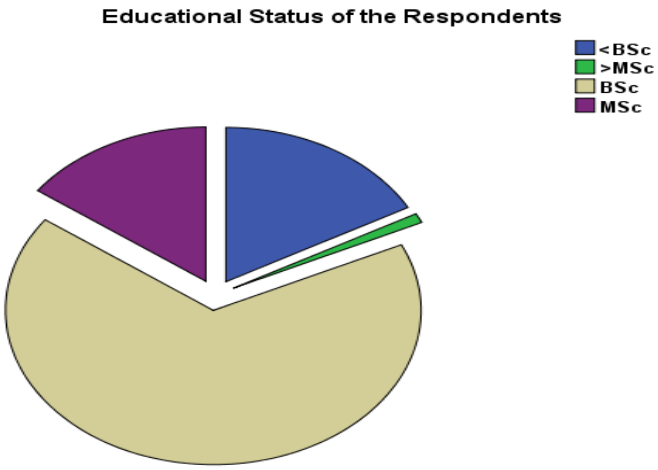

Figure 4.1 *Educational status of the respondents*

Coming to the educational status, around 69.6 % have studied up to 1st degree level, and 15.2 % were having their 2nd degree while 1.1 % of the respondents found to have more than 2nd degree. The remaining 14.1 % are labeled as either Certificate or Diploma holders. However, they are yet believed to perceive the situation around them and have contributed a lot to the data collection since most of these employees are there because they have relatively a better work experience. But generally, 85.9 % of them are holding 1st degree and above. This proportion of the work experiences and educational status can be helpful to the survey believing that they are capable of understanding the questions, replaying accurately, and are supportive to the purpose of the study.

Looking on the Profession of the respondents, 54.3 % Engineers in different categories, 29.3 % studied Construction Management, 10.9 % were Architect Planners and the remaining 5.4 % were other than these professions. The Tabular and graphical representation of the respondents' distribution by their profession follows.

Table 4-9 *Profession distribution of Respondents*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Architect and planner	10	10.9	10.9	10.9
	Construction Management	27	29.3	29.3	40.2
	Civil and other Engineers	50	54.3	54.3	94.6
	Other professions	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

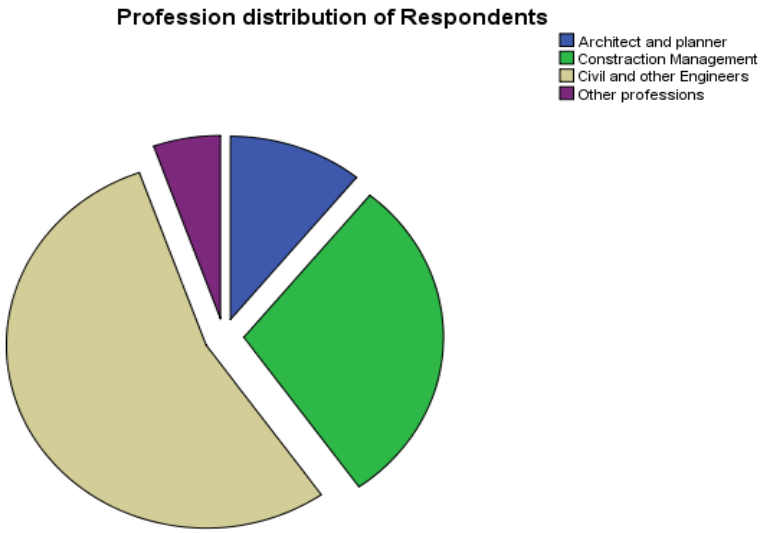

Figure 4.2: *Profession distribution of the respondents*

4.3.2 Result and Findings

As the sequential exploratory strategy is used in this research, the quantitative data are collected after the qualitative analysis has been done, and the questionnaire was developed standing on the findings of the qualitative analysis. In sequential exploratory strategy, quantitative data collection and analysis is the second phase that builds of the result of the first qualitative phase (Creswell, 2008).

The defined themes in the previous analysis are the Manpower, Planning and Procurement related project failure cause, however, the subthemes under these themes were used explicitly on the questionnaire to gather comprehensive information. Based on the themes found, the questions were categorized into three parts. Therefore, the sample individuals have replied in Likert scale, for those questions. The replies are organized, corrected and arranged in excel

sheet, the copied to SPSS. Statistics tool of Descriptive analysis on SPSS was used to analyze and present the quantitative data.

The respondents were asked their beliefs, perception and experiences regarding the project failure in AAHDPO. The questions on the questionnaire were categorized under the five sections, of which the first three were about the most significant causes of the project failure. These questions were if the listed causes under the cause groups (main themes) selected by their high rank during the qualitative analysis, contributed significantly to the failure of the projects. The rest two categories were about Project Management concepts and theories, and the ten PM Knowledge areas. They were asked if the PM concepts and theories, and the PM knowledge areas are well known and understood within the staffs of the project office, and later if these theories and knowledge areas are practiced in the office's project management activities. The replies form the respondents are presented in each category hereunder.

Manpower

The list of the project failure causes under Manpower were: Skill & knowledge of the staffs, Project Manager's competence, Ethical & Corruption practices, Commitment of the workers, Use of PM tools and techniques, and Documentation and Lesson learnt. A descriptive statistics of the respondents' replies for each list of Manpower related project failure causes are presented below.

Table 4-10 ***Descriptive Statistics of Likert Scale values respondents replied***

		Skill And Knowledge	PM competence	Commitment	Unaccountability	Corruption	PM Tool And Techniques	Documents And Lesson Learnt
N	Valid	92	92	92	92	92	92	92
	Missing	0	0	0	0	0	0	0
Mean		3.72	4.09	3.77	3.01	3.43	2.05	2.40
Median		4.00	5.00	4.00	3.00	3.00	2.00	2.00
Mode		4	5	4	3	4	2	1
Std. Deviation		.976	1.255	.800	.791	1.151	.976	1.267
Variance		.952	1.575	.640	.626	1.325	.953	1.606

Source Own survey (2013)

Amongst all the causes listed in Manpower, Skill & knowledge, PM competence and Staff's Commitment are the ones most of the respondents agreed on their significant effect to the

project failure. Corruption practices and Unaccountability of the workers in the office are the next two causes following the first three. However, let's go to a bit deeper to the causes most of the respondents agreed on their significant effect.

Table 4-11 *Skill And Knowledge of the staff affected Project failure most*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	13	14.1	14.1	14.1
	Agree	56	60.9	60.9	75.0
	Neutral	12	13.0	13.0	88.0
	Disagree	6	6.5	6.5	94.6
	Strongly Disagree	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

Table 4-12 *PM competence affected Project failure most*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	51	55.4	55.4	55.4
	Agree	19	20.7	20.7	76.1
	Neutral	5	5.4	5.4	81.5
	Disagree	13	14.1	14.1	95.7
	Strongly Disagree	4	4.3	4.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

Table 4-13 *Commitment of the staff affected Project failure most*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	8	8.7	8.7	8.7
	Agree	65	70.7	70.7	79.3
	Neutral	12	13.0	13.0	92.4
	Disagree	4	4.3	4.3	96.7
	Strongly Disagree	3	3.3	3.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

Procurement

According to the respondents in this study, Capacity of the Contractors, Capacity of the Consultants and Improper Procurement practices affected the project towards failure than the Finance and Purchasing system amongst the causes categorized in Procurement theme. Their statistical distribution is presented on the table below.

Table 4-14 *Statistics of causes under Procurement*					
		Capacity Of Contractor	Capacity Of Consultants	Improper Procurement	Finance And Purchase System
N	Valid	92	92	92	92
	Missing	0	0	0	0
Mean		4.03	4.03	3.66	2.59
Median		4.00	4.00	4.00	2.00
Std. Deviation		.907	1.021	1.030	1.039
Variance		.823	1.043	1.061	1.080

Source: Own survey (2013)

The three causes with the highest frequency of respondents' consent that they contributed significantly than other causes are Capacity of Contractors, Capacity of Consultants and Improper Procurement practices. Capacity of Contractors has got 29 "strongly agree" and 45 "agree" replies which are 31.5% and 48.9% consecutively, which counts a total of 74 out the 92 valid replies, that is 80.4%. This implies that the capacity of contractors is perceived as the most significant factor for the project failure in AAHDPO. Contractor came into the project by the procurement process; hence, procurement is the main cause to low capable contractors to be involved in the project execution. Due to this it helps to develop the procurement process as a significant cause. The frequencies of the responses are presented in a tabular and graphical representation below.

Table 4-15 *Frequency and Percentage of replies for Capacity Of Contractor as a cause*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	29	31.5	31.5	31.5
	Agree	45	48.9	48.9	80.4
	Neutral	12	13.0	13.0	93.5
	Disagree	4	4.3	4.3	97.8
	Strongly Disagree	2	2.2	2.2	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

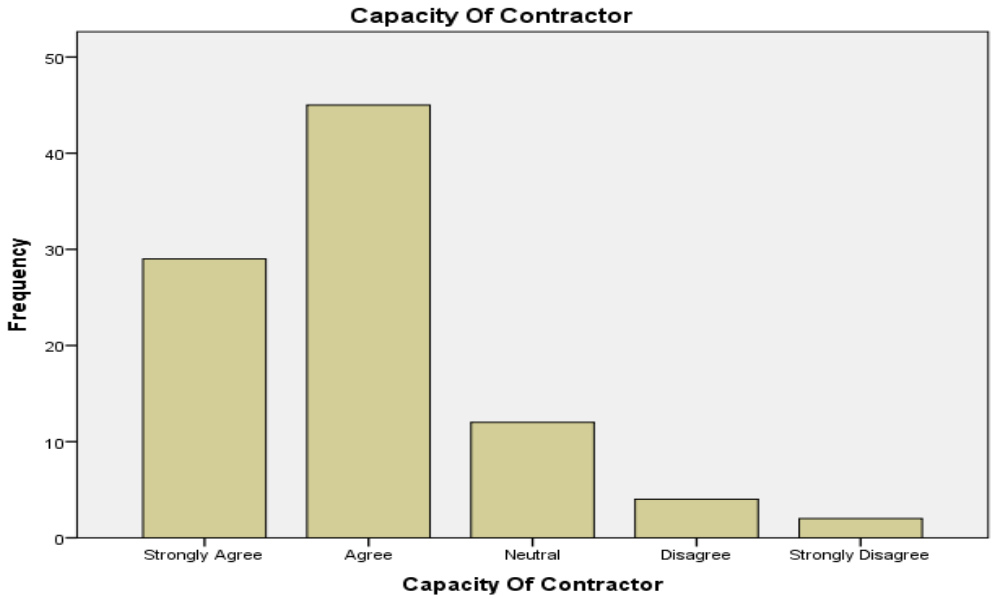

Figure 4.3: ***Graphical representation for the responses obtained for Capacity of Contractors to have significant impact to project failure***

Likewise, the Capacity of Consultants was either agreed or strongly agreed by the respondents to be the significant cause of the project failure. It has gotten 33, 35.9% and 41, 44.6% "strongly agree" and "agree" replies, which counts 74, 80.4% of the respondents. Just as the contractors, Consultants also need to go through the procurement process to join the project activities. Therefore, the incapability of the consultants also builds Procurement as a significant cause as well. The frequencies and percentages of the replies are presented in the table and graph below.

