

**FACTORS AFFECTING PERFORMANCE OF AIRPORT CONSTRUCTION
PROJECTS IN TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT
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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation entitled: **“Factors Affecting Performance of Airport Construction in Tanzania”** in partial fulfillment of the requirements for the Degree of Master of Project Management of the Open University of Tanzania.

.....

Dr. Salvio Macha

.....

Date

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Signature

.....

Date

DEDICATION

I would like to dedicate this dissertation to my lovely daughters Karen and Kaylin; their gifted hand to my life and presence of them has made me to be stronger mum no matter what difficulties was faced during my study and still count them as source of achievement although some time I was not close to them still they was happy for me as they are mum.

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ABSTRACT

Project Performance can be measured and evaluated using performance indicators such as time, cost, quality, client satisfaction, client changes, business performance, health and safety. For that case Performance can be assured by identifying and eliminating the factors that cause poor project outcomes. The objective of the study was to analyze the factors affecting performance of airport construction project in Tanzania. The study focuses on the major airport construction project done in Tanzania. The whole populations of 103 respondents were used based on available data base of key professional staffs and stakeholders on managerial. Inferential and descriptive statistics were used for data presentation and findings. Statistical Package for Social Sciences (SPSS) version 16 was used for analysis data analysis. The study revealed that failure in releasing project fund on time causes project poor performance, failure in involvement stakeholder input leads the project into subsequent design a change which leads the project to running behind schedule and over budget and Contractor with poor project management skill causes project failure. All project team should have project management skills and regularly training since airport projects are complex in nature and implementation.

Key words: Project performance, quality, scope, budget and schedule

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
BER	Berlin Brandenburg Airport (the Airport Project)
DIA	Dar es Salaam International Airport
JNIA	Julius Nyerere International Airport
ORET	Ontwikkelings-Relevante Export Transacties (Development-Related Export Transactions Programme)
TAA	Tanzania Airport Authority
TOC	Theory of Constraints

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Number of studies from researchers and practitioners has been conducted and found several numbers of factors that causes project poor performance. In construction industry usually deals with two types of construction sector such as infrastructure sector and real Estate sector. Residential, Corporate, commercial and Industrial sector come under Real Estate sector. Whereas Infrastructure sector deals with Railways, Airports, Ports and Roads (Sarda and Dewalkar, 2016), the purpose of this research is analyzing the factors affecting performance off airport construction project in Tanzania, which is under infrastructure. Infrastructure are important for economic growth of the country (Sarda and Dewalkar, 2016), in Tanzania transportation sector plays crucial role in growth of Tanzanian economy; it facilitate domestic and international trade, creates economic opportunities where tourism and foreign investment contribute to government revenue and generation of a large number of employment opportunities, (Mbarawa, 2016).

In order to enhance tourism and increase revenue airport are crucial. Some factors that affect performance of airport construction project which leads the project to run over budget, behind schedules and fail to meet the intended needs/ expectations. The factors that affect the project performance can be contractor's or project manager's competence, project funds, procurement practice or services delivery system, availability of construction resources, stakeholders, technology innovation and airport construction environment.

1.2 Statement of the Problem

Construction industry, by its nature, is complex, high risk, high value, competitive and project oriented business. Construction project failures are increasingly reported around the globe and achieving success of construction project is becoming extremely difficult in today's turbulent environment (Silva, 2016). Performance can be assured by identifying and eliminating the factors that cause poor project outcomes (Babu, 2015).

(Chihuri and Pretorius, 2010) Shortage of skills in engineering and construction in the country has effect on the performance of some of projects. Sourced skills from foreign countries resulted in increasing project cost; Contractors usually faces difficulties in getting all the equipment they need especially capital investments, in the acquisition phase due to financial constraints (Basheka and Tumutegyeize, 2011). (McKinsey, 2013) Infrastructure project involves a large number of different stakeholders with different roles and responsibilities, risk management capabilities, risk bearing capacities and are often conflicting interest; Availability project fund also has been a source of project failure (Shahid, Ahamad, Shafique and Amjad, 2015) New Islamabad International Airport delayed due to unavailable funding.

Performance of airport construction project are affected by different factors which leads the project to run over budget, behind schedule and fails to meet the intended needs, studies has been conducted to identify the problem but still a challenge exist in all construction industry. Airport construction projects still face the same challenges globally, in Tanzania minor studies has been addressed in other infrastructures such as roads and highways and evaluation study was done for Dar es Salaam Airport which

was intended to find how well project fund provided by ORET meet the intended need and non has been done for project performance in airport construction projects.

1.3 Research Objectives

1.3.1 General Research Objective

To analyze the factors affecting performance of airport construction project in Tanzania.

1.3.2 Specific research objectives

- (i) To assess how project fund affect performance of airport construction project in Tanzania,
- (ii) To determine the extent of stakeholders affect performance of airport construction project in Tanzania,
- (iii) To analyze the extent of contractor's competence and his key personnel in performance of airport construction project in Tanzania.

1.4 Research Questions

1.4.1 General Research Question

What factors affecting performance of airport construction project in Tanzania?

1.4.2 Specific Research Questions

- (i) How does project fund affect performance of airport construction project in Tanzania?
- (ii) To what extent does a stakeholder affect performance of airport construction?

- (iii) To what extent does competence of contractors and his key personnel affect performance of airport construction project

1.5 Organization of the Research Report

This research has been structured into five chapters. Chapter one involves the introduction part, Chapter two includes review of existing literature and conceptual framework showing the relationship between factors affecting and project performance or performance of airport construction project. Chapter three includes research methodology that has been used to answer General research and specific research question. Chapter Four has presentation of findings and discussion and chapter five involves conclusion and recommendation where area for further research has been proposed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview

Around the global it has been experienced failure of construction projects due to various factors although a number of researches has been conducted still a problem do exist. Number of literature relevant to research topic has been reviewed to identify the magnitude problem in the world as general. The contribution of researchers has identified a quite number of factors. Initially the research topic is all about factors affecting performance of airport construction project in Tanzania. This research concentrated on the involvement of stakeholder in airport construction projects, competence of contractors and his key personnel in performance of airport construction project and the last was the influence of project fund in performance of airport construction project.

Contractor's competence has found to be one of factors for failure in construction industry such factor Skills shortage has been addressed as a source of failure in some projects, Critical shortage of skills in engineering and construction in the country has an effect on the performance of some projects Chihuri and Pretorius (2010). Lack of appropriate professional looking for risk management has been a source of problem since some project might experience change in design which may lead to change to project scope, cost overrun, time overrun, example Kuala Lumpur's new airport terminal is facing huge cost overruns and significant delays following frequent design changes McKinsey (2013). Basheka and Tumutegyereize (2011) limited scholarly studies have been done to the study of contractor performance and understanding of

the challenges that contractors themselves encounter in delivering their crucial services, in their studies they found that contractors usually face difficulties in getting all the equipment they need, and during implementation of the project the contractors' problems change, at a time a contractor faces high breakdown rates of equipment and accidents from unskilled operator abuse as well as poor training on equipment use (Edwards and Nicholas, (20002); Gann and Senkar, (1998) as cited by Basheka and Tumutegereize (2011). Farid and El-Sayegh (2006) as cited by Basheka and Tumutegereize (2011) gives interesting findings on the significant factors causing delays in the United Arab Emirate (UAE) construction industry.

The study reports shortage of skills of manpower, poor supervision and poor site management, unsuitable leadership, shortage and breakdown of equipment as some of the major causes of delay in construction projects. In developing countries poor performance of local contractor has been experienced, Helen, Emmanuel, Lawal and Elkanah (2015) the performance of Contractors in Zambia is apparently below expectation.

Also Kim et al (2008) cited by Helen, Emmanuel, Lawal and Elkanah (2015) stated that international construction projects performance is affected by more complex and dynamic factors than domestic projects; frequently being exposed to serious external uncertainties such as political economic, social and cultural risks as well as internal risks within the project.

Airport construction projects have many different stakeholders, all of whom have a significant input during the project life cycle. This is due to large number of activities

associated with aircraft and passenger flows Flouris and Lock (2009) as cited by Alnasseri, Osborne and Steel (2013). Disregard of project stakeholder has significant impact of quality of the services provided, Alnasseri, Osborne and Steel (2013) stated that project manager who follow traditional ways of managing and executing construction projects often give little attention or even disregard the allocation of human-related factors within their management agendas. Instead, they focus on time, cost and quality.

