

**Effect of Procurement Practices on the performance of Public Building Construction Projects in SNNPRS: The Case of Kembata Tembaro Zone.**

A Thesis Submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of Degree of Masters of Art (MA) in Project Management and Finance

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Under the Supervision of

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College of Business and Economics Department of Accounting and Finance, Project Management and Finance (MA) Program

June, 2020

Jimma, Ethiopia

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## **Abstract**

*The main objective of this study is to identify the effects of procurement practices on public building construction project performance in the SNNPRS with particular reference to Kembata Tembaro Zone. The study was conducted through an explanatory design of research to explain the effects of procurement practices on public building construction project performance. Furthermore, the study used mixed research approaches. In order to achieve this objective, 130 sample respondents were selected by employing a purposive sampling technique and used a questionnaire as its main data collection tool. The primary data were collected using a questionnaire containing close ended items of Likert scale type containing five points. The data was analyzed using descriptive statistics to calculate the general information of the respondents and inferential statistics. Multiple regression models were used to explain the effect of explanatory variables (procurement planning, contract administration, specification development, procurement legal document, procurement staff competency level and tendering system) on outcome variable (project performance). The finding of the study reveals that there is a significant positive relationship between procurement practices and project performance. However, each explanatory variable has no equal significant effect on a dependent variable. The analysis revealed that the five (procurement planning, contract administration, procurement legal document, staff competency and tendering system) explanatory variables accounted for 62.1% of change of the dependent variables in the study. The study recommends that, to minimize the challenges all parties (client, contractor and design and construction) should pay attention.*

**Keywords:** *procurement practices, public project, project performance, project procurement, procurement planning practices*

## DECLARATION

I declare that the research Report entitled “**effect of procurement Practices on public building construction project performance in SNNRPS: The case of Kembata Tembaro Zone public building construction project performance** ” submitted to Research and Postgraduate Studies’ Office of Business and Economics College is original and it has not been submitted previously in part or full to any university.

Researcher: Achiso Lonsamo

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Date\_\_\_\_\_

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Date \_\_\_\_\_

Co-Advisor: Ganfure Tarekegn (MSc)

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Date \_\_\_\_\_

## **CERTIFICATE**

We certify that the Research Report entitled **“effect of procurement Practices on public Building construction project performance in SNNRPS: The case of Kembata Tembaro zone public Building construction project performance”** was done by Mr Achiso Lonsamo Doloro for the partial fulfilment of Master’s Degree under our Supervision.

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(Main Advisor)

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\_\_\_\_\_

(Co-Advisor)

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## Table of Contents

Abstract.....	i
DECLARATION .....	ii
CERTIFICATE .....	iii
Acknowledgement .....	iv
LIST OF TABLES .....	viii
LIST OF FIGURES .....	x
Acronyms and abbreviations .....	xi
CHAPTER ONE: INTRODUCTION .....	1
1.1Background of the study .....	1
1.2 Background of the Organization .....	3
1. 3. Statement of the Problem.....	5
1.4. The Objectives of the study .....	8
1. 4.1. General Objective .....	8
1.4.2. The Specific Objectives .....	8
3.6. Hypothesis development.....	8
3.6.1. Hypothesis Development .....	8
1.5 Significance of the Study .....	9
1.6. Scope of the Study .....	10
1.7. Organization of the Study .....	10
1.8 Limitations of the Study.....	10
CHAPTER TWO: REVIEW OF LITERATURE.....	12
2.1 Definition and Description of Important Concepts and Terms .....	12
2.1.1. Purchasing and Procurement.....	12
2.1.2. Project .....	12
2.1.3. Construction Project Performance .....	13
2.1.4. Project Procurement Systems.....	14
2.2. Theoretical review .....	14

2.2.1. Principal Agent Theory .....	14
2.2.2. Contract Theory .....	15
2.2. 3 .The general Systems Theory .....	16
2.3. Procurement planning .....	16
2.4. Contract Administration.....	18
2.5. Specification development .....	20
2.6. Procurement Rules and regulations.....	21
2.7. Procurement staff .....	22
2.8. The Tendering system.....	23
2.9. Empirical Review of the Related Literature.....	25
2.10. Research gaps.....	29
2.11. Conceptual Framework.....	30
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY .....	31
3. Introduction.....	31
3.1. Research Design.....	31
3.1.1 Types of study.....	31
3.1.2 Approaches of study.....	31
3.2. Sources of data.....	32
3.3. Data collection Techniques .....	32
3.4. Target population of the study .....	33
3.4.1 Sampling method .....	33
3.4.2 Sampling Technique and Procedures .....	34
3.4.3 Sample size determination .....	34
3.5. Method of Data Analysis and Presentation.....	35
3.6.2. Model specification.....	35
3.7. Measure of Dependent and Independent variables .....	36
3.7.1. Measure of Dependent variables .....	36
3.7.2. Measure of Independent variables .....	36
CHAPTER FOUR: RESULTS AND DISCUSSION .....	37
4. Introduction.....	37
4.1. Response rate .....	37