Table 4-16 ***Frequency and Percentage of replies for Capacity Of Consultants as a cause***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	33	35.9	35.9	35.9
	Agree	41	44.6	44.6	80.4
	Neutral	10	10.9	10.9	91.3
	Disagree	4	4.3	4.3	95.7
	Strongly Disagree	4	4.3	4.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

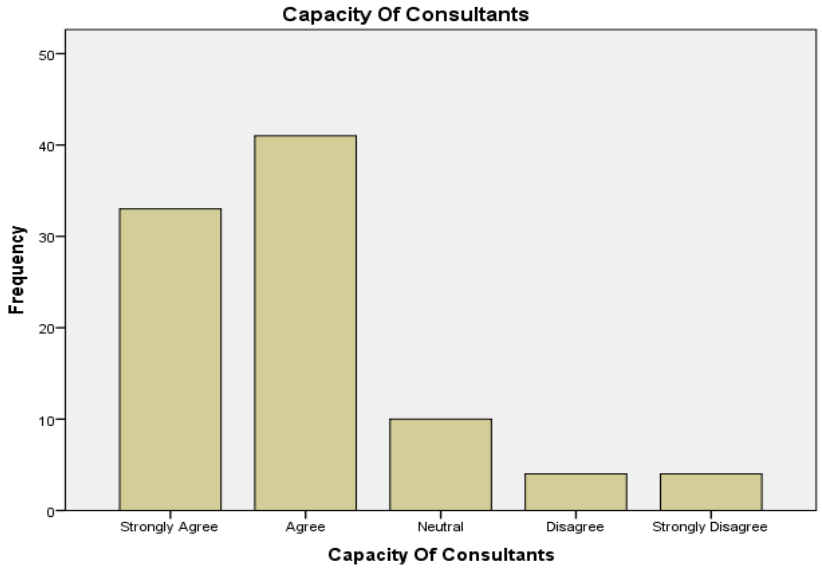

Figure 4.4: ***Graphical representation for the responses obtained for Capacity of Consultants to have significant impact to project failure***

Despite the above two causes, Capacity of the Contractors and Consultants, the general procurement system exercised in the office was also evaluated for the perception of the respondents. Then, the improper procurement practice was agreed by 67 respondents, which is 72.8% of the total, out of these 13 respondents, 14.1% strongly agreed and 54 respondents, 58.7% agreed for Improper Procurement is a significant failure cause of the projects.

Table 4-17 ***Frequency and Percentage of replies for Capacity Of Consultants as a cause***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	13	14.1	14.1	14.1
	Agree	54	58.7	58.7	72.8
	Neutral	12	13.0	13.0	85.9
	Disagree	7	7.6	7.6	93.5
	Strongly Disagree	6	6.5	6.5	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

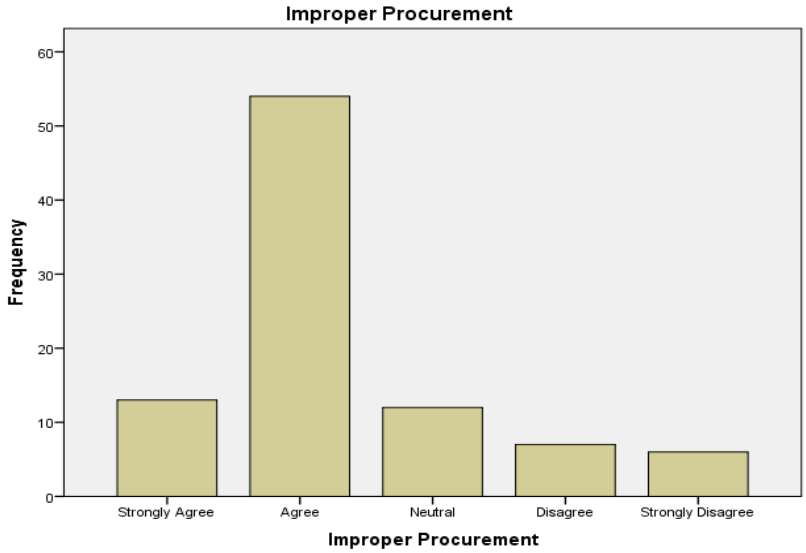

Figure 4.5: ***Graphical representation for the responses obtained for Improper Procurement affected the project failure significantly***

The remaining cause included in the procurement category was Finance and Purchasing system, which is relatively less agreement from the respondents, which is 23, 25%, while those who preferred neither to agree nor disagree were 20, 46%, whereas 49 respondents, 53.2% of all disagreed. Hence, this cause couldn't be taken as a significant cause for the project failure.

Planning

Project Planning is a consistent more issues than raised here, however, the planning related project failure causes found from the qualitative analysis were prompted to the respondents, but project planning in general context is also included to make the information gathered more comprehensive.

Table 4-18 ***Statistics of causes under Planning***

		General Project Planning	Risk Planning	Cost Planning	Time Planning	Change Planning	Scope Planning	Design	Land Preparation
N	Valid	92	92	92	92	92	92	92	92
	Missing	0	0	0	0	0	0	0	0
Mean		4.02	3.63	4.14	3.66	3.00	2.30	3.33	3.48
Median		4.00	4.00	4.00	4.00	3.00	2.00	4.00	4.00
Std. Deviation		.926	1.116	1.085	1.353	.770	1.024	1.285	1.209
Variance		.857	1.247	1.178	1.830	.593	1.049	1.651	1.461

Source: Own survey (2013)

From the causes attributed to the planning theme in the earlier analysis, those agreed by most of the respondents were selected according to their mean value in the statistical description

below to further analyze the replies obtained for each of them. These were Project planning in general, Risk planning, Cost Planning and Time planning. The general Project planning was either agreed of strongly agreed by the respondents as the significant cause of project failure in AAHDPO by 84.8%, which counts 78 respondents out of the 92 valid replies, 26 of them strongly agreed which are 28.3%, and 52 respondents agreed, which are 56.5%. According to their replies, most of the respondents inclined to agree that there is a planning problem that significantly affected the project success. These replies of the respondents are presented hereunder to show their frequencies and percentages.

Table 4-19 Frequency and Percentage of replies for General Project Planning as a cause

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	26	28.3	28.3	28.3
	Agree	52	56.5	56.5	84.8
	Neutral	8	8.7	8.7	93.5
	Disagree	2	2.2	2.2	95.7
	Strongly Disagree	4	4.3	4.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

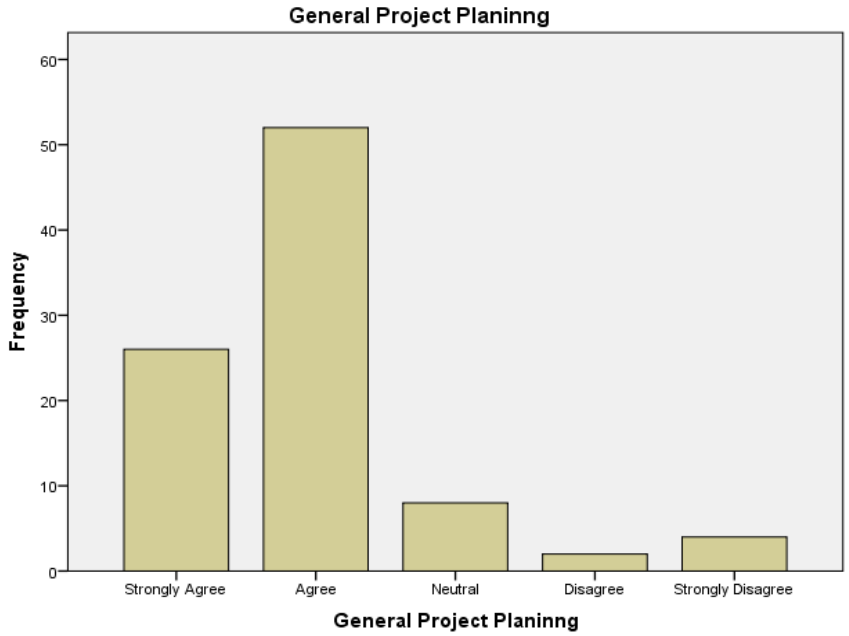

Figure 4.6: ***Graphical representation of the replies that a lack of project planning significantly contributed for the project failure***

Beside the general Project Planning, the Risk planning, Cost Planning and Time planning that attributed to the Planning category of project failure causes evaluated as 59, 64.1%; 74, 80.4%; 63, 57.6%; agreed by the respondents to be significant causes consecutively. Therefore, despite the Project planning in general context, these planning of specific activities

in the project execution were perceived to be significant contributors to the failure of the project. The frequencies and percentage ratios of the replies they have gotten are presented in the tables and graphs below.

Table 4-20 *Frequency and Percentage of replies for Risk Planning*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	20	21.7	21.7	21.7
	Agree	39	42.4	42.4	64.1
	Neutral	17	18.5	18.5	82.6
	Disagree	11	12.0	12.0	94.6
	Strongly Disagree	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

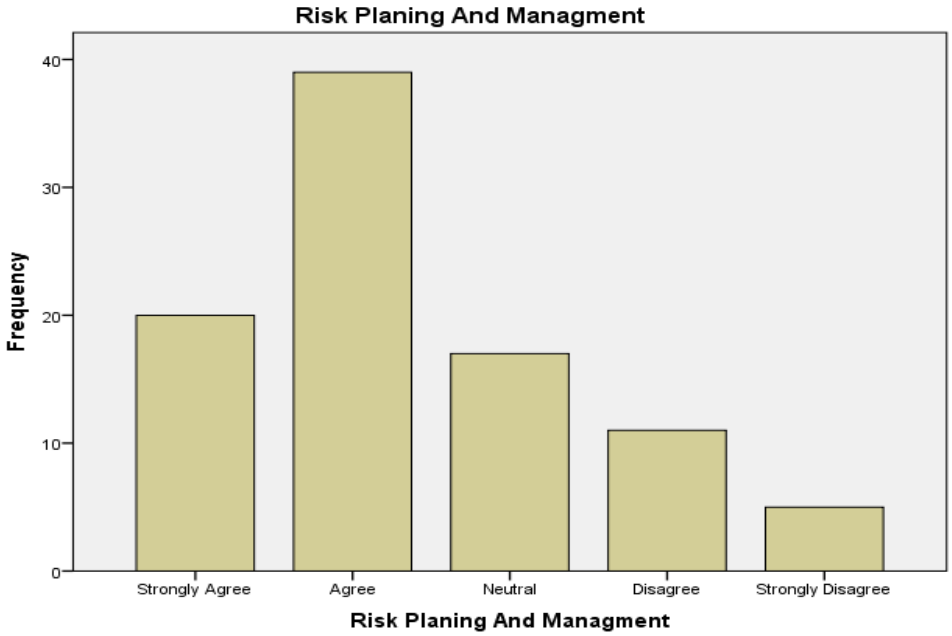

Figure 4.7: *Graphical representation of the replies Risk planning significantly contributed for the project failure*