This behavior will have a significant impact on different expectations as no project would exist without people inputs. Wahab (2011) noted that the complexity of modern airport projects makes traditional design and construction management methods unable to satisfy the project management requirement, which requires dealing with the variety of Airport project components along with the advance technology used for airport operation, moreover, dealing with the huge number of stakeholders involved in the project.

Project fund has been source of project failure; project failure means delays, cost overrun, and the project doesn't meet customer satisfaction in term of scope and quality. Kimanzi, George, Otgaar and Witte (2015) tell us lack of budget for resident engineer frustrated the project progress as well changes in ORET program between 2001 and 2005 leads the project to take so many years for the Dar es Saalaam International Airport (DIA) rehabilitation (Current Julius Nyerere International Airport (JNIA)) in Tanzania. Shahid, Ahmad, Shafique and Amjad (2015) New Islamabad International airport in Pakistan delayed due to unavailable fund project delayed in Pakistan.

2.2 Conceptual Definitions

Delay is means non-completion of the project within the specified duration agreed on in the contract Shahid, Ahmand, Shafique and Amjad (2015).

Stakeholder is any group or individual who can affect or be affected by achievement of the organization objectives Odhiambo and Kaibui (2016)

Project Performance can be measured and evaluated using large number of performance indicators such as time, cost, quality, client satisfaction, client changes, business performance, health and safety Shahid, Ahmand, Shafique and Amjad (2015).

Project Success: “The project is completed on-time and on-budget, delivering the expected value” Holgeid and Thompson (2013)

Project Failure: The project is either terminated or not completed on-time, or not on budget, or not providing the value aimed for Holgeid and Thompson (2013).

2.3 Critical Review of Supporting Theories or Theoretical Analysis

This research has adopted the following theories to enable to elaborated the behaviors of factors affecting the performance of airport construction project which are; 1) stakeholder theory which has been identified by most researcher that failure to incorporate the stakeholder input leads to project failures; 2) Theory of constraint (TOC). The contractor can apply project management technique on schedule on a single project to reduce project duration and simplify project control so as the project is delivered on time as well allocation of resources on multi-projects; 3) Theory of Triple Constraint; all parties involves in project should have project management skills to help them to deliver project on schedule, with budget and expected output.

2.4 Empirical Literature Review

2.4.1 General Studies

Large-scale infrastructure projects has been reported globally failed due to different reasons German's Berlin Brandenburg Airport (BER or the Airport Project) is currently under construction in Schoenefeld, Brandenburg is such a high profile failure being more than 4 years behind schedule and at least 70% above budget. The poor experience globally of providing public funded megaprojects in infrastructure on time and budget should have heightened the caution of decision makers responsible for Airport Project the broad reason for project failure is common mistakes in planning and executing large infrastructure projects, political consideration and ongoing innovation in the field of governing large-scale infrastructure projects Fiedler and Wendler (2015). The construction of Kuala Lumpur's new airport terminal is facing huge cost overruns and significant delays following frequent design changes. Since construction of airport infrastructure involves number of stakeholder with differing needs, the design of modern Airports Construction worldwide such as Passenger Terminal, Cargo Terminal and other Airport facilities are one of the most complex construction projects nowadays.

This was a case in the construction of one of the largest Airport Terminal Buildings in the Middle East in addition to international airport experience worldwide Wahab (2011). Gaza Strip suffers from many problems and complex issues in performance such as cost, time and safety due to political issues, to develop human resources in the construction industry Shaban (2008). Some projects are delayed due to lack of fund such as price increase in material example in Pakistan the New Islamabad

International Airport delayed due to unavailable funding Shahid, Ahmad, Shafique and Amjad (2015). In Philippine the Implementation of the Third Airports Development Project was terminated in 2005. The termination was the result of the very poor implementation performance resulting from the slow progress of land acquisition and resettlement, severe delays in the recruitment of consultants, and significant issues relating to the procurement of civil works and equipment. None of the originally planned outputs was achieved and the project was rated unsuccessful ADB (2012).

The need of inclusion of stakeholder is essential that investors and airport owners devote the necessary time and engage with the airport's stakeholders, including regulators, airlines, suppliers, and operators, to help build a business case Pichot and Scott (n.d.).

2.4.2 Studies in African Countries

Project failure in Africa countries has been observed due number of reasons such unsecured project fund from donors, lack of competent contractors which demand to hire contractor from abroad. In Kigali project are either delayed or postponed example the Government of Rwanda in 2011 sought \$600 million for construction of new airport Bugesera International Airport that was expected to be completed by 2016 whose inception has not even commenced by then Nyasetia (2016). In Kenya Odhiambo and Kaibui (2016) revealed that stakeholder involvement affected implementation of air safety projects to a great extent the need of policies should elaborately address engagement with stakeholders in the aviation industry in order minimize interference during project implementation

2.4.3 Empirical Studies in Tanzania

In Tanzania several studies on infrastructure has been done with minor studies in airports infrastructure. Evaluation research done by Kamanzi, George, Otgaar and Witte (2015) stated that all goods and services have been provided for Phase one and Phase two of the rehabilitation of Dar es Salaam International Airport (DIA) (current Julius Nyerere International Airport (JNIA)), whereby adjustment on the redesign of the runway caused delays and increases in prices due to inflation.

Moreover, the fact that no budget was available for the resident engineer frustrated the project's progress. Apart from a mistake in the design of the runway, administrative procedures, both in Tanzania (e.g. clearance at the port) and in the Netherlands (e.g. the closure of ORET's LDC programme in 2001), explained why the project as a whole took so many years. The problems were partly caused by changes in the ORET programme between 2001 and 2005. In that case the project failed since definition of Project Failure is the project is either terminated or not completed on-time, or not on budget, or not providing the value aimed for Holgeid and Thompson (2013)

2.5 Research Gap Identified

Globally number of researches has been conducted to identify source of failure in airport construction project and to find possible solution to minimize or to eliminate it in the future but in Tanzania only evaluation study conducted for ORET, which was intended to find how well project fund provided by ORET meet the intended need. Lack of study in performance of Tanzania airport construction project is the research gap for this research. And this is research gap has been addressed to understand how

well the airport construction project in Tanzania is performing in meeting the intended need/quality within schedule and budget.

2.6 Analytical/Conceptual Framework

The conceptual framework of this research shows the independent variables (factors) that affect performance of airport construction project which are stakeholders, project funds and contractor's competency and his key personnel and the dependence variables (performance in term of cost (budget), scope, time (schedule) and quality). Once the stakeholder input is incorporated during design stage and planning significant changes during project implementation will be kept to minimum or eliminated and the required scope and quality will be met. Also the contractor's competency with required project management skills will execute the project while monitoring and controlling all factors affecting the implementation of the project and when any risk should be accepted in order to implement the project should provide early measures to ensure the project is completed on time, within budget and scope.

As well project fund should be released on time so as contractor's cash flows cannot be affected, probable causes that might cause inflation in cost of materials. Delay in releasing project fund might cause the project to delay in term of schedule, cost overrun due to inflation, and some time the dynamic requirement of stakeholder might change due to delay of completion of the project which leads to scope changes.

2.7 Theoretical Framework

2.7.1 Theory of Triple Constraint

The Theory of the Triple Constraint states that: the triple constraint is a triangle of time, cost and performance that bounds the universe within which every project must

be accomplished Dobson (2004) as cited by Rugenyi (2015). The key three attributes, as stipulated by Van Wayngaad, Pretorius, and Pretorius, (2012) as cited by Rugeyi (2015), are:

Firstly the triple constraint constitutes a balance of the three interdependent project elements of scope, time and cost as a function of the project higher purpose; Secondly the cause and effect of new or changing triple constraint requirements are constantly negotiated during all phases of a project. Third the three key triple constraint relationships signify that at least one of the triple constraint variables must be constrained (otherwise there is no baseline for planning), and at least one of the variables must have capacity for exploitation (otherwise quality may be affected). All project team equipped with project management skills are easy in identifying risk that will cause project poor performance.