4.2. Demographic characteristics .....	37
4.7. Analysis of independent variables .....	40
4.7.1. Procurement planning practices .....	40
4.7.2. Contract administration.....	<b>Error! Bookmark not defined.</b>
4.7.3. Specification development .....	43
4.7.4. Procurement legal documents .....	45
4.7.5. The procurement staff competence level .....	46
4.7 .6.The effects tendering system on project performance .....	48
4.8. Project performance indicators .....	49
4.9. Inferential statically analysis.....	53
4.9.1 Checking the Assumptions of Multiple Regression and Reliability of the data .....	53
4.9.1.1. Reliability.....	56
4.9.1.2 Validity .....	57
4.9.2. Correlation analysis.....	57
4.9.3. Regression result and Discussion.....	58
4.10. Hypothesis tests result.....	67
The following summary of hypothesis test result is extracted from regression model one. ....	67
4.11 Interviews results .....	68
4.12. Analysis of secondary sources .....	69
<b>CHAPTER FIVE:CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>71</b>
5.1 Summary of major findings based on specific objectives.....	71
5.2 Conclusion .....	72
5.3 Recommendations.....	74
5.4. Future Research .....	77
References.....	79
Appendix A.....	86
Appendix- B.....	93

## LIST OF TABLES

Table 4.1 sex of Respondent.....	38
Table 4.2 Age of Respondent.....	38
Table 4.3 Educational level of Respondent .....	39
Table 4.4 position of Respondent .....	39
Table 4.5 Experience of the Respondents.....	40
Table 4.6 Analysis of procurement planning practices on project performance .....	41
Table 4.7 Analysis of specification development .....	44
Table 4.8 Analysis of procurement laws.....	45
Table 4.9 Analysis of procurement staff competency level.....	46
Table 4.10 Analysis of tendering system on project performance.....	48
Table 4.11 Summary of the mean values of procurement practices.....	49
Table 4.12 Analysis of project performance indicators(cost).....	50
Table 4.13 Analysis of project performance indicator (time ).....	51
Table 4.14 Analysis of project performance indicators(quality) .....	53
Table 4.15 Reliability test result .....	56
Table 4.16 pearson correlation matrix among variables in the study .....	59
Table 4.17 model summary for multiple linear regressions .....	59
Table 4.18 overall significance:ANOVA(F-test).....	60
Table 4.19 summary of linear regression coefficient analysis.....	61
Table 4.20 model summary of multiple linear regression analysis for cost .....	62

Table 4.21 summary of linear regression coefficient analysis for cost.....	62
Table 4.22 model summary of multiple linear regression analysis for time.....	64
Table 4.23 summary of linear regression coefficient analysisfor time.....	65
Table 4.24 model summary of multiple linear regression analysis for quality.....	67
Table 4.25 Hypothesis result summarized .....	67

## **LIST OF FIGURES**

Figure 1.1 Study area maps.....	5
Figure 2.1 conceptual frameworks.....	30
Figure 3.1 Normality assumption checking.....	53
Figure 4.1 outliers assumption checking .....	54

## **Acronyms and abbreviations**

ANOVA -Analysis of Variance

CA- Contract Administration

EOI - Expression of Interest

E. C - Ethiopian Calendar

FDRE -Federal Democratic Republic of Ethiopia

FDRE PPA- Federal Democratic Republic of Ethiopia Public Procurement and Property Administration Agency