Table 4-21 *Frequency and Percentage of replies for Cost Planning*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	44	47.8	47.8	47.8
	Agree	30	32.6	32.6	80.4
	Neutral	9	9.8	9.8	90.2
	Disagree	5	5.4	5.4	95.7
	Strongly Disagree	4	4.3	4.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

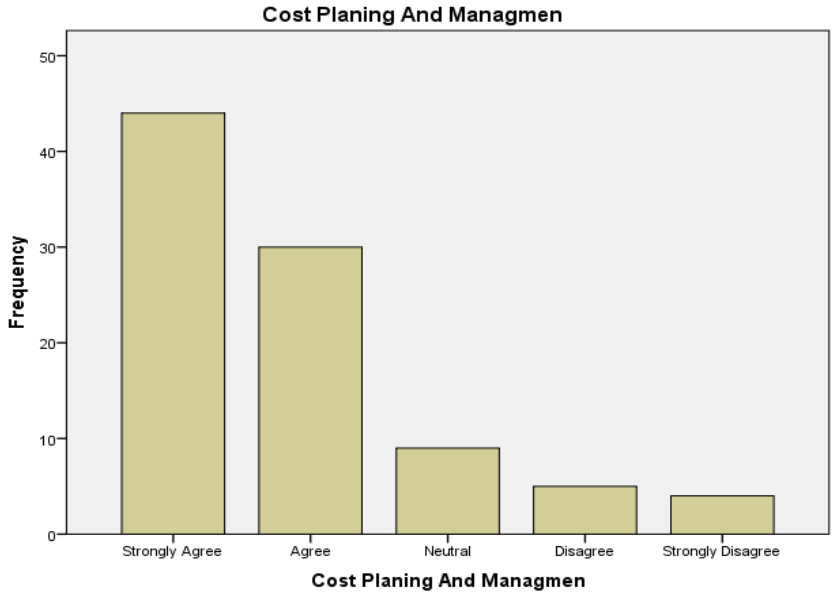

Figure 4.8: ***Graphical representation of the replies Risk planning significantly contributed for the project failure***

Table 4-22 *Frequency and Percentage of replies for Time Planning*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	39	42.4	42.4	42.4
	Agree	14	15.2	15.2	57.6
	Neutral	11	12.0	12.0	69.6
	Disagree	25	27.2	27.2	96.7
	Strongly Disagree	3	3.3	3.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

The Design and Land Preparation issues were also obtained 52.2% and 56.8% agreement by the respondents, though almost half of the total replies were either not preferred to say a thing, or disagreed that these two causes affected the project negatively. Here follows their tabular and graphic presentation.

Table 4-23 *Frequency and Percentage of replies Design issues*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	18	19.6	19.6	19.6
	Agree	30	32.6	32.6	52.2
	Neutral	19	20.7	20.7	72.8
	Disagree	14	15.2	15.2	88.0
	Strongly Disagree	11	12.0	12.0	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

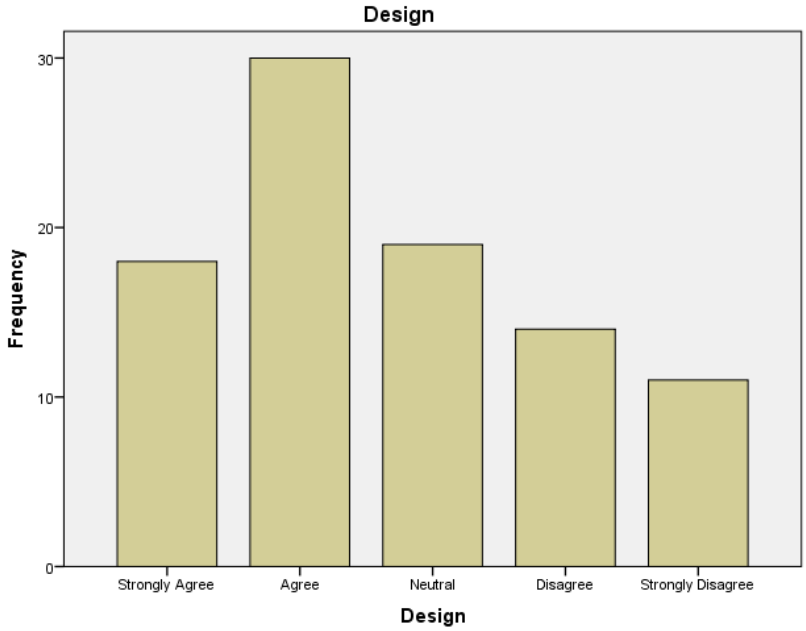

Figure 4.9: ***Graphical representation of the replies Design as a significant cause***

Table 4-24 ***Frequency and Percentage of replies for Land Preparation***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	19	20.7	20.7	20.7
	Agree	33	35.9	35.9	56.5
	Neutral	22	23.9	23.9	80.4
	Disagree	9	9.8	9.8	90.2
	Strongly Disagree	9	9.8	9.8	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

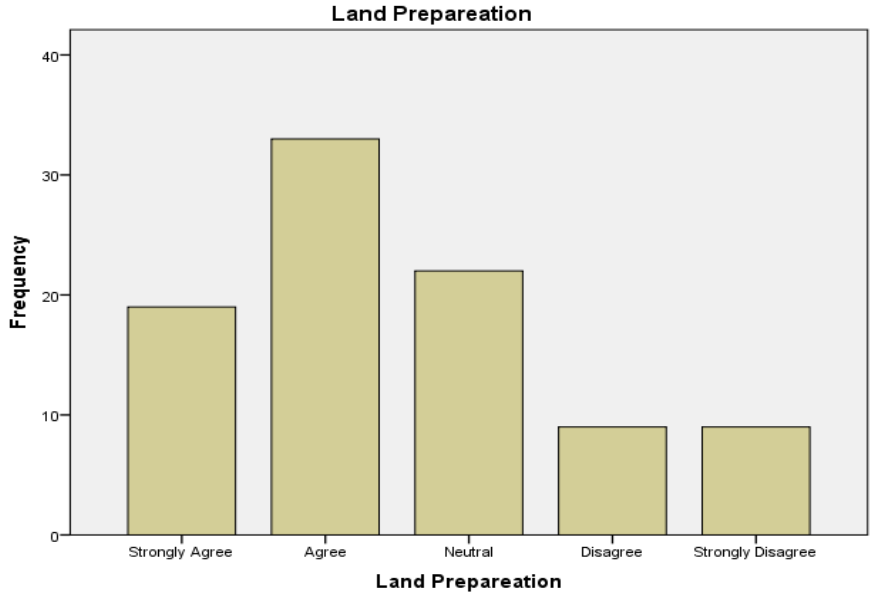

Figure 4.10: ***Graphical representation of the replies Land Preparation as a significant cause***

Project Management Theories and Concepts

The other information gathered was the perception, attitude and beliefs of the respondents about the knowhow and practice of Project Management Theories and Concepts and the ten Project Management Knowledge Areas based on their practical experience in the project execution. As shown below on table No. xx, that presents the statistical description of the replies, some of the knowledge areas and the PM Theories and Concepts encountered disagreement. Whereas Project Stakeholders Management Project Quality Management, Project Communication Management, Project Risk Management and Project Cost management are believed to be known and understood by the staffs of the project office. Standing on the objectives and research questions of this study, the ones that are too relevant for the causes presumed to be significant in project failure caught the researcher's eyes and attention. However, the PM Theories and Concepts, Project Integration Management, Project Cost Management, Project Human Resource Management and Project Procurement Management are the ones have gotten most respondents' disagreement. Therefore, they are analyzed for the replies they are given by the respondents.

Table 4-25 ***Statistics of causes under PM Concept & Theories and PMKAs knowhow***

		PM concepts & Theories	PIM	PSM	PTM	PCM	PQM	PRM	PCoM	PHRM	PPM	PSHM
N	Valid	92	92	92	92	92	92	92	92	92	92	92
	Missing	0	0	0	0	0	0	0	0	0	0	0
Mean		2.45	2.21	2.21	2.30	2.70	3.27	2.76	3.12	2.30	2.25	4.01
Median		2.00	2.00	2.00	2.00	2.00	4.00	3.00	3.00	2.00	2.00	4.00
Std. Deviation		.987	1.134	.944	1.056	1.184	1.618	1.103	1.098	1.035	1.044	.819
Variance		.975	1.287	.891	1.115	1.401	2.618	1.217	1.205	1.071	1.091	.670

Source: Own survey (2013)

Most of The respondents requested for their perception, observation and experiences in the projects office regarding the knowhow of Project Management Theories and Concepts disagreed for the existence of the knowledge in the office. Those disagreed and strongly disagreed were 62, 67.4% and 6, 6.5% respectively. The total number of disagreement replies is 68 which took the 73.9% of all, that implies the PM Theories and Concepts are not well known in the office. From the remaining 5 respondents, that are 5.4 % were neither disagreed nor agreed, while 15, 16.3% and 4, 4.3% of them were agreed and strongly agreed respectively.

Table 4-26 *Frequency and Percentage of replies for PM concepts and Theories*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	6.5	6.5	6.5
	Disagree	62	67.4	67.4	73.9
	Neutral	5	5.4	5.4	79.3
	Agree	15	16.3	16.3	95.7
	Strongly Agree	4	4.3	4.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

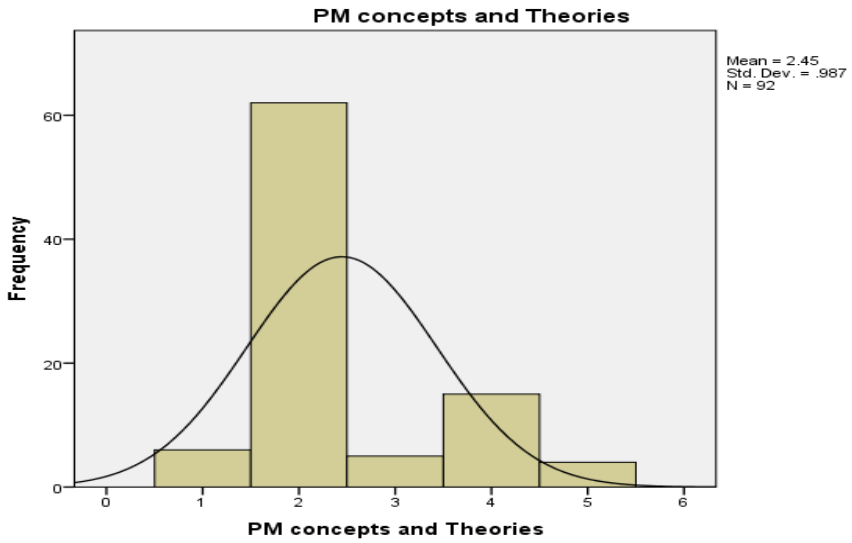

Figure 4.11: ***Graphical representation of the replies for the knowhow of PM Theories and Concepts***

One of the Project Management Knowledge Areas, Project Integration Management was asked for its knowhow in the office, and the respondents found to be strongly agreed were 23 in number and 25%, where as 48 of them were agreed, which rated 52.2%. The other respondents counted 7 for each of the reply choices that rated 7.6%. However, 77.2 of the respondents were disagreed for the existence of the Project Integration Management knowledge area, as presented below in table and graph.