2.7.2 Theory of Constraint

The Theory of Constraints (TOC) is an approach that is used to develop specific management techniques. It was first popularized by the novel Goldratt (1984) as cited by Steyn (2002). The theory has been found application in two areas within project management which are scheduling of a single project to reduce project duration and simplify project control and allocation of resources that are shared by concurrent projects. This is because; Positive cash flow can be obtained faster as a result of extended duration, contingency cost of delays could be very high, and preventing changes to stakeholders need because it believes that extended project duration not only leads to escalation of overhead costs, but also lead to scope changes because stakeholder needs change over time (Steyn, 2002).

2.7.3 Stakeholder Theory

Stakeholder is any group or individual who can affect or be affected by achievement of the organization objectives Odhiambo and Kaibui (2016). In airport construction project consists of number of stakeholders which includes regulators, airlines, suppliers and operators Pichot and Scott (n.d) stated that Airport projects are especially complex because they such a wide variety of stakeholders.

The need of inclusion from planning to execution is necessary in order to avoid changes during project execution since changes in the midst of construction are much more expensive than incorporating the features in original design Pichot and Scott (n.d). Stakeholder theory maintains that the objectives of the firm should be derived by balancing the conflicting claims of the various "stakeholders" in the firm: managers, workers, stockholders, suppliers, vendors Ansoff as cited by Freeman and Reed (1983). In the concept of quality as developed in 1950s, in order to ensure the executed project meets the required quality as well scope specification involvement of stakeholder is necessary.

Tam and Le, (2007) as cited by Heravitorbati (2011) stated best-practice construction project management involves meeting or exceeding stakeholder requirements and expectations and thus project teams have to develop high-quality relationships with key project members, in particular with the main customers of the project, in order to understand the perception of quality more systematically. Walker (2000) as cited by Xue, Zhang, Yang and Li (2014) identified that "stakeholders can provide tangible value and valuable feedback information about how they are affected and can cooperate in delivering the output".

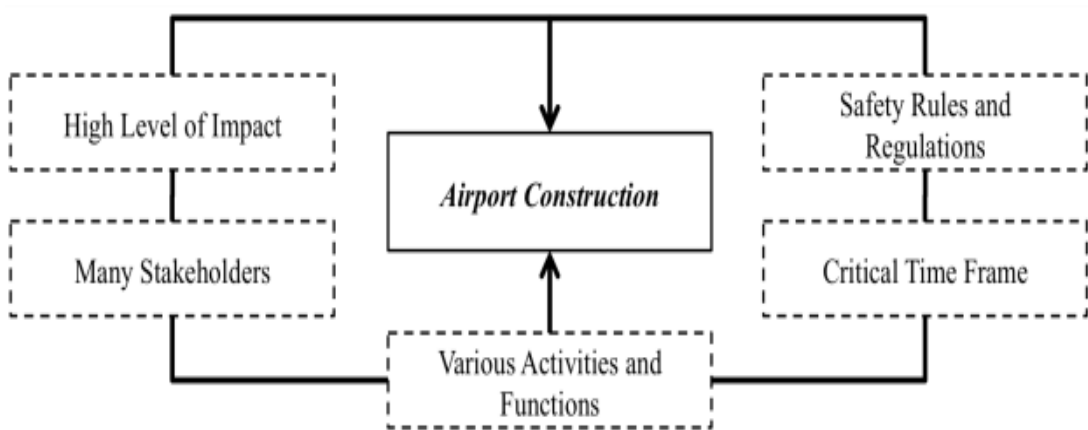


Figure 2.1: Factors Influencing Airport Construction

Source: Alnasser (2013)

2.8 Summary

The conceptual framework shown on the figure 2.2 below illustrates the relationship between independent variables and dependence variable (performance of airport construction). And any failure to incorporate those factors will lead to project failure.

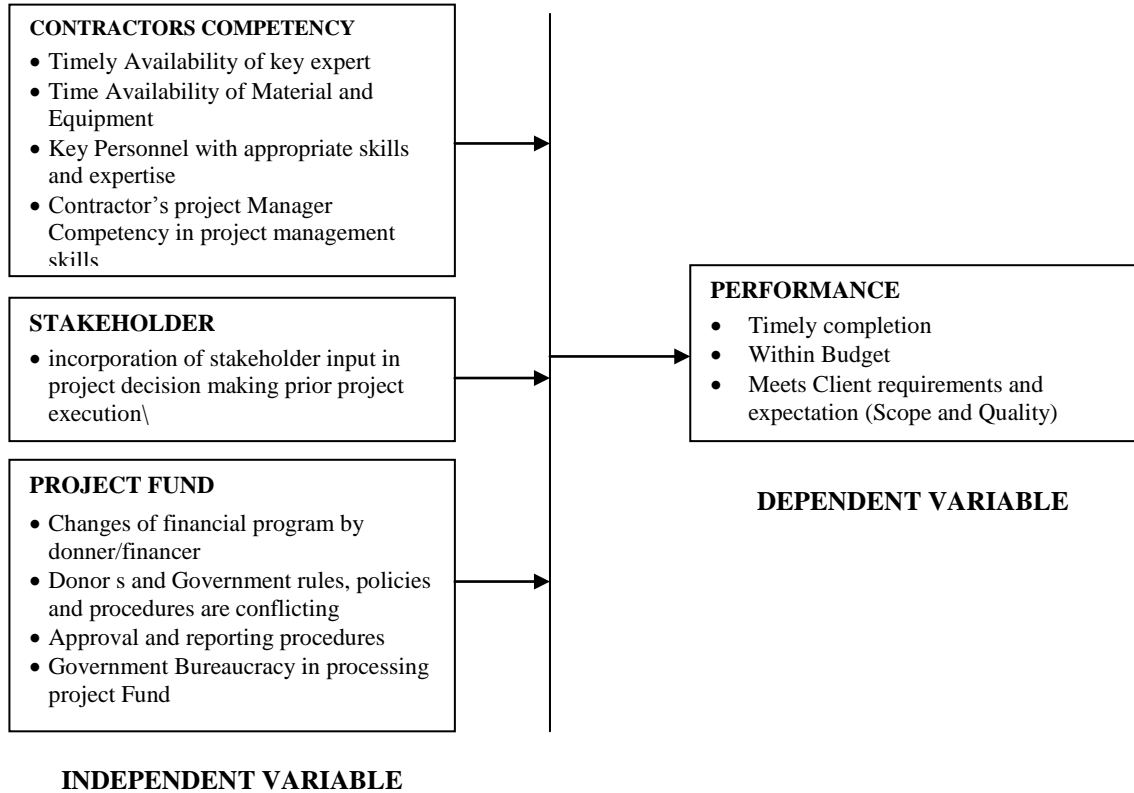


Figure 2.2: Relationship between Independent Variables and Dependence Variable

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Chapter Overview

This chapter consists of research strategies, survey population, research area or survey, sampling design and procedures, variables and measurement procedures, method of data collection, data processing and analysis.

3.2 Research Strategies

The research strategies conducted through literature review of Sounders et al (2012) Research strategy is a plan of how a researcher will go about answering her or his research question Explanatory research will be performed as study will establish casual relationships between variables Quantitative research technique will be used as it usually associated with deductive approach, and since the focus will be to use data to test theory. Quantitative research examines relationships between variables, which are measured numerically and analyzed using a range of statistical techniques. Deduction possesses several important characteristics including search to explain casual relationships between concepts and variables, concepts need to be operationalized in a way that enables facts to be measured, often quantitatively and lastly deduction is generalization. Quantitative research is principally associated with experimental and survey research strategies then experiment research strategy as well survey research strategy as the purpose of experiment is to study the probability of change in independent variables causing a change in another dependent variables as well it uses predictions known as hypotheses rather than research questions. In order

to answer research question questions survey strategy will be used as it allows collecting quantitative data, which will be used to analyze quantitatively using descriptive and inferential statistics.

3.2.1 Area of the Research or Survey

The survey was take place in Dar es Salaam, which is urban area. Most of head office of consulting firms, contractors and clients are located in Dar es Salaam which was easy to get contact from them and to get data from their staffs that in most cases experts are working on part-time basis. Tanzania Airport Authority (TAA) is the only client in Tanzania and is the only one who operates airport country wise has played a key role to ensure success of this research.