GDP -growth domestic product

HRM -Human Resource Management

MOFED -Minister of Finance and Economic Development

MUDHC -Minister of Urban Development, Housing and Construction

ICT – Information Communication technology

KTZ - Kembata Tembaro Zone

OECD -Organization for Economic Cooperation and Development

PPA - Public Procurement and Property Administration Agency

PMBOK- Project management body of knowledge

PLD - Procurement Legal Documents

PSCL - procurement staff competence level

PP - Procurement plan

PPP- procurement planning practices

RFP -The request for proposal

SNNPRS – Southern, Nation, Nationalities and peoples Regional States

SPSS -Statistical package for social science

SD – Specification Development

TS -Tendering System

UNDP - The United Nations Development Program

VIF- Variance Inflation Factor

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the study

The Construction industry is one of the five government developmental goals and backbone of the national economy through which the total of physical development is achieved. Construction industry plays a major role in the development and achievement of the goals of society as different literature reviews indicate that construction is one of the largest industries and contributes about ten percent of the gross domestic product (GDP) in industrialized countries (Navon, 2005). For the past several years, our country's economy has enjoyed a high rate of economic growth. In order to maintain this achievement for continual growth, the Government seeks to provide more electricity, telecommunication networks, heavy bridges, springs, institutions, as well as a large scale investment to expand its infrastructure. This public project has a major role to play in the economic development of a country and view to improve the socioeconomic conditions of the citizens of our country Ethiopia.

Burke (2001) states that all projects, share three things in common: have a start and end date, are an effort made by people and equipment, and create a product or service delivers to the end users. On the other hand, public project is an investment activity in which public funds are used by a Government body to carry out certain missions to achieve a specific objective for the benefit of the public. Studies conducted in this regard show that procurement systems have significant effects on public building Construction project performance. According to Erikson & Westar berg (2010) procurement practices plays an important role to achieve the success of a construction project in terms of timely completion, with the estimated budget and quality.

Thus, effective procurement practices can be taken as a professional exercise that produces a desired procurement result. Similar to the case with other developing countries, projects in our country Ethiopia shares many of the problems and challenges facing in other developing countries. Tekelgn (2014) noted that prior studied project reporting documents and the survey questionnaire shows that 79.06 % of the project fails to meet its objectives in our country Ethiopia.

The traditional distinction between good and poor project performance focused on the meeting of cost, time and product quality-related criteria (Bryde & Brown, 2004). The procurement of construction project is vast in scope because it involves the gathering and organizing of separate individuals, firms and companies to design manage and build construction products such as houses, office buildings, shopping complex, roads, bridges, highways and other infrastructures for specific clients or customers. Procurement is a process used to select the lowest competitive and qualified bidder for procuring services, civil works or goods from potential competitors or from third parties based on reasonableness & relevant criteria.

The United Nations Development Program UNDP (2010) defines that public procurement is the process of acquiring goods, services and works which includes all functions from the identification of needs, selection and solicitation of sources, preparation and award of contract, and all phases of contract administration through the end of a service contract.

The status of Public procurement in our country Ethiopia is a recent phenomenon. As Tesfahun (2011) noted that, the activity of public procurement in Ethiopia has started in 1940 E. C and it was established to procure military equipment and supplies for soldiers. On the other hand, the Ethiopian Procurement and Property Administration Agency Report (2011) indicates that 64% of many public organizations' annual budgets expended for procurement of infrastructure development in transport, energy, water, agriculture, education, health, and other sectors. In Sub Saharan African Countries, studies have shown that, out of the total public resources, procurement of goods, works and services account for about 70 percent of the total public expenditures (Amdework& Aemmiro, 2014). However, in our country Ethiopia from the total public expenditure more than 60 percent are used for this purpose. Therefore, the resources invested for this purpose amount vary from countries to countries. The construction industry trend in our country Ethiopia in the past 10 years shows a yearly growth rate of 12.43 and this shows a share of 5.3% of the country's GDP.

However, the Ethiopian Public Procurement system has so far been characterized by the traditional procurement approach (World Bank & Ethiopian Government, 2010), considering price as a main evaluation criterion. The study conducted by Roman (2017) shows that even rules and regulations have been enacted, successive review of the public procurement regimes in

Ethiopia show many shortcomings such as procurement laws and regulations are not based on recognized international models, the absence of clearly defined central oversight and public bodies at all levels, a shortage of experienced management and procurement staff, lack of transparency in the procurement processes, absence of rules for modern forms of procurement activities and unclear institutional and organizational arrangements required in the management of the public procurement process.

Based on the above mentioned comments, Ethiopia has already begun implementing major procurement reform programs since 2009. In 2009, the Government of Ethiopia enacted procurement and property administration proclamation No 649/2009 and it has established the Public Procurement and Property Administration Agency (PPA) accountable to the Ministry of Finance and Economic Development to manage the public procurement activities.