Table 4-27 *Frequency and Percentage of replies for PIM Knowhow*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	23	25.0	25.0	25.0
	Disagree	48	52.2	52.2	77.2
	Neutral	7	7.6	7.6	84.8
	Agree	7	7.6	7.6	92.4
	Strongly Agree	7	7.6	7.6	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

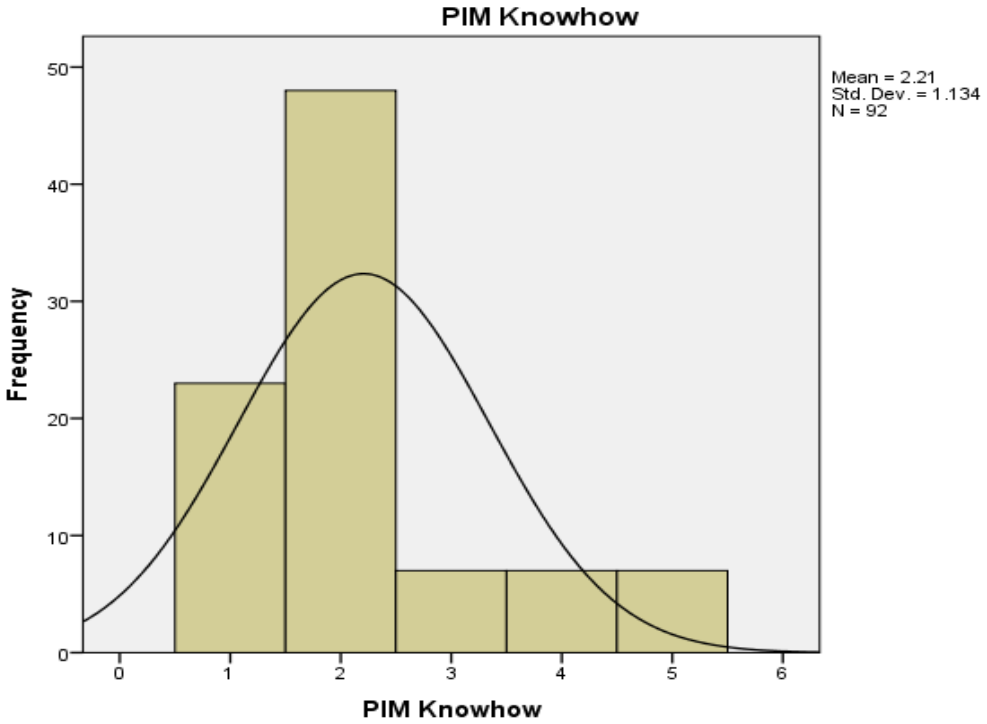

Figure 4.12: ***Graphical representation of the replies for the knowhow of PIM***

Likewise, the knowhow of Project Cost Management Knowledge area in the office also strongly disagreed and strongly disagreed by 15 and 34 respondents that are 16.3% and 37%. 10 of them preferred to say nothing about it, while 30 and 3 respondents agreed and strongly disagreed. The cumulative disagreement found for PCM KA is 53.3% which indicates the respondents' inclination to the existence of this knowledge area is minimal. i.e. more of the employees do not believe there is a knowhow of PCMKA in the office.

Table 4-28 ***Frequency and Percentage of replies for PCM Knowhow***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	16.3	16.3	16.3
	Disagree	34	37.0	37.0	53.3
	Neutral	10	10.9	10.9	64.1
	Agree	30	32.6	32.6	96.7
	Strongly Agree	3	3.3	3.3	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

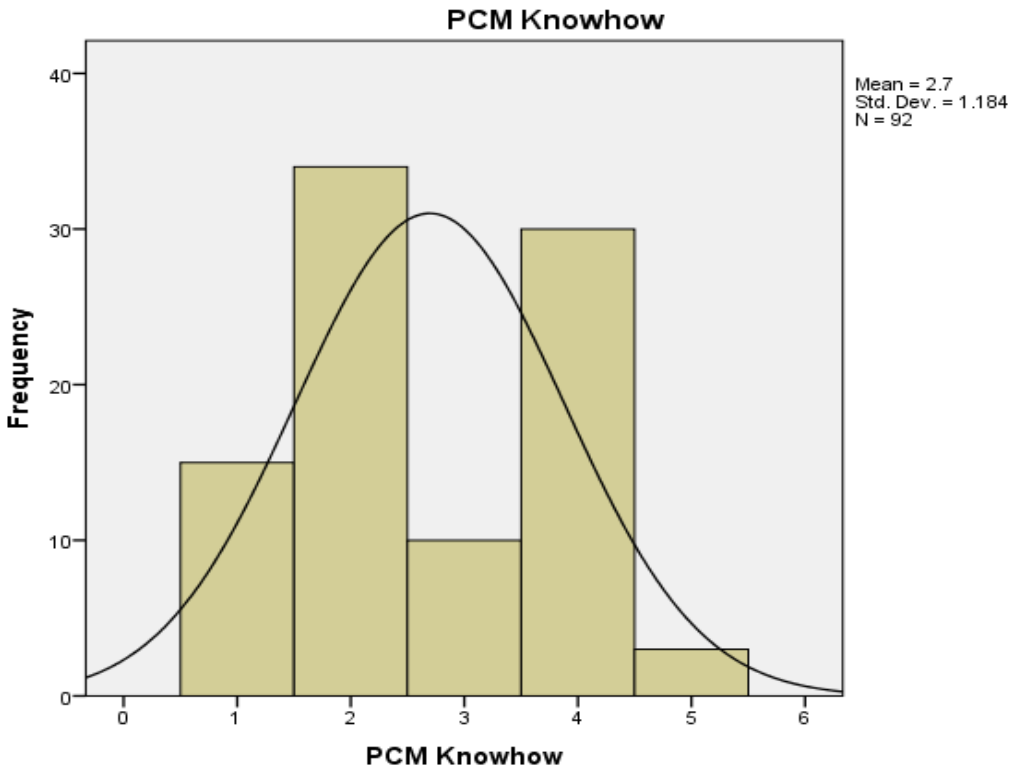

Figure 4.13: ***Graphical representation of the replies for the knowhow of PCM***

The Project Human Resource Management Knowledge Area, as well, agreed and strongly agreed by 13, 14.1%, and 2, 2.2% of the respondents, whereas 13, 14.1% of them were abstained either to agree or disagree. the remaining 66.3% of the respondents, which are 61 in number disagreed for the existence of this knowledge area in the office, of which 20, 21.7% strongly disagreed, and 41, 44.6% disagreed. This result indicates that most of the respondents have not experienced this knowledge area, and they do not believe even it exists in the project office.

Table 4-29 ***Frequency and Percentage of replies for PHRM Knowhow***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	21.7	21.7	21.7
	Disagree	41	44.6	44.6	66.3
	Neutral	16	17.4	17.4	83.7
	Agree	13	14.1	14.1	97.8
	Strongly Agree	2	2.2	2.2	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

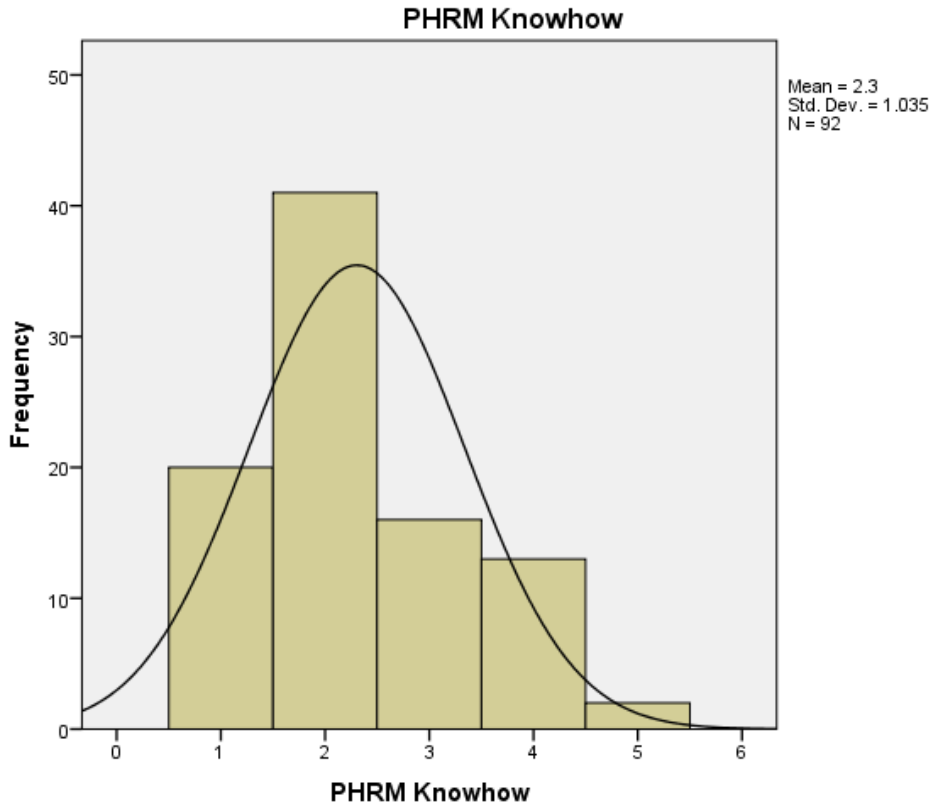

Figure 4.14: ***Graphical representation of the replies for the knowhow of PHRM***

The other PM KA, the respondents were asked for their replies whether it exists or not in the office was Project Procurement Management Knowledge Area. It was agreed and strongly agreed by 16 respondents that are 17.4% of all, and 13 of them neither agreed nor disagreed. Those do not believe there is a knowhow about Project Procurement Management were totally 68.5% that counts 63 of the respondents out of the 92 valid replies. This KA encountered 23 strong disagreements and 40 disagreements, which are 25% and 43.5% consecutively.