3.2.2 Survey Population

Target population was Project manager, engineers (electrical, mechanical and civil engineers) and other who was seen were necessary and familiar with airport construction requirement or stakeholder who are direct or in directed affected by construction performance of airports infrastructure. The total population surveyed was 103 according TAA data base which includes stakeholders at managerial level and key professional staff involved in construction project.

3.3 Sampling Design and Procedures

The target sample was all gender with experience in Airport construction project which will includes resident engineer, project manager, engineers, and stakeholders with direct or indirect influence in airport construction such as airline, ground handler on managerial level. Since ongoing and completed airport construction project in

Tanzania are few the sample size used was 103 that was determine based on the database from TAA which includes airport construction key professional staffs and stakeholders at managerial level.

3.4 Variables and Measurement Procedures

Primary data as well literature review of secondary data were used; from secondary data information that was used is from reports submitted to client regards completed project as well progress report from ongoing project or any government report from reliable sources. This data was obtained from TAA (Client) who has all reports of all projects. Variables used to correct data were scope, quality, time or schedule and cost or budget. The data was measured through evaluation to ensure that they provide information that answered the research questions or meet research objectives. This was done in conjunction with examining how other researchers have been coped in similar context. Questionnaires was used for collecting primary data since tend to use explanatory research because explanatory research enables to examine and explain the relationships between variables.

3.5 Methods of Data Collection

The required data was collected through literature review of the organization reports or studies previous conducted where the secondary data was obtained from appropriate data manager within organization was contacted for precise of documents and since the research was conducted within the organization where secondary and primary data was obtained, whoever primary data from contractors and consultants key personnel was obtained through questionnaire as well all available stakeholders

who have direct or indirect impact on the performance of the airport construction project. The collected data was measured through evaluation to ensure that they provide information that answers the research questions or meet research objectives. This was done in conjunction with examining how other researchers have been coped in similar context. Questionnaire consists of two parts whereby the first part consists of personal information and the last part was in the subject matter. Questionnaire was close-ended questions.

3.6 Data Processing and Analysis

In order to answer research questions and objectives descriptive and inferential statistics has been used in order to present, describe and examine the relationships and trends within data. In this context data were collected, summarized and analyzed using Software Package for Social Scientist (SPSS) Version 16.

3.7 Data validity and Reliability Analysis

Assessing for validity in relation to questionnaire refers to ability of questionnaire to measure what is intended to measure and testing for reliability refers to consistency this means the respondents should understand the question in way that it was intended by the researcher Sounders et al (2012). Pilot study from 10 respondents was done before intensively data collection in order determines whether it true measures what it was intended measure. Cronchbans' alpha technique was used to test for reliability and validity, it consists of an alpha coefficient with value between 0 and 1 whereby value of 0.7 or above indicate that the questions combined in the scale are measuring the same thing Sounders et al (2012).

CHAPTER FOUR

PRESENTATION OF FINDINGS/RESULTS AND DISCUSSION

4.1 Chapter Overview

The chapter presents the study results and discussion obtained in the analysis which starts by presenting the data collected as well data analysis found and discussion of findings of the researcher while comparing other similar researches completed globally.

4.2 Validity and Reliability Analysis

In order to provide supporting evidence that the researcher measure what it was intended to measured, test for reliability was conducted by conducting pilot study to 10 respondents prior to intensively starting data collection, it once done to ensure the respondents understand what the research wants as well the researcher understand the response from respondents. The questionnaire was modified appropriate to cater what it was intendent. Alpha coefficient with value of 0.7 or above indicates that the questions combined in the scale are measuring the same thing Sounders et al (2012).

Table 4.1: Reliability Analysis

Statement	Cronbach 's Alpha	Cronbach 's Alpha Based on Standardi zed Items	No of Items
Project fund	.657	.661	6
Airport stakeholders	.895	.895	13
Contractor's competency and his key personnel	.863	.898	13

Source: Field Data (2017)

From the Table 4.1 a project fund measures 0.657 which is close to 0.7 where airport stakeholders and contractor's competency measures 0.895 and 0.863 respectively which indicate the reliability is excellent this indicate strong internal consistency of tools used during data collection.

4.2.2 Respondent's Professional and Work Experience

The study covered 103 sample sizes, which includes professionals and stakeholders according to TAA database. The key personnel who worked in airport construction project and stakeholders from management level who are can provide decision making at management level, 86 questionnaires was received out of 103 distributed which is equal to 83.5%.

4.2.3 Demographic Characteristic of Respondents

Table 4.2 represents respondent's demographic information; where by respondent's age were reported as 1 (1.2%) were 18 to 25, 50 (59.5%) were 26 to 40 and 31 (36.9%) were above 40 and none was reported to be aged below 18.

Of the 84 respondents study; 65 (77.4%) reported being married, 17(20.2%) not married and the rest 2 (2.4%) didn't show their marital status, none of widow and divorced were reported.

The respondent level of education were; 2(2.4%) Secondary, 80(95.2%) University, 2(2.4%) didn't provided the level of education while none was reported to be none and primary level of education.

Table 4.2: Demographic Information

Age	Frequency	Percent
18 to 25	1	1.2
26 to 40	50	59.5
Above 40	31	36.9
Marital Status		
Married	65	77.4
Single	17	20.2
Separated	17	4.5
Education		
Secondary	2	2.4
University	80	95.2

Source: Field Data (2017)

4.2.3 General information of Respondents

Out of 84 respondent 1(1.2%) was an architect, 60(71.4%) were engineers, 15(17.9%) were airport stakeholders and 8(9.5%) was reported to be other.

Table 4.3: Working Field of Respondent

	Frequency	Percent	Valid Percent
Valid Architect	1	1.2	1.2
Engineer	60	71.4	71.4
Airport stakeholder	15	17.9	17.9
Other	8	9.5	9.5
Total	84	100.0	100.0

Source: Field Data (2017)

Belonging organization of respondent was reported client 26 (31%), consultant 24(28.6%), Contractor 16 (19%), other 16(19%) and 2(2.4%) didn't indicate their belonging organization.

Table 4.4: Working Organization of Respondent

		Frequency	Percent	Valid Percent
Valid	Client	26	31.0	31.7
	Consultant	24	28.6	29.3
	Contractor	16	19.0	19.5
	Other	16	19.0	19.5
	Total	82	97.6	100.0
Missing	999	2	2.4	
Total		84	100.0	

Source: Field Data (2017)

Respondent working duration were reported to be below one year 2(2.4%), between one to Five years 35(41.7%), between five to ten years 28(33.3%) and above ten years 19 (22.6%).

Table 4.5: Working Duration in Airport Construction Project

		Frequency	Percent	Valid Percent
Valid	Below one Year	2	2.4	2.4
	Between 1 to 5 Years	35	41.7	41.7
	Between 5 to 10 Years	28	33.3	33.3
	Above 10 Years	19	22.6	22.6
	Total	84	100.0	100.0

Source: Field Data (2017)

4.2.4 Involvement of Respondent in Airport Construction Project in Tanzania

Among the 83 respondents who reported if they have been involved in Airport construction project in Tanzania 14(16.7%) said no and 69(82.1%) yes as presented on Table 4.6.

Table 4 6: Involvement of Respondent in Airport Construction Project

		Frequency	Percent	Valid Percent
Valid	No	14	16.7	16.9
	Yes	69	82.1	83.1
	Total	83	98.8	100.0
Missing	System	1	1.2	
Total		84	100.0	

Source: Field Data (2017)

4.2.5 Project Completed in Schedule

Responded results from Table 4.7 shows most of the airport construction project done in Tanzania 61 (72.8%) was not completed in schedule, 10 (11.9%) was not completed in schedule and 13(15. %) didn't response probably due to lack of direct involvement to the airport construction project and this is the case to stakeholders.

Table 4.7: Project Completed in Schedule

		Frequency	Percent	Valid Percent
Valid	No	61	72.6	85.9
	Yes	10	11.9	14.1
	Total	71	84.5	100.0
Missing	999	13	15.5	
Total		84	100.0	

Source: Field Data (2017)

4.2.6 Project Completed within Budget

Table 4.8 represents the respondent result as no were 54(64.3%), yes 9(10.7%) and 21(25%) were missing to shows if airport construction project was completed within the stipulated budget.