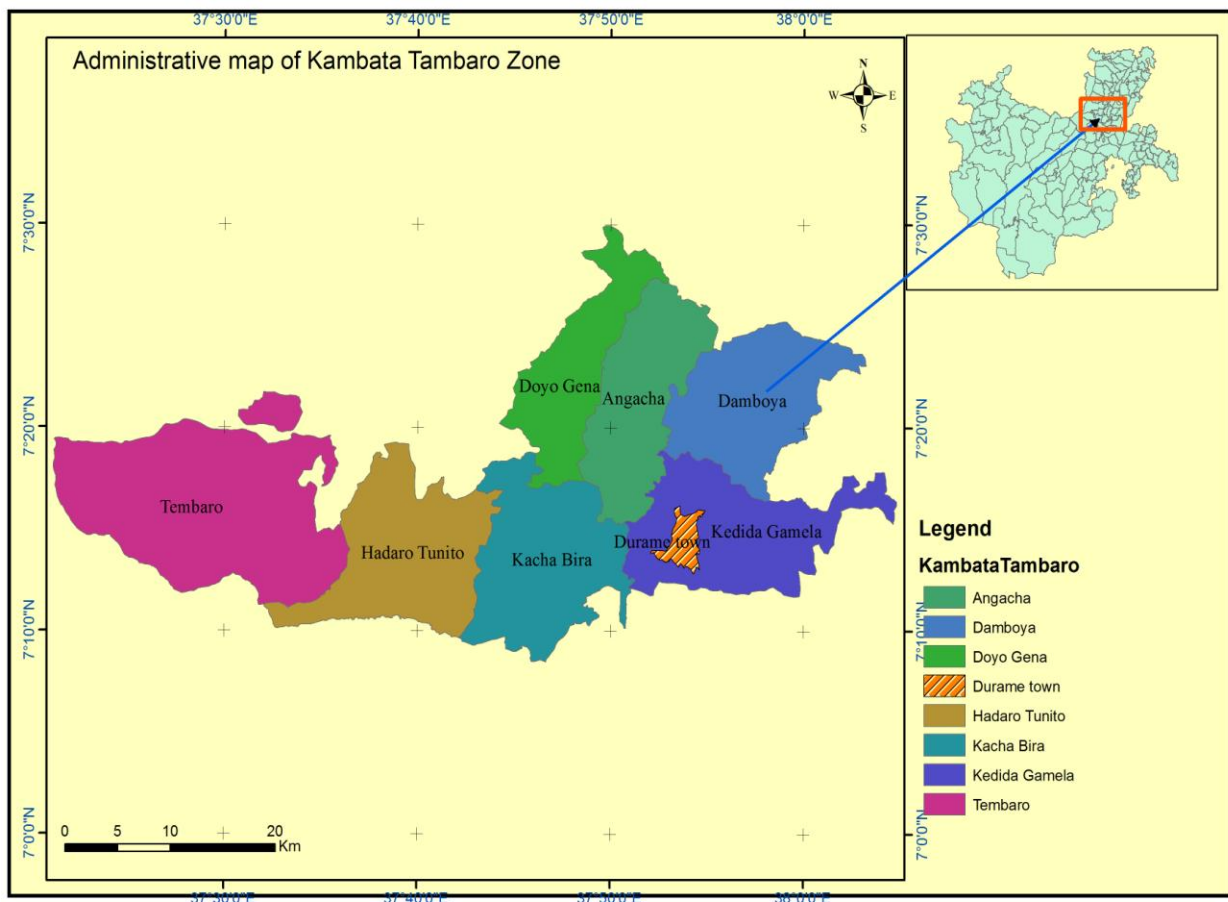
The procurement practices in public project are a major concern in the construction industry. The performance of public project became an issue of concern to the Government, contractors, consultants and project customers, and it is also the main problem in the Kembata Tembaro Zone public building construction project. Therefore, in order to improve the project performance, systematic improvement in procurement practices is required to improve the performance of project outcome specially building construction projects. To achieve this, the variables for procurement practices are essentially important to be identified and established towards achieving the objective of this study. Thus, the study is very important to identify procurement practices that affect the public building project performance in the Kembata Tembaro Zone and taking the right action is required.