Table 4-30 ***Frequency and Percentage of replies for PPM Knowhow***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	23	25.0	25.0	25.0
	Disagree	40	43.5	43.5	68.5
	Neutral	13	14.1	14.1	82.6
	Agree	15	16.3	16.3	98.9
	Strongly Agree	1	1.1	1.1	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

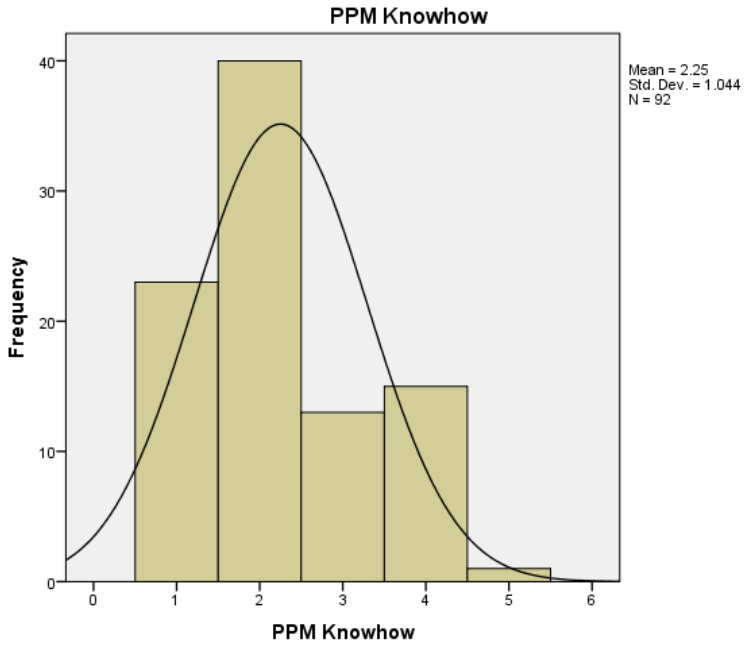

Figure 4.15: ***Graphical representation of the replies for the knowhow of***

PM Theories and Concepts and PMKAs practice

After the respondents have answered whether the Project Management Theories and Concepts are well known or not in the office, they also were asked if these theories and concepts and the ten PMKAs are practiced in the project office or not. According to the observation and perception of the respondents, PM Theories and Concepts, PIM, PSM, PRM, PHRM and PPM were the area that most of the respondents disagreed for their practice. Therefore, these least practiced knowledge areas and the PM Theories and Concepts were analyzed for their practicality in the project office based on the view of the respondents.

Table 4-31 ***Statistics of causes under PM Concept & Theories and PMKAs practice***

		PM Theories & Concepts	PIM	PSM	PTM	PCM	PQM	PRM	PCoM	PHRM	PPM	PSHM
N	Valid	92	92	92	92	92	92	92	92	92	92	92
	Missing	0	0	0	0	0	0	0	0	0	0	0
Mean		2.38	2.27	2.23	2.51	2.73	3.24	2.34	3.12	2.24	2.10	3.58
Median		2.00	2.00	2.00	2.00	2.00	4.00	2.00	3.00	2.00	2.00	4.00
Std. Deviation		.888	1.080	.996	1.104	1.140	1.578	1.102	1.098	1.161	1.006	1.197
Variance		.788	1.167	.991	1.220	1.299	2.492	1.215	1.205	1.349	1.012	1.434

Source: Own survey (2013)

Most of the requests about the PM Theories and Concepts, and the Ten PM Knowledge Areas were denied for their existence by the majority of the respondents as discussed earlier.

However, as there are some respondents who believe and thought experienced them, and PMKAs like PMCoM and PSHM were also believed by most of the respondents, there needs to investigate their experiences, believes and perceptions about the practicality of these knowledge areas and the PM Theories and Concepts. Therefore, the replies for such questions of application of the knowledge areas and the PM Theories and Concepts were discussed hereunder in turn.

Practicality of PM Theories and Concepts disagreed by 73.9% of the respondents, that counted 6, 6.5% and 62, 67.4% for strongly disagree and disagree. Whereas 9.8% that are 9 in number were neutral, and 16.3% replied in agreement as 13, 14.1% and 2, 2.2% of them agreed and strongly agreed. Hence, the majority of the respondents believe that such theories and concepts were not applied in the office that indicates its impracticality.

Table 4-32 *Frequency and Percentage of replies for PM practice*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	6.5	6.5	6.5
	Disagree	62	67.4	67.4	73.9
	Neutral	9	9.8	9.8	83.7
	Agree	13	14.1	14.1	97.8
	Strongly Agree	2	2.2	2.2	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

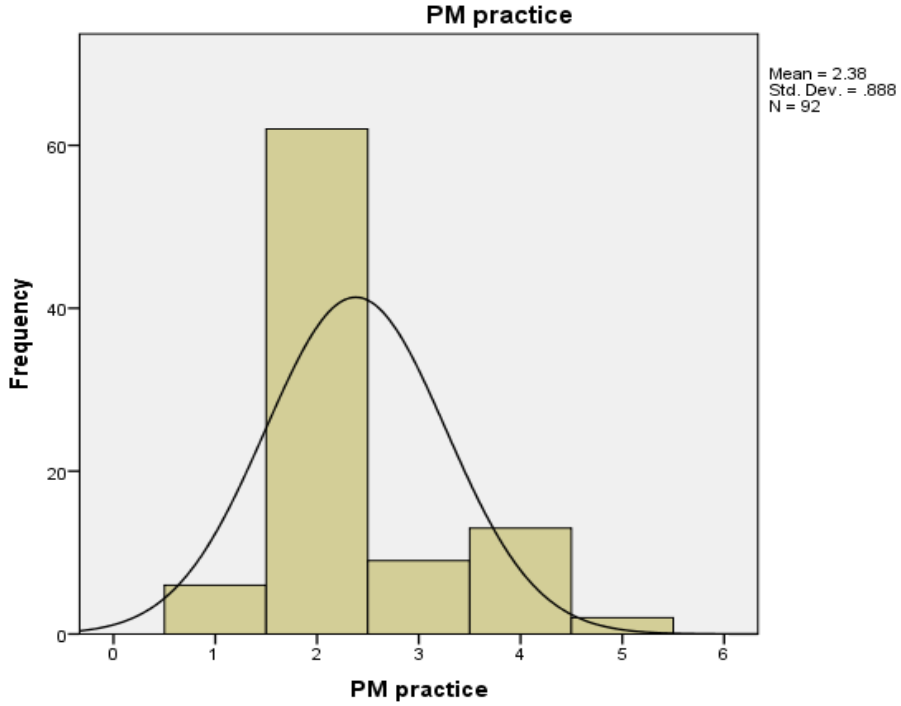

Figure 4.16: *Graphical representation of the replies for the practice of PM Theories and Concepts*

Application of Project Integration Management Knowledge Area also disagreed most of the respondents, which counted 71.7%, while 20 of them strongly disagreed and 46 disagreed. The rest of the respondents, 12, 9, and 5 were neutral, agreed and strongly agreed for the practice of this KA, which is 13%, 9.8% and 5% in a row. The respondents' replies inclined to state the PIM KA is not practiced in the project office.

Table 4-33 *Frequency and Percentage of replies for PIM practice*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	21.7	21.7	21.7
	Disagree	46	50.0	50.0	71.7
	Neutral	12	13.0	13.0	84.8
	Agree	9	9.8	9.8	94.6
	Strongly Agree	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

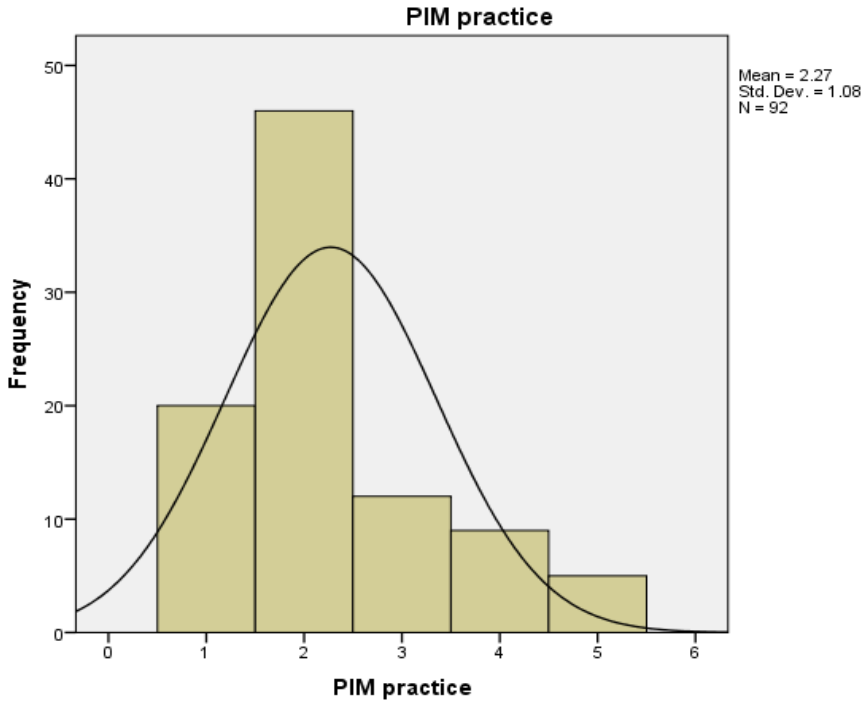

Figure 4.17: *Graphical representation of the replies for the practice of PIM*

Likewise, Project Cost Management relatively has been disagreed for its practicality by lower respondents than the other KAs, as it has gotten in the assessment of it existence. However, the majority lied on the disagreement side. Here also 52.2% of the replies are disagreement while 31.5% are agreements, and 16.3% were neutral answers. The detail frequencies and percentage of responses are presented in the table and graph below.