Table 4.8: Project Completed within Budget

		Frequency	Percent	Valid Percent
Valid	No	54	64.3	85.7
	Yes	9	10.7	14.3
	Total	63	75.0	100.0
Missing	999	21	25.0	
Total		84	100.0	

Source: Field Data (2017)

4.2.7 Project Completed within Scope and Quality

Table 4.9 shows respondent result no 10 (11.9%) yes 39(46.4%), and missing 35(41.7%) for the airport construction project completed within specified quality and scope.

Table 4.9: Project Completed within Scope and Quality

		Frequency	Percent	Valid Percent
Valid	No	10	11.9	20.4
	Yes	39	46.4	79.6
	Total	49	58.3	100.0
Missing	999	35	41.7	

Source: Field Data (2017)

4.2.8 Project Fund affect Performance of Airport Construction Project

Results obtained from respondents indicates how project fund affect performance of airport construction project in Tanzania, Table 4.10 shows the findings obtained from

respondent and the indication of influence of project fund in performance of airport construction project in Tanzania.

Table 4.10: Descriptive Statistics for Project Fund

	N	Mean	Std. Deviation
a. Government interference and poor communication	84	1.73	.936
b. Delays in contractors payment certificates	81	1.62	.845
c. Bureaucracy	78	2.56	.891
d. Delay in Processing financial information	84	2.19	.828
e. Inflation of price	84	2.07	.875
f. Change of financial program	81	2.42	.920
Valid N (listwise)	77		

Source: Field Data (2017)

The finding on Table 4.10 shows how the majority of respondent agreed that project fund has greater impact on the performance of airport construction project since this shown by the mean of 2.56 where the respondent agree that bureaucracy is source of project failure, change in financial program attained mean of 2.42, delay in processing financial information attained mean of 2.19, inflation of price attained mean of 2.07, government interference and poor communication attained mean of 1.73 and delays in contractors payment certificates attained 1.62. From this finding the majority of respondent agreed that project fund affects performance of airport construction project in Tanzania

4.2.9 Airport Stakeholders Affect Performance of Airport Construction Project

Results obtained from respondent Table 4.11 shows how airport stakeholders affect performance of airport construction project. From the findings assessing attributes (power, urgency and proximity) of stakeholder's attained mean of 2.63, assessing

stakeholder behavior attained mean of 2.60, Stakeholders with social responsibilities e.g. economic, legal, environmental and ethical attained mean of 2.42.

Formulating a clear statement of project mission attained mean of 2.40, Accurately predicting the influence of stakeholders attained mean of 2.39, Formulating appropriate strategies for the management of stakeholders attained mean of 2.30, Effectively resolving conflicts between stakeholders attained mean of 2.19, Proper communication and engagement of stakeholders and Proper identification stakeholders attained mean of 2.10.

Table 4.11: Descriptive Statistics for Airport Stakeholders

	N	Mean	Std. Deviation
a. Stakeholders with social responsibilities e.g economic, legal, environmental and ethical	80	2.42	.883
b. Stakeholder needs and constraints to projects	80	2.08	.725
c. Proper communication and engagement of stakeholders	81	2.10	.816
d. Understanding area of stakeholder interest area	79	2.01	.689
e. Proper identification stakeholders	81	2.10	.644
f. Keeping and promoting a good relationship	80	1.94	.785
g. Analyzing conflicts and coalitions among stakeholders	81	2.09	.825
h. Accurately predicting the influence of stakeholders	80	2.39	.803
i. Formulating appropriate strategies for the management of stakeholders	79	2.30	.853
j. Assessing attributes (power, urgency and proximity) of stakeholders	79	2.63	.737
k. Effectively resolving conflicts between stakeholders	80	2.19	.731
l. Formulating a clear statement of project mission	80	2.40	.821
m. Assessing stakeholder behavior	80	2.60	.805
Valid N (listwise)	77		

Source: Field Data (2017)

Analyzing conflicts and coalitions among stakeholders attained mean of 2.09, Stakeholder needs and constraints to projects attained mean of 2.08, Understanding area of stakeholder interest area attained mean of 2.01 and Keeping and promoting a good relationship attained mean of 1.94.

4.2.10 Contractor's Competency and Key Personnel Affect Performance of Airport Construction

Researcher found results from respondent for those who thought that contractor's competency and key personnel affect airport construction project in Tanzania, Table 4.12 indicates the results from respondent where by Shortage or lack of equipment attained mean of 2.85, equipment failure attained mean of 2.81, Multiple projects by contractors attained mean of 2.80,

Table 4.12: Descriptive Statistics for Contractor's Competency and Key Personnel

	N	Mean	Std. Deviation
a. Poor project management	80	1.85	1.032
b. Improper planning, scheduling and resource management	82	1.84	.923
c. Skills Scarcity or unavailability	82	2.04	.777
d. Shortage or lack of equipment	80	2.85	2.350
e. Quality of Material	78	2.50	1.114
f. Shortage of Material	80	2.29	.983
g. Poor understanding of project scope	80	2.44	1.029
h. Multiple projects by contractors	82	2.80	.838
i. Conflicts among the involved parties	81	2.38	.888
j. Equipment Failures	77	2.81	1.052
k. Lack of technical professionals	82	2.06	.947
l. Construction blunders and substandard work	82	2.16	.881
m. Poor communication with other parties	81	2.04	.749
Valid N (listwise)	73		

Source: Field Data (2017)

Quality of Material attained mean of 2.50, Poor understanding of project scope attained mean of 2.44, Conflicts among the involved parties attained 2.38, Shortage of Material attained mean of 2.29, Construction blunders and substandard work attained mean of 2.16, Lack of technical professionals attained 2.06, Skills Scarcity or unavailability and Poor communication with other parties attained 2.04, Poor project management attained 1.85 and Improper planning, scheduling and resource management attained mean of 1.84.

4.2.11 Rating of Project Fund in Affecting of Airport Construction Project

The study revealed that project fund affect airport construction project in different factors such as Delays in contractors payment certificates 59.3% respondents strongly agreed and 28.6% agreed, Government interference and poor communication 52.4% strongly agreed, and 28.6% agreed, Delay in Processing financial information 17.9% strongly agreed and 53.6% agreed,

Table 4.13: Rating of Project Fund

Rating of project fund					
Factor	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
a. Government interference and poor communication	44 52.4%	24 28.6%	13 15.5%	1 1.2%	2 2.4%
b. Delays in contractors payment certificates	48 59.3%	18 22.2%	13 16.0%	2 2.5%	0 .0%
c. Bureaucracy	11 14.1%	20 25.6%	41 52.6%	4 5.1%	2 2.6%
d. Delay in Processing financial information	15 17.9%	45 53.6%	17 20.2%	7 8.3%	0 .0%
e. Inflation of price	23 27.4%	38 45.2%	17 20.2%	6 7.1%	0 .0%
f. Change of financial program	15 18.5%	24 29.6%	37 45.7%	3 3.7%	2 2.5%

Source: Field Data (2017)

Inflation of price 27.4% strongly agreed and 45.2% agreed, Change of financial program about 18.5% strongly agreed and 29.6% agreed and the last factor was Bureaucracy where 14.1% strongly agreed and 25.6% agreed. From this finding above 50% of represented factors respondents agreed that affects airport construction project in Tanzania. Table 4.13 represents the findings obtained from respondents.

4.2.12. Rating of Airport Stakeholders in Affecting of Airport Construction

Project

Table 4.14 represents the findings obtained from respondent where over 50% of respondent agreed that project stakeholder affect airport construction project in Tanzania whereby stakeholder needs and constraints to projects 16.2% strongly agreed and 66.2% agreed, understanding area of stakeholder interest area 19.0% strongly agreed and 64.6% agreed, proper identification stakeholders 14.8% strongly agreed and 61.7% agreed, proper communication and engagement of stakeholders 21.0% strongly agreed and 55.6% agreed, keeping and promoting a good relationship 28.8% strongly agreed and 53.8% agreed, accurately predicting the influence of stakeholders 8.8% strongly agreed and 53.8% agreed.