## **1.2 Background of the Organization**

This research was undertaken in the Kembata Tembaro Zone. Kembeta Tembaro zone is one of the sixteen zones and three special Woredas (districts) in Southern Nation, Nationalities and Peoples Region of Ethiopia. The zone covers a total area of 1523.6 sq. km. The zone has seven rural Woredas and three town administrations. Such as Angecha, Damboya, Kedida-Gamela, Kechabira, Doyo Gena, Hadaro Tunto, and Tembaro woredas and Durame, Shinshicho and Hadaro Town administrations.



It lies  $71^{\circ}03'048''$ –  $75^{\circ}00'946''$  latitude and  $37^{\circ}341'711''$ –  $38^{\circ}078'387''$  longitude and the total area of the Kembata Tembaro Zone is estimated to be 1,523.6 sq. km. According to the CSA projection (1999) EC the total population of Kembata Tembaro Zone is 680,837 from this 336,676 are male and 344,161 are female. The Kembata Tembaro Zone is located 119 km away from Hawassa; capital of SNNPRS located North East and 350 Km away from Addis Ababa by Shashemene and located in the southern part, 306 Km by Hosanna Shinshicho, 286 km by Hosanna Angecha. It shares borders with Halaba Special Woreda in East, Omo River and Dawuro Zone in West, Hadiya and Wolayita zone in the south and Hadiya in the north. It is 500-3058m high from sea level. The zone has diverse agro-ecological areas as each woredas ranging climate/kola, 7 % Dega, 22.25% and Woinadega, 70.75%/ respectively. The average population density of the zone becomes 702 persons/sq./ Km (Socio-economic profile 2010 EC). The Figure 1.1 shows study areas Map.



## **Figure 1.1 Study area maps**

Source: Kembata Tembaro Zone socio-Economic and Geo-special Annual data of 2010 E.C

### **1. 3. Statement of the Problem**

The public procurement has been given a great attention due to the important role that it plays and huge amount of public resources is invested in and it plays a significant role in facilitating the overall success of the public project. When well-planned and implemented procurement has the potentials of contributing to the realization of effective project implementation and completion because it ensures the public gets the value for their money because they ensure accountability and transparency, hence cost effective, timely and quality service delivery (Kabega et al., 2016).

Currently, in Ethiopia the procurement department exists in almost all public organizations in order to run all the procurement activities efficiently and effectively. However, even after the introduction of this department, the procurement practices have not been effective and problem solving in its operations these leads to losses of scarce resources of the country (Deogratius, 2014). This means that procurement practices has its own effect on government resources. The right flow of procurement activities enables to run the public funds effectively and efficiently.

However, a number of problems happen in the area of procurement. Many procurement activities still now suffer from neglect, lack of proper direction, poor communication and coordination with stakeholder, slow with a lot of bureaucracy, lack of open competition and transparency, differing levels of corruption and not having a trained and qualified procurement specialists who are competent to conduct and manage the procurement process in a professional, timely and cost effective manner (Peter, 2014). Chandra (2010) cited in Jepchumba (2016) also confirms that the projects financed by public funds aim at achieving certain organizational objectives set by public sector organizations to facilitate fulfillment of their mission but in some instances these objectives are not achieved.

Government procurement procedures are exposed to corrupt practices, skipping of vital stages which ensure that the goods and services provided meet the minimum standards, the time for

deliveries not done on schedules, employees within the procurement department staff who are highly politically connected but with no or less knowledge about procurement and this causes the public project with low performance in terms of the late delivery of the project and requires additional budgets and quality defects (Gideon ,2015). Moreover, in many countries the construction industry has, however, attracted criticism for inefficiencies in outcomes such as time and cost overrun, low productivity, poor quality, and inadequate customer satisfaction (Ericson, 2002; Chan et al., 2003).

Public procurement needs accountability and transparency because the large amount of a public resource invested for these purposes and due to the fact that the source of money comes from the public. However, Southern Nations, Nationalities and People's Regional State (SNNPRS) Audit Bureau Audit report (2014) shows that after Auditing the Kembata Tembaro Zone Administrative offices in order to check whether the procurement processes were going according to the public procurement proclamation, regulations and finance directives the Audit report shows that public procurement was carried out without following the proper procurement legal framework and this indicates that loss of resources, provision of poor quality materials, payment out of contract agreement and inefficient in operations.

The important role-played by the public procurement practices in the Kembata Tembaro Zone some projects which are still standing and but those projects are exposed to criticism for not completed at the required time and it requires additional cost and still now in process so those Public Building Construction Projects are believed to have due to the poor public procurement practices.