Table 4-34 *Frequency and Percentage of replies for PCM practice*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	12.0	12.0	12.0
	Disagree	37	40.2	40.2	52.2
	Neutral	15	16.3	16.3	68.5
	Agree	24	26.1	26.1	94.6
	Strongly Agree	5	5.4	5.4	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

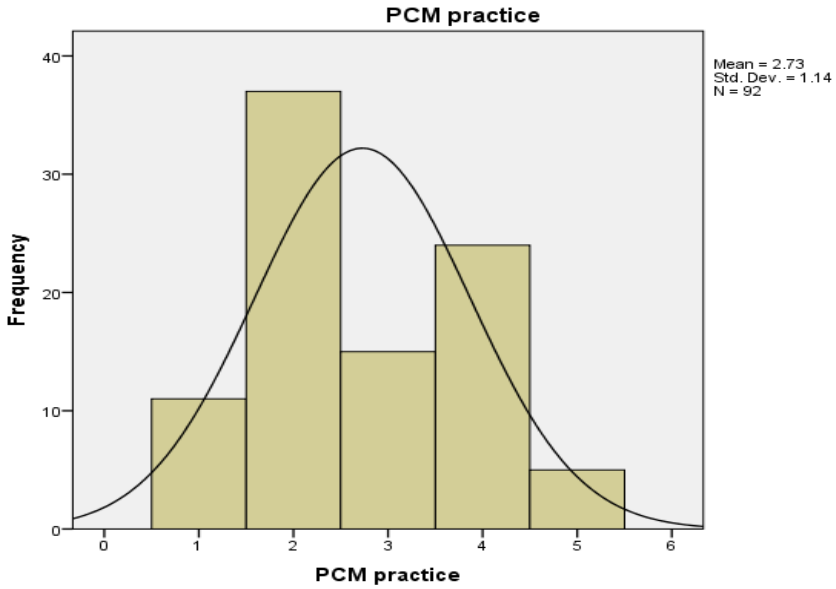

Figure 4.18: ***Graphical representation of the replies for the practice of PCM***

Here Project Human Resource Management KA practicality is also very low according to the perception, beliefs and experiences of the respondents. It has been disagreed and strongly disagreed by 28 and 37 respondents that are 30.4% and 40.2% respectively, which comes a total of 65 respondents that are 70.7% of all the valid replies. These and other replies of the respondents were detailed in the table and graph below.

Table 4-35 *Frequency and Percentage of replies for PHRM practice*					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	28	30.4	30.4	30.4
	Disagree	37	40.2	40.2	70.7
	Neutral	6	6.5	6.5	77.2
	Agree	19	20.7	20.7	97.8
	Strongly Agree	2	2.2	2.2	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

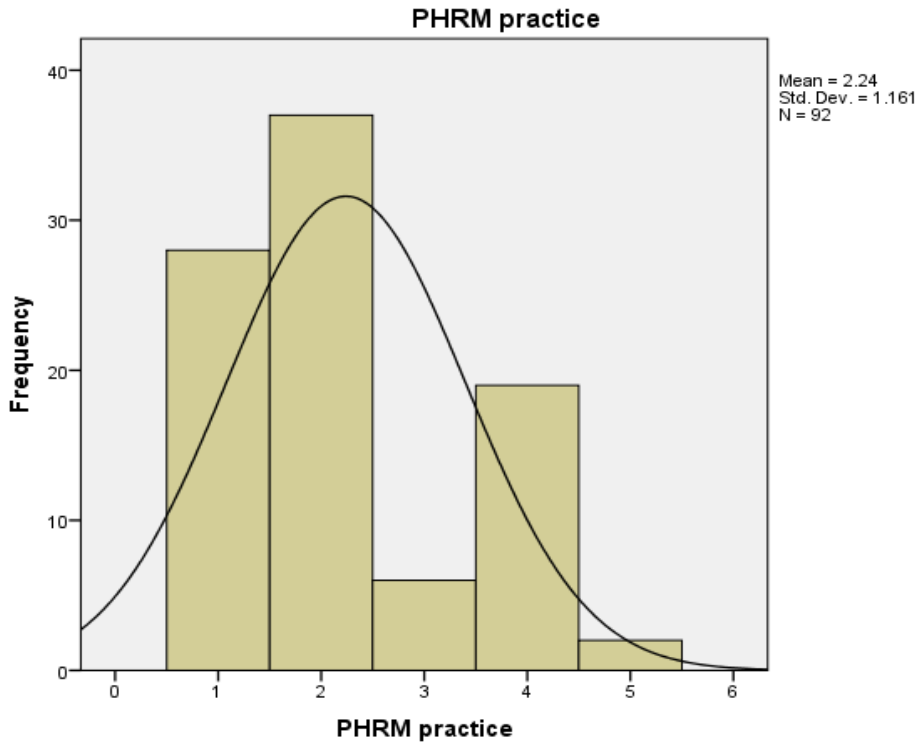

Figure 4.19: ***Graphical representation of the replies for the practice of PHRM***

The second maximum disagreement from the respondents encountered the practice of Project Procurement Management KA, the first was the knowhow of PIM disagreed by 77.2% of the respondents, as PPM practice disagreed by 75% of them. The replies found for practice of PPM is 27 strong disagreements, which counted 29.3%, and 42 disagreements that is 45.7%. So, this knowledge area is not properly practiced in the project office, according to the perceptions of the respondents.

Table 4-36 ***Frequency and Percentage of replies for PPM practice***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	27	29.3	29.3	29.3
	Disagree	42	45.7	45.7	75.0
	Neutral	12	13.0	13.0	88.0
	Agree	9	9.8	9.8	97.8
	Strongly Agree	2	2.2	2.2	100.0
	Total	92	100.0	100.0	

Source: Own survey (2013)

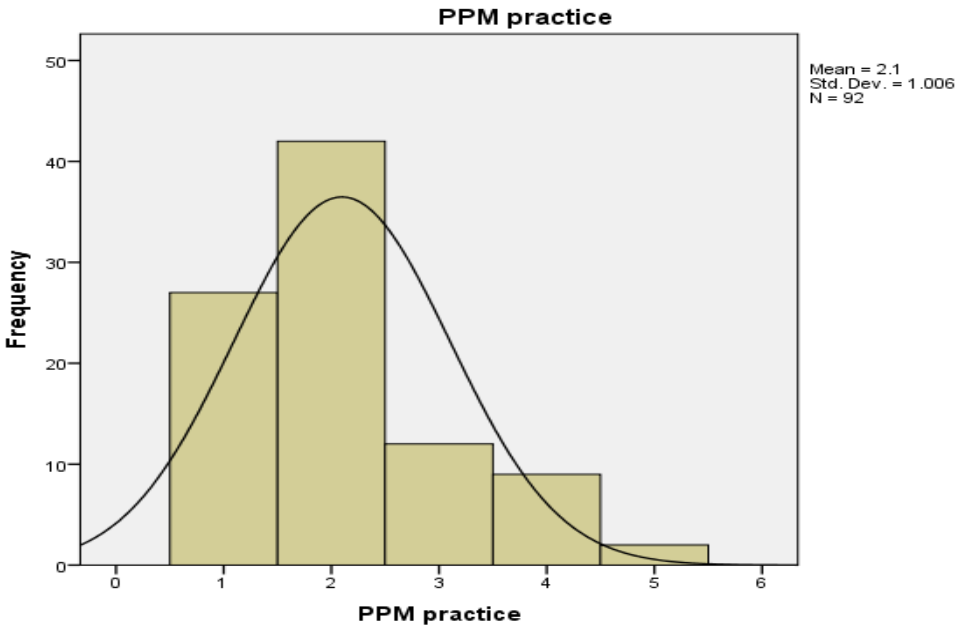

Figure 4.20: ***Graphical representation of the replies for the practice of PPM***

As it has been discussed so far, most of the PMKAs are not well known and practiced in the project office. Contrarily the Project Quality Management disagreed by 38.0% and 40.2% for its existence and practice, while agreed both its knowhow and practice by 52.2%. Project Communication management and Project Stakeholders Management knowledge areas have been agreed for their existence and practice in the AAHDPO by most respondents. Beside the KAs presented in the discussion above, Project Scope Management Project Time Management and Project Risk Management were the other PMKAs that encountered disagreement from the respondents both for their existence and practicality. PSM was disagreed by 69.6% of the respondents for the requests in both its knowhow and practice while PTM's knowhow was disagreed by 72.8% and its practicality by 64.1% of the respondents. Whereas PRM was disagreed by 39.1% and agreed by 25% for its knowhow as the rest of the respondents remain neutral; and it was disagreed by 60.9% and 18.25% of the respondents for its practicality successively.

Some of the results found here, like the knowhow and practice of PRM, are somehow not convincing, since if one disagrees about the existence of the knowledge we don't, it cannot be said it's practiced. Such ambiguous results were discarded for the sake of reliability and validity, because knowledge doesn't exist cannot be exercised. Eventually, the PM Theories and Concepts, PIM, PCM, PHRM, PPM and PTM were taken as valid results, for their inexistence and impracticality corresponds to each other.

CHAPTER FIVE

5 Conclusion and Recommendation

With the help of the documents and prior literatures in the area, the common causes for project failure have been identified. Then, by conducting a semi-structured interview with the purposively selected individuals from the participants of the projects, that are the project office, consultants and contractors, the common project failure causes were gathered. During the interview, the perception of the interviewees about project failure, causes of project failure and which of the causes contributed more for project failure was grasped. From the data gathered, codes generated, subthemes and themes were developed, so as to consolidate similar and interrelated project failure causes in to some logical categories. By doing so, the themes Manpower, Planning and Procurement were produced having subthemes (separate causes) within them. These subthemes were used to develop the questionnaire under the categories of the main themes, including Project Management and the ten PM knowledge area.

The questionnaire was used to collect what the individuals in different position, qualification and level of experience, observed, experienced and believe about the most significant causes of project failure and the statuesque of the project office regarding project management theories and concepts, including the ten PMKAs. Their responses were arranged, cleared of some invalid values, and analyzed with the use of SPSS v.20 tools to produce the descriptive statistical expressions, like frequency, percentage, mean and so on.

Depending on the respondents' perception, beliefs and practical experiences the most significant causes of project failure in the office; and the knowhow and practice of PM theories and concepts and the ten PMKAs was assessed and analyzed. As a result of these analyses the causes that most significantly contributed to the projects' failure and whether the PM and PMKAs are known and practiced or not, were identified. Based on these findings and analysis results a conclusion is drawn; and recommendation was provided with some points for further study.

5.1 Conclusion

According to the findings and results of this study, the identified most significant project causes of the AAHDPO were related to Manpower, Planning, and Procurement. Specifically, the most significant causes found to be skills and knowledge of the staffs and the PMs, capacity of the contractors and consultants, and project planning activities, like Scope

definition, change management, cost management and time management. As it has been discussed before, these causes identified by the qualitative analysis and have been strengthened with the latter quantitative analysis to be the most significant ones, are the constituents of either of the Manpower, Planning or Procurement practices.

Regarding the PM theories and concepts and the ten PMKAs, the results found indicated that most of them are not known well in the office and also not practiced, except some of the PMKAs, like PCoM and PSHM. Therefore, project management in general context is neither known nor exercised by the project office, both subordinate staffs and leaders, including the project managers as well.

Here an attempt has been made to relate the identified significant causes and the PMKAs that are not known and exercised in the office.