Effectively resolving conflicts between stakeholders 16.2% strongly agreed and 51.2% agreed, analyzing conflicts and coalitions among stakeholders 23.5% strongly agreed and 50.6%, stakeholders with social responsibilities e.g. economic, legal, environmental and ethical 11.2% strongly agreed and 50.0% agreed, formulating a clear statement of project mission 12.5% strongly agreed and 43.8% agreed, formulating appropriate strategies for the management of stakeholders 17.7% strongly

agreed and 41.8% agreed while assessing stakeholder behavior 7.5% strongly agreed and 36.2% agreed and assessing attributes (power, urgency and proximity) of stakeholders 7.6% strongly agreed and 29.1% agreed which are below 50% of respondent.

Table 4.14: Rating of Airport Stakeholders in Affecting of Airport Construction Project

Rating of Airport Stakeholders					
Factors	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
a. Stakeholders with social responsibilities e.g economic, legal, environmental and ethical	9(11.2%)	40(50.0%)	19(23.8%)	12(15.0%)	0(.0%)
b. Stakeholder needs and constraints to projects	13(16.2%)	53(66.2%)	9(11.2%)	5(6.2%)	0(.0%)
c. Proper communication and engagement of stakeholders	17 (21.0%)	45(55.6%)	13(16.0%)	6 (7.4%)	0(.0%)
d. Understanding area of stakeholder interest area	15(19.0%)	51(64.6%)	10(12.7%)	3(3.8%)	0(.0%)
e. Proper identification stakeholders	12(14.8%)	50(61.7%)	18(22.2%)	1(1.2%)	0(.0%)
f. Keeping and promoting a good relationship	23(28.8%)	43(53.8%)	10(12.5%)	4(5.0%)	0(.0%)
g. Analyzing conflicts and coalitions among stakeholders	19(23.5%)	41(50.6%)	16(19.8%)	5(6.2%)	0(.0%)
h. Accurately predicting the influence of stakeholders	7(8.8%)	43(53.8%)	23(28.8%)	6(7.5%)	1(1.2%)
i. Formulating appropriate strategies for the management of stakeholders	14(17.7%)	33(41.8%)	26(32.9%)	6(7.6%)	0(.0%)
j. Assessing attributes (power, urgency and proximity) of stakeholders	6(7.6%)	23(29.1%)	44(55.7%)	6(7.6%)	0(.0%)
k. Effectively resolving conflicts between stakeholders	13(16.2%)	41(51.2%)	24(30.0%)	2(2.5%)	0(.0%)
l. Formulating a clear statement of project mission	10(12.5%)	35(43.8%)	28(35.0%)	7(8.8%)	0(.0%)
m. Assessing stakeholder behavior	6(7.5%)	29(36.2%)	37(46.2%)	7(8.8%)	1(1.2%)

Source: Field Data (2017)

4.2.13 Rating of Contractor's Competency and his Key Personnel in Affecting of Airport Construction Project

Table 4.15 represents results from respondents who agreed that contractor's competency and his key personnel affect airport construction project in Tanzania based on the factor as presented below; poor project management rated 46.2% strongly agreed and 35.0% agreed, improper planning, scheduling and resource management 41.5% strongly agreed and 40.2% agreed, skills scarcity or unavailability 23.2% strongly agreed and 54.9% agreed, shortage of material rated 17.5% strongly agree and 53.8% agreed.

Table 4.15: Rating of Contractor's Competency and His Key Personnel

Rating of Contractor's Competency and his Key Personnel					
Factor	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
a. Poor project management	37(46.2%)	28(35.0%)	7(8.8%)	6(7.5%)	2(2.5%)
b. Improper planning, scheduling and resource management	34(41.5%)	33(40.2%)	11(13.4%)	2(2.4%)	2(2.4%)
c. Skills Scarcity or unavailability	19(23.2%)	45(54.9%)	14(17.1%)	4(4.9%)	0(.0%)
d. Shortage or lack of equipment	15(18.8%)	25(31.2%)	19(23.8%)	18(22.5%)	3(3.8%)
e. Quality of Material	19(24.4%)	20(25.6%)	20(25.6%)	19(24.4%)	0(.0%)
f. Shortage of Material	14(17.5%)	43(53.8%)	11(13.8%)	10(12.5%)	2(2.5%)
g. Poor understanding of project scope	15(18.8%)	30(37.5%)	22(27.5%)	11(13.8%)	2(2.5%)
h. Multiple projects by contractors	7(8.5%)	17(20.7%)	43(52.4%)	15(18.3%)	0(.0%)
i. Conflicts among the involved parties	12(14.8%)	36(44.4%)	23(28.4%)	10(12.3%)	0(.0%)
j. Equipment Failures	11(14.3%)	17(22.1%)	26(33.8%)	22(28.6%)	1(1.3%)
k. Lack of technical professionals	22(26.8%)	43(52.4%)	9(11.0%)	6(7.3%)	2(2.4%)
l. Construction blunders and substandard work	16(19.5%)	46(56.1%)	12(14.6%)	7(8.5%)	1(1.2%)
m. Poor communication with other parties	18(22.2%)	45(55.6%)	15(18.5%)	3(3.7%)	0(.0%)

Source: Field Data (2017)

Poor understanding of project scope 18.8% strongly agreed and 37.5% agreed, conflicts among the involved parties rated 14.8% strongly agreed and 44.4% agreed, lack of technical professionals rated 26.8% strongly agreed and 52.4% agreed, construction blunders and substandard work rated 19.5% strongly agreed and 56.1% agreed, poor communication with other parties rated 22.2% strongly agreed and 55.6% agreed, shortage or lack of equipment 18.8% strongly agreed and 31.2% agreed, also quality of material presented 50% of responded stated 24.4% strongly agreed and 25.6% agreed while multiple projects by contractors rated 8.5% strongly agreed and 20.7% agreed and equipment failures rated 14.3% strongly agreed and 22.1% agreed.

4.2.14 Inferential Statistics

This part of the study discusses the inferential statistic of the result. Correlation is a measure of the relationship between two or more variables Correlation coefficients can range from -1.00 to +1.00. The value of -1.00 represents a perfect negative correlation while a value of +1.00 represents a perfect positive correlation. A value of 0.00 represents a lack of correlation Shaban (2005).

Positive coefficient states there a direct relationship once one variable increases the other increases too while negative coefficient states there is an inverse relationship between variables once one variable increases the other one decreases. Table 1, Table 2 and Table 3 in Appendix I represent factors from project fund, airport stakeholders and contractor's competency and key personnel respectively with correlation coefficients observed by the researcher.

4.3 Discussion of Findings

4.3.1 The Extent of Project Fund in Affecting Airport Construction in Tanzania

The study aimed in assessing how project fund affects airport construction in Tanzania, a quite number of respondent's response based on the provided factors rated that delays in contractors payment certificates 59.3% strongly agreed and 28.6% agreed, government interference and poor communication 52.4% strongly agreed, and 28.6% agreed, delay in Processing financial information 17.9% strongly agreed and 53.6% agreed, inflation of price 27.4% strongly agreed and 45.2% agreed, change of financial program about 18.5% strongly agreed and 29.6% agreed and the last factor was bureaucracy where 14.1% strongly agreed and 25.6% agreed. From this finding above 50% of represented factors respondents agreed that are the factors affects airport construction project in Tanzania.

From this finding the project delays in completion because contractor cash flow will be affected expenses increases since the contractor has to maintain the site camp with all necessary resources (equipment, construction material and manpower) for the project which leads to over budget of the project example progress of rehabilitation of Julius Nyerere international airport project was frustrated due to changes in ORET programme between 2001 and 2005 as stated by Kimanzi, George, Otgaar and Witte (2015) as well Shahid, Ahmad, Shafique and Amjad (2015) New Islamabad International airport in Pakistan delayed due to unavailable fund project delayed, The poor experience globally of providing public funded megaprojects in infrastructure on time and budget should have heightened the caution of decision makers responsible for Airport Project Fiedler and Wendler (2015).