The public Procurement is a core government function and also a part of the broader public administration system in Ethiopia. In this regard different researchers have tried to address problems of public procurement in various public organizations in international and local and able to get the following few researches which have been conducted. These include the study conducted by Anteneh (2015) procurement planning and implementation effectiveness show that, having a plan by itself does not ensure success; it largely, depends on the implementation. The studies conducted by Roman(2017) show that, public procurement practices such as need

identification, selection of procurement method and planning process were not in accordance with the procurement rules and regulations due to lack of skilled manpower, only one agency is mandated to process all public procurement, lack of transparency in the contract administration procedure. Other researcher Jepchumba(2016) on Procurement Practices influencing Project implementation, the successful implementation of projects were being affected by procurement practices including planning, contract review and supplier selection the Kenya electricity generating company in Kenya. Also, a study conducted by Kabega et al., (2016) an effect of procurement practices on performance of public projects in Rwanda shows that, public building projects were being affected by procurement practices(procurement planning, contract administration and tendering system).

Moreover, there were a lot of international and local studies conducted on procurement related issues, procurement performance and procurement on project performance, none of these studies focused on effects of procurement planning practices, specification development, staff competency level, procurement laws, and tendering system on Public Building Construction Project performance. Most of these studies have been conducted in other countries with varying context. However, their findings couldn't be generalized to the Kembata Tembaro Zone. This study sought to fill the gap, by focusing more on the role of procurement practices on project performance. Therefore, the researcher will probe the problem the effect of procurement practices on the Public Building Construction Project Performance in Kembata Tembaro Zone Public Building Construction Project as a case study.

### **Research Questions**

- 1) Does procurement planning significantly affect the performance of public building construction projects in kembata Tembaro Zone?
- 2) Does a project specification development practice significantly affect the performance of public building's construction project in Kembata Tembaro Zone?
- 3) Do/does the applications of procurement laws significantly affect the performance of public building construction project in Kembata Tembaro Zone?

- 4) Does project procurement staff competency significantly affect the performance of public building construction project in kembata Tembaro Zone?
- 5) Does project tendering system significantly affect the performance of public construction project performance in Kembata Tembaro Zone?

## **1.4. The Objectives of the study**

### **1.4.1. General Objective**

The general objective of this study was to examine the effect of procurement practice on performance of Public Building Construction Project in the Kembata Tembaro Zone.

### **1.4.2. The Specific Objectives**

1. To examine the effects of procurement planning practices on the performance of public building construction project in the Kembata Tembaro zone.
2. To examine the effect of Specification development practices on the performance public building construction project performance in the Kembata Tembaro Zone.
3. To examine an effect of procurement laws on public construction project performance in the Kembata Tembaro Zone.
4. To determine the effects of the procurement staff competence level has an effect on public building construction project performance in the Kembata Tembaro Zone.
5. To examine an effect of project tendering system on the performance public building construction project Performance in the Kembata Tembaro Zone.

## **3.6. Hypothesis development**

### **3.6.1. Hypothesis Development**

This part of the study presents a general hypothesis related to effects of procurement practices on public building construction project performance of the study. However, the population parameter is unknown, under these circumstances we are going to make the decision whether to accept or reject the sample estimate given that we do not have the appropriate yardstick for making the comparison.

To bypass such difficulty we make some assumption about the value of the population parameter and use our sample estimate in order to decide whether our assumption is acceptable or not. To develop a research hypothesis, detailed review of related literature is very important.

From the literature and conceptual model, the following hypotheses were developed and tested in order to achieve the research objectives.

1. H<sub>01</sub>: Procurement Planning has no significant effect on the public building construction project performance.
2. H<sub>03</sub>: Specification development has no significant effect on public building construction project performance.
3. H<sub>04</sub>: Procurement laws have no significant effect on public building construction project performance.
4. H<sub>05</sub>: Staff Competency has no significant effect on public building construction project performance.
5. H<sub>06</sub>: Tendering system has no significant effect on public building construction project performance.

### **1.5 Significance of the Study**

The output of the study plays an important role in identifying the major effect of public procurement practices on public building construction project performance. Moreover, the study have the following basic significance: the study will trigger as prospective researchers to undertake another study on the area of the issue; it creates awareness to the policy-makers, directives, planners and procurement implementer; it is hoped that, the study serve as a spring board for others who have interested to undertake further study in fields of the study in depth; the findings of this study is useful for improving the implementation of public procurement in area of the public project working organizations in Kembata Tembaro Zone; the recommendation that would be forwarded in this study provides insight on the better ways of implementing public procurement in Kembata Tembaro Zone; the study contribute to the improvement of the procurement practice in area of public Building construction Project which ultimately results into Efficient and effective provision of services by the government to its society.