Manpower consists project failure causes (subthemes) like; Skill & Knowledge of the staffs, PM competence, Ethical and Corruption practices including lack of commitment, that scored high in the assessment of their significant effect to the failure of the projects. As we can see, all of these significant causes were related to the employees and project team members in the office. The PMKA that it is concerned with employees, project teams and members in a project, is Project Human Resource Management. PHRM as well has been found neither to be known and understood nor practiced in the office, according to the respondents of the questionnaire

Planning is the second category of the identified causes that incorporates Project planning in general context, Cost Planning, Time Planning, and the likes. The general project planning context is not limited to, but about scope, integration, evaluation and control and change management. As Kerzner stated on his book (2009), the nine major components of planning are: Objectives, Program, Schedule, Budget, Forecast, Organization, Policy, Procedure and Standards. On the other hand, the major processes of PIM are: Plan development, Plan execution and Integrated Change management processes (PMI, 2013). The PMKA that could have handled these planning processes, including Cost planning and Time planning is Project Integration Management to which the staffs and PMs of the AAHDPO are not familiar with, and not using in the project execution. The integration of the planning activities is necessary because each functional unit may develop its own planning documentation without regarding the other functional units (Kerzner, 2009). However, the assessment made on the project management theories and concepts and the ten PM knowledge area found that it is not well known by the staffs and also the PMs of the project office. It has been also affirmed that it is not yet being practiced.

The third category of those identified significant project failure causes in the office are found to be involvement of incapable contractors and consultants, and improper procurement system of the office; and categorized in Procurement. The Project Procurement Management process groups are Planning Procurement Management, Conduct, Control and Close Procurements according to PMBOK (PMI, 2017); that are the processes how contractors, consultants, and other participants join the project execution and administered their stay. Therefore, if incapable contractors and consultants became a failure cause, the procurement process is the source of the problem. The evaluation criteria were determined, developed, and included in the solicitation process during the plan procurement phase of the contracting process (Kerzner, 2009). The evaluation criteria reflect the selected contract award strategy. Likewise, improper procurement system is found to be one of the most significant causes of project failure in its other activities beyond the engagement of the contractors and consultants. As a whole, these causes are bundled in to Procurement practices of the office as one of the most significant project failure causes in the office. On the other hand, Project Procurement Management KA is also found to be inexistent both as a knowledge and practice in the office.

The most significant project failure causes of AAHDPO are then, Manpower or causes related to employees, project teams, and leaders in the office; Planning and related issues, including design and land preparation even beyond the planning activities of PM; and Procurement with all its constituents.

5.2 Recommendation

5.2.1 To The Office

As most of the project failure causes are project management issues, the most significant causes found in this study also are the same way. Therefore, as discussed earlier, the identified causes that contributed to the project failure in AAHDPO are categorized in three main themes. These categories are Manpower, Planning and Procurement. Most of the causes in these themes have gotten the agreement of the majority of the respondents as significant ones that builds on the results found by the analysis of the qualitative data. The researcher of this study recommends for each of the categories as follows.

First, Manpower and other constituents are highly related with the PHRM KA, since the process groups Organizational Planning, Staff Acquisition and Team Development are those that perform the manpower requirement of a project (PMI, 2017). During organizational planning, the required qualifications for the staffs and the PMs should be stated clearly and

need to be relevant to the project work. Then while the staffs acquisition process the qualified and project practitioner personnel should be hired for the project, experienced PM should be assigned and the teams required the project work also should be accordingly. Therefore, these significant project failure causes categorized in Manpower can be minimized, mitigated, rectified and/or be avoided with the help and utilization of this PMKA.

Second, Planning related issues are identified as the second most significant causes for project failure in the office. PM theories and concepts are also found to be unknown and/or not exercised in the office. As PM is not known and practiced, the PMKAs in it are not known and practiced as well. Among the ten PMKAs, PIM consists most of the project preparation activities including change integration and management. Hence, the PIM KA can be used to tackle these project failure causes identified as significant in the AAHDPO.

The third and the final category of the most significant project failure causes, is Procurement and its constituents. Procurement is not only about the contractors and consultants, but also other activities that are vital for the proper execution of the project, like purchasing and logistics management systems. As it's been stated on PMBK@ Guide (2013), the process groups of PPM are; Solicitation planning, Solicitation, Source selection, Contract administration and Contract closeout. Therefore, these causes can be minimized, mitigated, rectified and/or be avoided with the help and proper application of PPM KA.

5.2.2 To Practitioners and interested researchers

This study has limitations, as declared in the introduction section, to which it couldn't reach through this research. Interested researchers or project practitioners can go beyond the scope of this study and trespass the limitations hindered this work to further study and produce a better conclusion and recommendation.

Finally, a further study can be conducted for each category of these significant project failure causes in detail. Any practitioner in the area or interested academician can take each of the causes alone for a deeper study and a stronger relationship can be developed with the corresponding PMKAs or even a process group in the PMKAs.

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ANNEX A

Check list for unstructured Interview questions

1. General

1. The name of the organization
2. Educational status, career and experience of the interviewee.
3. Personal role (position of the interviewee) in the organization.

2. Organizational

4. The general structure of the organizations.
5. Experience and specialization of the organizations.
6. Personal contribution in the organization regarding projects management.

3. Project failure and causes of failure

7. Personal and professional view towards project failure/success and the metrics.
8. What are the common causes you of projects failure in AAHDPO?
9. What do you think these causes of project failure come from?
10. What mitigation and rectification techniques they are aware of and used for those problems?

4. Most significant project failure causes

11. What are the most significant causes you think?
12. What could be the sources of these causes and what should have been done?
13. What possible measures were there to tackle these problems?
14. What measured should be taken to avoid or at least minimize these causes?

5. Project Management and PMKAs

15. The personal and professional perceptions about projects, project managements and PMKAs.
16. (After a brief about PMKAs) how these could be applied against the significant causes?
17. Which knowledge area are they familiar with, or similar practices (if there is one)

ANNEX B

Causes identified	First step themes	Second step themes
very poor documentation	Documentation and lesson learnt	Manpower
very poor document preservation culture	Documentation and lesson learnt	Manpower
weak risk response process	risk management planning	planning
no well-crafted risk response strategy	risk management planning	planning
wicked risk mitigation and	risk management planning	planning
wicked risk monitoring	risk management planning	planning
wicked risk control	risk management planning	planning
wicked documentation performances	Documentation and lesson learnt	Manpower
a reactive procedure of risk management	risk management planning	planning
Very little knowledge of risk management	risk management planning	planning
No risk management policy or guideline	risk management planning	planning
No person or department to manage risk	risk management planning	planning
no standard risk management process	risk management planning	planning
risk is managed by the project managers only	risk management planning	planning
to manage project risk intuitively	risk management planning	planning
problem in selection of competent consultants	Procurement practices / improper procurement	Procurement
problem in selection of reliable contractors	Procurement practices / improper procurement	Procurement
absence of good methods & systems of purchasing	Procurement practices/ improper procurement	Procurement
absence of good methods & systems of finance	Organizational structure of the project office	Organizational structure
slow decision making	Decision making	Manpower
poor planning	Planning	planning
poor controlling	Poor M&E practices, no pm tools and techniques	M & E
the weakness of the consultants	Procurement practices / improper procurement	Procurement
the weakness of the contractors	Procurement practices / improper procurement	Procurement
Delay of payments to contractors	Corruption and unethical practices	Manpower
Material shortage,	Resource availability, distribution, quality and usage	Resource
work variation due to poor design	Procurement practices / improper procurement	Procurement
Lack of use pm tools in M&E and controlling	Poor M&E practices, no pm tools and techniques	M & E
lack of leadership skills of project manager,	Skill and knowledge of the staffs	Man power
poor coordination and communication	Communication	Communication

lack of sense of ownership	Ethical issues	Manpower
Degradation of moral obligation.	Ethical issues	Manpower
lack of knowledge and experience Of the consultant,	Procurement practices / improper procurement	Procurement
poor management of the consultant	Procurement practices / improper procurement	Procurement
slow response of testing and inspection of the consultant,	Procurement practices / improper procurement	Procurement
lack of commitment to ensure construction work according to specification and design	Procurement practices / improper procurement	Procurement
lack of experience and technical professionals of the office	Skill and knowledge of the staffs	Man power
less commitment of the contractors,	Procurement practices / improper procurement	Procurement
poor planning and scheduling of the contractors,	Procurement practices / improper procurement	Procurement
lack of leadership quality of the contractors	Procurement practices / improper procurement	Procurement
wastage of resources around the project sites by the contractors,	Procurement practices / improper procurement	Procurement
Construction mistakes and defective works by the contractors.	Procurement practices / improper procurement	Procurement
lack of control on excess change orders consultant	Procurement practices / improper procurement	Procurement
Failure to identify problems and institute the necessary and timely actions.	Decision making	Manpower
lack of careful identification of qualified contractors	Procurement practices / improper procurement	Procurement
ineffective planning and scheduling of project of the contractors,	Procurement practices / improper procurement	Procurement
poor site management supervision of the contractors,	Procurement practices / improper procurement	Procurement
poor qualification of technical staff of the contractors	Procurement practices / improper procurement	Procurement
difficulties in financing projects of the contractors	Procurement practices / improper procurement	Procurement
bureaucracy in housing project office	Organizational structure of the project office	Manpower
unskilled workmanship of the project office	Skill and knowledge of the staffs	Manpower
poor quality of materials	Resource availability, distribution, quality and usage	Resources
poor profession of project management and leadership of the office	Skill and knowledge of the staffs	Manpower
Lack of coordination and communication between project stakeholders	Communication	Communication
lack of commitment and sense of ownerships	Ethical problems	Manpower

lack of previous experiences of contractor	Procurement practices / improper procurement	Procurement
Poor accountability of the employees in the office	Skill and knowledge of the staffs	Manpower
poor controlling and monitoring system	Poor M&E practices, no pm tools and techniques	M & E
poor ethical behavior of contractors and consultants	Procurement practices / improper procurement	Procurement
ethical behavior and standard of employees of the office	Skill and knowledge of the staffs	Manpower
Corruption due to Poor accountability & controlling system	Poor M&E practices, no pm tools and techniques	M & E
Collusion between contractors and consultants	Communication	Communication
bribe activity b/n contractors & consultants	Corruption and unethical practices	Manpower
fraud to make excess bill payment for low project quality or quantity deliver,	Corruption and unethical practices	Manpower
Bribe for low quality item supply	Corruption and unethical practices	Manpower
nepotism among project suppliers	Corruption and unethical practices	Manpower
The over power given to the office	Skill and knowledge of the staffs	Manpower
Material provision by the office	Resource availability, distribution, quality and usage	Resources
Lack of stakeholder involvement in requirements	Stakeholders' involvement	Stakeholders
Lack of complete definition of project scope	planning	planning
Under estimating activity duration	Time planning	planning
Under estimating cost estimation	Cost planning	planning
Under estimating activity sequencing	Time planning	planning
No clear agreement to verify changing activities	Planning for change management	planning
The Project Office's low level in PM maturity	Skill and knowledge of the staffs	Manpower
Lack of project management professionals and limited training opportunities	Skill and knowledge of the staffs	Man power
inconsistent Management supports	Skill and knowledge of the staffs	Manpower
not proper project awarding system	Procurement practices / improper procurement	Procurement
M&E practice are not good,	Poor M&E practices, no pm tools and techniques	M & E
procurement practice are not good	Procurement practices / improper procurement	Procurement
Inconsistent material availability and distribution	Resource availability, distribution, quality and usage	Resources
project planning issues	Planning	planning
Repeated design changes due to poor design	Planning	planning
capacity of contractor	Procurement practices / improper procurement	Procurement
project management knowhow,	Skill and knowledge of the staffs	Manpower