4.3.2 The Extent of Stakeholders in Affecting Performance of Airport

Construction Project

On this objective the study aimed in determining the factors that airport stakeholders have in implementing airport construction project. From number of factors presented by the researcher, over 50% of the respondent agreed those projects are affected by project stakeholder their inputs should be incorporated from planning to completion stage. From the presented factors which are stakeholder needs and constraints to projects 16.2% strongly agreed and 66.2% agreed, understanding area of stakeholder interest area 19.0% strongly agreed and 64.6% agreed, proper identification stakeholders 14.8% strongly agreed and 61.7% agreed, proper communication and engagement of stakeholders 21.0% strongly agreed and 55.6% agreed, keeping and promoting a good relationship 28.8% strongly agreed and 53.8% agreed,

Accurately predicting the influence of stakeholders 8.8% strongly agreed and 53.8% agreed, effectively resolving conflicts between stakeholders 16.2% strongly agreed and 51.2% agreed, analyzing conflicts and coalitions among stakeholders 23.5% strongly agreed and 50.6%, stakeholders with social responsibilities e.g. economic, legal, environmental and ethical 11.2% strongly agreed and 50.0% agreed, formulating a clear statement of project mission 12.5% strongly agreed and 43.8% agreed, formulating appropriate strategies for the management of stakeholders 17.7% strongly agreed and 41.8% agreed while assessing stakeholder behavior 7.5% strongly agreed and 36.2% agreed and assessing attributes (power, urgency and proximity) of stakeholders 7.6% strongly agreed and 29.1% agreed which are below 50% of respondent.

Proper incorporation of stakeholders is mandatory and should manage properly failure to manage stakeholders may lead to project delay due to frequently changes in design. German's Berlin Brandenburg Airport (BER or the Airport Project) is currently under construction in Schoenefeld, Brandenburg is such a high profile failure being more than 4 years behind schedule and at least 70% above budget. The broad reason for project failure is common mistakes in planning and executing large infrastructure projects, political consideration and ongoing innovation in the field of governing large-scale infrastructure projects Fiedler and Wendler (2015),

The construction of Kuala Lumpur's new airport terminal is facing huge cost overruns and significant delays following frequent design changes due to different needs from stakeholders. This was also the case in the construction of one of the largest Airport Terminal Buildings in the Middle East in addition to international airport experience worldwide Wahab (2011). Also during discussion with TAA and other subordinates working at Tanzania airports it was observed that Bukoba airport was delayed due to substantial design changes as failure in inclusion of those changes the terminal building wouldn't operate as it was supposed to be completion in 2013 instead it was completed in 2015 where the project was delayed and runs over budget for about 48%

4.3.3 The Extent of Contractor's Competence and his Key Personnel in

Performance of Airport Construction Project in Tanzania

The researcher aimed to analyze the extent of contractor's competence and his key personnel in performance of airport construction project in Tanzania. Presented results from respondents who agreed that contractor's competency and his key personnel affect airport construction project in Tanzania based on the factor as presented below;

poor project management rated 46.2% strongly agreed and 35.0% agreed, improper planning, scheduling and resource management 41.5% strongly agreed and 40.2% agreed, skills scarcity or unavailability 23.2% strongly agreed and 54.9% agreed, shortage of material rated 17.5% strongly agree and 53.8% agreed, poor understanding of project scope 18.8% strongly agreed and 37.5% agreed.

Conflicts among the involved parties rated 14.8% strongly agreed and 44.4% agreed, lack of technical professionals rated 26.8% strongly agreed and 52.4% agreed, construction blunders and substandard work rated 19.5% strongly agreed and 56.1% agreed, poor communication with other parties rated 22.2% strongly agreed and 55.6% agreed, shortage or lack of equipment 18.8% strongly agreed and 31.2% agreed, also quality of material presented 50% of responded stated 24.4% strongly agreed and 25.6% agreed while multiple projects by contractors rated 8.5% strongly agreed and 20.7% agreed and equipment failures rated 14.3% strongly agreed and 22.1% agreed.

From the finding and discussion from TAA and subordinate working in Tanzania airport project Songwe airport project phase I was terminated due to lack of contractor project manager who can communicate with client and consultant on the project progress, this leads to other extra cost for mobilization another contractor which causes the project to run behind schedule and over budge.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

All factors presented on the specific objective of the study are crucial for any project success and has been used in other researches to determine the effects on the project implementation. Once donor or government releases project fund for project financial personnel working on those institutions should ensure fund released on time as specified on the contract, there will be no complaint from contractor or consultant for effect on the cash flow of the project under mentioned. Financers such as donors, government agency that has direct involvement in financial preparation should ensure all financial documents are release on time and payment made as agreed on the contract to ensure project runs within budget.

As seen in other researches and on the results obtained on this study, project implementation agency should ensure that all stakeholders required using the airport facilities direct or indirect should be incorporated from planning stage to execution stage so as to avoid frequent design changes, which leads to project to run behind schedule and over budget. Traditional method of depending on budget, schedule and quality should be avoided and need of incorporation of human input in project agenda should be implemented.

It has seen from results that contractor competency and key personnel affect airport construction project, project implementing agency should ensure the all contactor are being contracted for the work are competent enough to execute the work as seen in

this study phase I of Songwe airport project manager was not competent enough to manage the project which leads to termination of the contract.

5.2 Recommendation

Airport constructions are complex projects to implement the need to provide appraisal and capacity building to policy maker, stakeholders with high influence in project implementation, local contractors and other key professional personnel from government agencies who are supervising those projects.

5.3 Area for Further Research

The project focuses on the analyzing of factors affecting airport construction project in Tanzania. A further research should be addressed on the following;

- (i) Assessment of airport stakeholder's knowledge in implementing airport construction project
- (ii) Changes in technology affects implementation of airport construction project

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APPENDICES

Appendix I: Inferential Statistics Tables

Table 1: Correlations for Project Fund

		Government interference and poor communication	Delays in contractors payment certificates	Bureaucracy	Delay in Processing financial information	Inflation of price	Change of financial program
Government interference and poor communication	Pearson Correlation	1	.236*	.361**	.146	.201	.256*
Delays in contractors payment certificates	Pearson Correlation	.236*	1	.149	.322**	.337**	.200
Bureaucracy	Pearson Correlation	.361**	.149	1	.351**	.177	.248*
Delay in Processing financial information	Pearson Correlation	.146	.322**	.351**	1	.563**	.096
Inflation of price	Pearson Correlation	.201	.337**	.177	.563**	1	.152
Change of financial program	Pearson Correlation	.256*	.200	.248*	.096	.152	1

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

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

Table 2. Correlations for Airport Stakeholders

		Stakeholders with social responsibilities e.g. economic, legal, environmental and ethical	Stakeholder needs and constraints to projects	Proper communication and engagement of stakeholders	Understanding area of stakeholder interest area	Proper identification stakeholders	Keeping and promoting a good relationship	Analyzing conflicts and coalitions among stakeholders	Accurately predicting the influence of stakeholders	Formulating appropriate strategies for the management of stakeholders	Assessing attributes (power, urgency and proximity) of stakeholders	Effectively resolving conflicts between stakeholders	Formulating a clear statement of project mission	Assessing stakeholder behavior
Stakeholders with social responsibilities e.g economic, legal, environmental and ethical	Pearson Correlation	1	.464**	.321**	.332**	.080	.112	.398**	.247*	.247*	.275*	.209	.322**	.011
Stakeholder needs and constraints to projects	Pearson Correlation	.464**	1	.588**	.457**	.415**	.342**	.557**	.275*	.457**	.207	.140	.311**	.377**
Proper communication and engagement of stakeholders	Pearson Correlation	.321**	.588**	1	.796**	.532**	.448**	.638**	.554**	.521**	.338**	.220*	.217	.186
Understanding area of stakeholder interest area	Pearson Correlation	.332**	.457**	.796**	1	.662**	.570**	.444**	.453**	.388**	.173	.096	.194	-.037
Proper identification stakeholders	Pearson Correlation	.080	.415**	.532**	.662**	1	.634**	.501**	.386**	.359**	.198	.174	.352**	.175
Keeping and promoting a good relationship	Pearson Correlation	.112	.342**	.448**	.570**	.634**	1	.417**	.621**	.524**	.456**	.219	.472**	.260*
Analyzing conflicts and coalitions among stakeholders	Pearson Correlation	.398**	.557**	.638**	.444**	.501**	.417**	1	.499**	.566**	.357**	.453**	.376**	.394**