## **1.6. Scope of the Study**

It would be limited to the effect of procurement practices in Southern, Nations Nationalities and Peoples Regional States in Kembata Tembaro Zone. The study would be delimited to the effects of procurement practices on public building project performance based on the variables of procurement planning, Specification development, staff competency level, Application of proclamations, rules and regulations and procurement Tendering system in public projects.

## **1.7. Organization of the Study**

It was organized into five chapters and each chapter has its own sub units, Chapter one contains the introduction part including background of the study, background of the study area, the statement of the problem, objectives of the study, key research questions, significance of the study, the scope of the study, and organization of the paper.

The second chapter includes the literature review which specifically presents definitions of key concepts, classification of procurement and issues that are consistent with the study intended to answer the problem. Third Chapter is about research design and methodology that consists, research design, source of data and data collection techniques, target population and sampling method and method of data analysis and presentation. Fourth Chapter consists of result and discussion, which presents the main findings of the study with supporting data in the forms of tables, graph and charts.

Finally, the last Chapter is about a summary of findings, conclusions, recommendations and limitations of the study. The final parts of the paper provide the questionnaire and Bibliography in its appendix.

## **1.8 Limitations of the Study**

This study was undertaken at the zonal level; the respondent seems to be too much busy with their daily office works and supervises different worda's rather than concentrate on the problem under study when interviewed. The access of the most targeted people was also one challenging issue. Also, some respondents were not willing to give true information needed for the study since in order to keep the government information. There were changes and shifts taking place at the top management and experts during the data collection period. Some procurement experts

and others related workers refused the documents, and they are not willing to take questionnaires or interviews.

Another important point was, respondents differ in their educational background, age, awareness of the study area and attitude the final analysis might be biased, and however, this would be minimized by using both quantitative and qualitative methods. The researcher is limited to only public building construction projects, not including other projects due to lack of funds and limited time.



## **CHAPTER TWO: REVIEW OF LITERATURE**

### **2.1 Definition and Description of Important Concepts and Terms**

#### **2.1.1. Purchasing and Procurement**

Purchasing is the process of obtaining materials for production or redistribution and services from out of supply areas. It is more focused on establishing and handling of commercial relationship whereas Procurement is concerned with the more physical material or service delivery control aspects after the contract has been order placed. It is defined as buying, purchasing, renting, leasing or otherwise acquiring any goods, works or services by a procuring entity spending public funds on behalf of the ministry, department or regional administration of the government or public body and includes all functions pertain to the obtaining of any goods or works or services including descriptions of requirements, selection and invitation of tenders and preparation and award of contract (PPA, 2004). The overall task of procurement is to get goods, services, works, consultancy and other series at the right quality, at the right quantity, from the right sources, at the right price and the right places to achieve organizational goals. Some terms attached to the procurement concepts.

#### **2.1.2. Project**

A project is within a program as an undertaking that has a scheduled beginning and end, and that normally involves some primary purpose. It is an activity that requires resources, time, and objective, with fixed deliverables. According to Kerzner (1998), a project is any series of activities and tasks that have: a specific objective to be completed within certain specifications, defined start and end dates, funding limits and Consume resources.

According to the Federal Democratic Republic of Ethiopia, public procurement and property Administration Agency manual (2011) the principal hallmarks of proficient public procurement are: Value for money (economy, efficiency, and effectiveness); Nondiscrimination (fairness); Transparency; and Accountability and Ethical Standards.

**Efficiency:** The best public procurement is simple and swift, that meets the public body's need as planned, producing positive results immediately.

**Effectiveness:** Effectiveness means the extent to which the entity is able to procure goods, works and services of quality, in a timely and most economical way.

**Economy:** Synonymous with efficiency, value for money, and commercially reasonable price.

**Fairness:** is treating all bidders equally, it is best to elaborate how fairness is achieved in public procurement.

In the public procurement processes fairness is achieved through: decision-making and actions must be unbiased, a contract should only be signed with the service provider (Suppliers, contractors or service) and service providers have the right to challenge the procurement process when they feel they were unfairly treated.

**Transparency:** Good procurement establishes and then maintains rules and procedures that are accessible, predictable and unambiguous.