Delaying of land preparation	Planning	planning
provision of construction materials	Resource availability, distribution, quality and usage	Resource
lack of stakeholder involvement	Stakeholders' involvement	stakeholders
financial and technical capacity of contractor	Procurement practices / improper procurement	Procurement
Incapability of emergency time procurement	Procurement practices / improper procurement	Procurement
the project office missed the M&E process	Poor M&E practices, no pm tools and techniques	M & E
there are no lesson learnt documents in AHDPO	Documentation and lesson learnt	Manpower
Bureaucratic and lengthy payment mechanisms	Corruption and unethical practices	Manpower
Incompetent contractors working on the projects	Procurement practices / improper procurement	Procurement
Suppliers' unethical characteristics	Corruption and unethical practices	Manpower
lengthy process of bid	Procurement practices / improper procurement	Procurement
technical and financial capacity problems of MSEs		
turnover of experienced human power	Skill and knowledge of the staffs	Manpower
lack of good governance	Skill and knowledge of the staffs	Manpower
corruption	Corruption and unethical practices	Manpower
lack of preparation of bill of quantity	Procurement practices / improper procurement	Procurement
lack of project management training for employees and project managers	Skill and knowledge of the staffs	Manpower
Problem in collaborative working atmosphere	Organizational structure of the project office	Organizational
lack of construction management practice,	Skill and knowledge of the staffs	Manpower
lack of quality control practice,	Poor M&E practices, no pm tools and techniques	M& E
lack of strict supervision,	Poor M&E practices, no pm tools and techniques	M& E
lack of testing mechanism	Poor M&E practices, no pm tools and techniques	M& E
lack of technical and managerial knowhow	Skill and knowledge of the staffs	Manpower
lack of equipment support	Resource availability, distribution, quality and usage	Resource
changes in design, plan and schedule frequently,	Planning for change management	Planning
delay in supply and under quality of materials	Resource availability, distribution, quality and usage	Resource
improper integration and coordination,	Communication	Communication
improper inspection	Poor M&E practices, no pm tools and techniques	M & E
less quality techniques and mechanisms of contractors	Procurement practices / improper procurement	Procurement
less consultants commitment to ensure construction,	Resource availability, distribution, quality and usage	Resource
Supply of poor quality labor, equipment and raw materials,	Resource availability, distribution, quality and usage	Resource

poor selection of well standard consultant and contractors,	Procurement practices / improper procurement	Procurement
Lack of training and motivation,	Skill and knowledge of the staffs	Manpower
lack of management commitment to continual quality improvement	Skill and knowledge of the staffs	Manpower
lack strong coordination between designers & clients	Communication	Communication
delay in preparation and approval of drawing,	Planning	planning
change order or rework,	Cost planning	planning
payment delay for contractors,	Bureaucracy	Organizational
contractors financial capacity	Procurement practices / improper procurement	Procurement
incorrect quantity take-off,	Cost planning	planning
inadequate planning, scheduling & coordination,	Time planning	planning
material cost increased by inflation,	External problems	External
Poor management and supervision of consultant	Poor M&E practices, no pm tools and techniques	M & E
supplementary/ additional work.	Cost planning	planning
incorrect/inappropriate methods of cost estimation,	Cost planning	planning
design change	Planning	planning
Lengthy material procurement processes	Resource availability, distribution, quality and usage	Resource
lack of experience of project managers	Skill and knowledge of the staffs	Manpower
unpredictable weather condition	External problems	External
incomplete design at the time of tender	Planning	planning
Insufficient capital	Planning	planning
Inflation	External problems	External
Poor planning	Planning	Planning
Government Bureaucracy	Skill and knowledge of the staffs	Manpower
Contractor competence and organization	Procurement practices / improper procurement	Procurement
Variation of project scope and design	Planning	Planning
Scarcity of raw materials	Resource availability, distribution, quality and usage	Resource
Difficult terrain, e.g. erosion, water logging and sticky soil	External problems	External
absence of academically qualified project managers	Skill and knowledge of the staffs	manpower
Lack of monitoring,	Poor M&E practices, no pm tools and techniques	M & E
corruption,	Corruption and unethical practices	Manpower

bureaucracy	Organizational structure of the office	Organizational
fluctuation of prices,	External	External
delays in payment, release of funds,	Corruption and unethical practices	Manpower
change in project leadership,	Organizational structure of the project office	Organizational
management practices,	Skill and knowledge of the staffs	Manpower
procurement processes of resources	Resource availability, distribution, quality and usage	Resource
commitment to project,	Organizational structure of the project office	manpower
selection of project managers	Skill and knowledge of the staffs	Manpower
project team formation,	Organizational structure of the project office	Manpower
project management techniques,	Skill and knowledge of the staffs	Manpower
communication,	Communication	Communication
supervision,	Poor M&E practices, no pm tools and techniques	M & E
scope change,	Planning	planning
task definition,	Planning	planning
definition of specification, requirement, regulations	Planning	planning
Lack of communication	Communication	Communication
scoping change due to Poor design	Planning	Planning
Lack of capacity/skills and knowledge of workers	Skill and knowledge of the staffs	Manpower
Lack of material resources	Resource availability, distribution, quality and usage	Resources
lack of the required expertise in the office	Skill and knowledge of the staffs	Manpower
inaccurate design or cost estimates	Cost planning	planning
Cost variations	Cost planning	planning
unit rate change	Cost planning	planning
Material shortage	Resource availability, distribution, quality and usage	Resources
inflation or increase in the cost of construction materials,	External problems	External
change in foreign exchange rate (for imported materials),	External problems	External
Fluctuation of prices:	External problems	External
Culture and belief systems	External problems	External
Natural disaster	External problems	External
Material shortage in the local market,	External problems	External
Labor cost increased due to environmental restriction	External problems	External

ANNEX C

Questionnaire **Addis Ababa University**

School of Business and Economics

Dear sir or madam

This survey is conducted as a data input for an academic research at Addis Ababa University School of Business and Economics for the partial fulfillment of Degree of Masters in Project Management. The objective of the survey is to assess the most significant causes of project failure in Addis Ababa Housing Development Projects. Then to find out what could be done to avoid or minimize the causes and their effects on project failure. No individual or organizational information is publicized as your answers will be dealt as statistical figures only.

I would like to thank you in advance for your dedication, kind participation and on time and genuine responses.

Feel free to contact the person below for any technical problems or any questions regarding the content of the questionnaire.

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General (demographic and organizational)

18. name of the organization ☐
19. Your profession ☐
20. your role in the organization chief executive ○ expert/officer ○
21. This organization has involvement in Housing Development Projects of Addis Ababa? Yes ○ No ○
22. Years of experience in the organization ☐
23. Educational status Msc or above ○ Bsc/1st degree ○ diploma and below ○
    a. In the same position ☐
    (specify the position and work experience in years)
    b. In different position ☐
    (specify the position and work experience in years)

Simple instruction

Please indicate your appropriate responses to the statements by circling on the respective numbers using the following associations. The first section is for the Most significant causes of project failure, and the second section is about Project management and PM knowledge areas awareness and practices in the project office.

Do you believe the stated causes are the most significant?

Do you believe the listed knowledge areas are known and practiced in the office?

1 = Strongly disagree,

2 = Disagree,

3 = Neutral,

4 = Agree,

5 = Strongly agree

1. Most significant causes of project failure

a) These Manpower issues are most significant

		Strongly disagree	disagree	neutral	agree	Strongly agree
1.	Lack of skill aknowledge of the staffs in the project office	1	2	3	4	5
2.	Competence of the project managers	1	2	3	4	5
3.	Lack of commitment of the staffs of the project office	1	2	3	4	5
4.	Unaccountability of the staffs of the project office	1	2	3	4	5
5.	Corruption practices in the office	1	2	3	4	5
6.	Lack of using PM tools and techniques	1	2	3	4	5
7.	Documentation and lesson learnt	1	2	3	4	5

b) These Procurement issues are most significant

	Strongly disagree	disagree	neutral	agree	Strongly agree
8. Capacity of the contractors	1	2	3	4	5
9. Capacity of the consultants	1	2	3	4	5
10. Improper procurement system of the office	1	2	3	4	5

c) These Planning issues are most significant

	Strongly disagree	disagree	neutral	agree	Strongly agree
12. General Project planning issues	1	2	3	4	5
13. Risk management and planning	1	2	3	4	5
14. Cost management and planning	1	2	3	4	5
15. Time management and planning	1	2	3	4	5
16. Change management and planning	1	2	3	4	5
17. Scope management and planning	1	2	3	4	5
18. Design preparation	1	2	3	4	5
19. Land preparation problem	1	2	3	4	5
11. Lack of a good system of finance and purchasing	1	2	3	4	5

2. PM and PMKAs

a) PM and PMKAs are well known in the office

	Strongly disagree	disagree	neutral	agree	Strongly agree
20. Project Management concepts and theories	1	2	3	4	5
21. Project Integration management	1	2	3	4	5
22. Project scope management	1	2	3	4	5
23. Project Time Management	1	2	3	4	5
24. Project cost management	1	2	3	4	5
25. Project quality management	1	2	3	4	5
26. Project Risk management	1	2	3	4	5

27.	Project communication management	1	2	3	4	5
28.	Project Human Resource management	1	2	3	4	5
29.	Project Procurement management	1	2	3	4	5
30.	Project Stakeholders management	1	2	3	4	5

b) PM and PMKAs are well practiced in the office

		Strongly disagree	disagree	neutral	agree	Strongly agree
31.	Project Management concepts and theories	1	2	3	4	5
32.	Project Integration management	1	2	3	4	5
33.	Project scope management	1	2	3	4	5
34.	Project Time Management	1	2	3	4	5
35.	Project cost management	1	2	3	4	5
36.	Project quality management	1	2	3	4	5
37.	Project Risk management	1	2	3	4	5
38.	Project communication management	1	2	3	4	5
39.	Project Human Resource management	1	2	3	4	5
40.	Project Procurement management	1	2	3	4	5
41.	Project Stakeholders management	1	2	3	4	5

Thank you!!