		Stakeholders with social responsibilities e.g. economic, legal, environmental and ethical	Stakeholder needs and constraints to projects	Proper communication and engagement of stakeholders	Understanding area of stakeholder interest area	Proper identification stakeholders	Keeping and promoting a good relationship	Analyzing conflicts and coalitions among stakeholders	Accurately predicting the influence of stakeholders	Formulating appropriate strategies for the management of stakeholders	Assessing attributes (power, urgency and proximity) of stakeholders	Effectively resolving conflicts between stakeholders	Formulating a clear statement of project mission	Assessing stakeholder behavior
Accurately predicting the influence of stakeholders	Pearson Correlation	.247*	.275*	.554**	.453**	.386**	.621**	.499**	1	.577**	.454**	.371**	.357**	.243*
Formulating appropriate strategies for the management of stakeholders	Pearson Correlation	.247*	.457**	.521**	.388**	.359**	.524**	.566**	.577**	1	.503**	.406**	.497**	.418**
Assessing attributes (power, urgency and proximity) of stakeholders	Pearson Correlation	.275*	.207	.338**	.173	.198	.456**	.357**	.454**	.503**	1	.339**	.432**	.552**
Effectively resolving conflicts between stakeholders	Pearson Correlation	.209	.140	.220*	.096	.174	.219	.453**	.371**	.406**	.339**	1	.422**	.344**
Formulating a clear statement of project mission	Pearson Correlation	.322**	.311**	.217	.194	.352**	.472**	.376**	.357**	.497**	.432**	.422**	1	.475**
Assessing stakeholder behavior	Pearson Correlation	.011	.377**	.186	-.037	.175	.260*	.394**	.243*	.418**	.552**	.344**	.475**	1

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

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

Table 4.3 Correlations for Contractor's Competency and Key Personnel

		Poor project management	Improper planning, scheduling and resource management	Skills Scarcity or unavailability	Shortage or lack of equipment	Quality of Material	Shortage of Material	Poor understanding of project scope	Multiple projects by contractors	Conflicts among the involved parties	Equipment Failures	Lack of technical professionals	blunders and substandard work	Poor communication with other parties
Poor project management	Pearson Correlation	1	.808**	.490**	.136	.181	.567**	.500**	.356**	.340**	.254*	.329**	.315**	.365**
Improper planning, scheduling and resource management	Pearson Correlation	.808**	1	.542**	.285*	.257*	.630**	.572**	.247*	.409**	.378**	.449**	.456**	.350**
Skills Scarcity or unavailability	Pearson Correlation	.490**	.542**	1	.229*	.366**	.680**	.583**	.239*	.459**	.449**	.668**	.370**	.192
Shortage or lack of equipment	Pearson Correlation	.136	.285*	.229*	1	.252*	.233*	.384**	.301**	.366**	.373**	.262*	.221*	.068
Quality of Material	Pearson Correlation	.181	.257*	.366**	.252*	1	.360**	.443**	.293**	.380**	.373**	.287*	.368**	.190
Shortage of Material	Pearson Correlation	.567**	.630**	.680**	.233*	.360**	1	.525**	.358**	.419**	.470**	.625**	.509**	.291**
Poor understanding of project scope	Pearson Correlation	.500**	.572**	.583**	.384**	.443**	.525**	1	.377**	.626**	.521**	.510**	.308**	.368**
Multiple projects by contractors	Pearson Correlation	.356**	.247*	.239*	.301**	.293**	.358**	.377**	1	.236*	.394**	.202	.009	.190
Conflicts among the involved parties	Pearson Correlation	.340**	.409**	.459**	.366**	.380**	.419**	.626**	.236*	1	.447**	.474**	.286**	.166
Equipment Failures	Pearson Correlation	.254*	.378**	.449**	.373**	.373**	.470**	.521**	.394**	.447**	1	.521**	.398**	.351**
Lack of technical professionals	Pearson Correlation	.329**	.449**	.668**	.262*	.287*	.625**	.510**	.202	.474**	.521**	1	.506**	.277*
Construction blunders and substandard work	Pearson Correlation	.315**	.456**	.370**	.221*	.368**	.509**	.308**	.009	.286**	.398**	.506**	1	.367**
Poor communication with other parties	Pearson Correlation	.365**	.350**	.192	.068	.190	.291**	.368**	.190	.166	.351**	.277*	.367**	1

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

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

**Appendix II: Questionnaires for Performance of Airport Construction Project
in Tanzania**

OPEN UNIVERSITY OF TANZANIA

Dear Respondent,

My name is Thereza Laurent, a project management postgraduate student of Open University of Tanzania in faculty of Business Management. In partially fulfillment requirement for the award of a Master's degree in project management I am undertaking research on *Factors Affecting Performance of Airport Construction Project in Tanzania*. I am requesting you to take some time to respond to the questions provided below. This research is purely academic; all information given will be treated confidential. And all the obtained findings will benefit academician and public as whole.

Thank you for your cooperation

QUESTIONNAIRES

SECTION ONE: Personal Information

Section A: Background Information of the Respondents

1. Age (Years)

- 1. Below 18
- 2. 18-25
- 3. 26-40
- 4. Above 40

2. Marital Status

- 1. Married
- 2. Not Married
- 3. Widow
- 4. Divorced

3. Level of education

- 1. None
- 2. Primary
- 3. Secondary
- 4. University

4. In which field do you work

- 1. Architect
- 2. Engineer
- 3. Airport Stakeholder (airline, service provider etc.)
- 4. Other

5. In which organization do you belong

- 1. Client
-

2. Consultant
3. Contractor
4. Other (please specify)
 (-----)

6. How long have you been working in Airport environment

1. below 1 year
2. between 1-5years
3. between 5-10 years
4. above 10 years

7. Have you ever involved in any Tanzania airport construction project

1. Yes
2. No

If yes please answer question 8 to 10

8. Did the Airport construction project completed in schedule

1. Yes
2. No

9. Did the Airport construction project completed within budget

1. Yes
2. No

10. Did the Airport construction project completed on specified quality and scope

1. Yes
2. No

SECTION B: FUND AFFECT PERFORMANCE OF AIRPORT CONSTRUCTION PROJECT

11. Based on your experience, please indicate how important do you find the following financial factors affects performance of airport construction Project in Tanzania. *Please tick (√) as appropriate*

Description	Strongly agree	agree	Not sure	disagree	Strongly disagree
Government interference and poor communication					
Delays in contractors payment certificates					
Bureaucracy					
Delay in processing financial information					
Inflation of price					
Change of financial program					

SECTION C: AIRPORT STAKEHOLDERS AFFECT PERFORMANCE.

12. Based on your experience, please indicate how important do you find the involvement of airport stakeholders affects performance of airport construction Project in Tanzania. *Please tick (√) as appropriate*

Description	Strongly agree	agree	Not sure	disagree	Strongly disagree
Stakeholders with social responsibilities e.g (economic, legal, environmental and ethical)					
Stakeholder needs and constraints to projects					
Proper communication and engagement of stakeholders					
Understanding area of stakeholder interest area					
Proper identification stakeholders					
Keeping and promoting a good relationship					
Analyzing conflicts and coalitions among stakeholders					
Accurately predicting the influence of stakeholders					
Formulating appropriate strategies for the management of stakeholders					
Assessing attributes (power, urgency, and proximity) of stakeholders					
Effectively resolving conflicts between stakeholders					
Formulating a clear statement of project mission					
Assessing stakeholder behavior					

SECTION D: CONTRACTOR'S COMPETENCY AND KEY PERSONNEL PERFORMANCE OF AIRPORT CONSTRUCTION

13. Based on your experience, please indicate how contractor's competency and his key personnel affect performance of airport construction in Tanzania.

Please tick (√) as appropriate

Description	Strongly agree	agree	Not sure	disagree	Strongly disagree
Poor project management					
Improper planning, scheduling and resource management					
Skills scarcity or unavailability					
Shortage or lack of equipment					
Quality of material					
Shortage of material					
Poor understanding of the project scope					
Multiple projects by contractors					
Conflicts among the involved parties					
Equipment Failures					
Lack of technical professionals					
Construction blunders and substandard work					
Poor communication with other parties					