**Accountability:** As public servants, procurement practitioners, and others involved in the public procurement process, are accountable and exposed to sanctions as a remedy for any behavior that contravenes the public procurement rules cited in (Roman, 2017).

### 2.1.3. Construction Project Performance

It has been described as the degree of achievement of certain effort or undertaking. It relates to the prescribed goals or objectives which form the project parameters. From a project management perspective, it is all about meeting or exceeding stakeholders' needs and expectations from a project. Project performance remains a prominent issue in project delivery because projects involve defined objectives which must be achieved and many resources which need to be efficiently used.

According to Timo et al., (2013) Construction project performance is influenced by many factors due to the interactions and interrelationships of the stakeholders. A construction project is commonly acknowledged as successful, when it is completed on time, within budget, profitability to contractors, absence of claims and court proceeding and “fitness for purpose” for occupiers have also been used as measures of project.

#### **2.1.4. Project Procurement Systems**

It is an important issue in the construction industry because of two reasons. Firstly, the procurement of construction projects involves a series of processes that are interrelated and sequentially. The effectiveness and efficiency of the processes have considerable impact on the success or failure of projects. Secondly, there are several procurement methods that are available for a developer to adopt in procuring a project (Timo et al., 2013).

### **2.2. Theoretical review**

This part discusses the framework of understanding various aspects of public procurement. There are many theories but here only three theories will be discussed as they relate to procurement practices on project performance. Those theories include the principal-agency theory followed by contract theory and general systems' theory.

#### **2.2.1. Principal Agent Theory**

Roach (2015) noted that the Principal Agent theory may be defined as a model in which the leader who proposes the contract is called the Principal and the follower (the party who just has to accept or reject the contract) is called the Agent. This model makes things much simpler, any situation where there is a principal who defines a contract with an agent. An agent is the person recruited by the principal to accomplish the latter's goals. A principal can be an individual, party or body who acts in a consistent (e.g. government agencies or public officials), to recruit an agent or agents (contractors/consultants) to achieve expected end results. The agent (s) may also be required to execute the tasks within certain periods based on designated time lines, deadlines or time pressures.

According to Hezheng-Qing (2008) cited in Roman (2017) noted that the related parties in the government procurement mainly are: the taxpayer, the government, financial department, state institutions and supplier. Under the project procurement, these parties have formed a principal-agent chain in the process of government procurement: Taxpayer can provide the government procurement fund. So, the first agent relation was taxpayer and government. Financial functions will be further delegated to the financial department. Financial departments work out law and regulation, supervise the implementation, work out standard of supplier's qualification and so on.

The third agent relation of financial department and purchasing center formed. The project is supervised by design and construction experts whether the project is according to the specifications developed.

The last relationship created by experts and contractors/agent. Therefore, the agency chain like the taxpayer- government, government - financial department, financial department - purchasing center, and experts- contractors/agent is formed in the process of public procurement process in relation to public projects.

According to the Müller and Turner (2005) views that in construction projects, the project owner and contractor as principal and agent form the key relationship. Delegation of tasks establishes a principal-agent relationship between the project owner and manager, where the principal (project owner) depends on the agent (contractor or project manager) to undertake a task on the principal's behalf.

### **2.2.2. Contract Theory**

The contract theory was introduced by Adam Smith. According to the shavell (2004) views a contract is a specification of actions that named parties are supposed to take at various times, generally as a function of the conditions that hold. Some party might have incentives to behave opportunistically at the expense of others. In an ideal world, people can write a complete contingent contract that induces all the parties to take the `right' actions in every possible state of the world, which leads to efficient outcomes. Some party might have incentives to behave opportunistically at the expense of others. Contract theory studies what will be the form of contracts in less than ideal Worlds, where there exist; Hidden action (or moral hazard): when the involved party's behavior cannot be perfectly monitored by others, Hidden information (or adverse selection): when the involved party has private information which is not known to others, Contractual incompleteness: when contracts do not deal with all relevant contingencies. There are many applications of contract theory, among which the followings are important: Labor contracts, Regulation, Price discrimination and financial contract.

### **2.2.3 .The general Systems Theory**

The general systems' theory was developed by (Easton, 1953). According to Bashuna (2013) this theory in much social science it is referred to as an open system theory. General system theory focuses on the collection of part unified to accomplish an overall goal. If one part of the system is removed, the nature of the system is changed as well. A system can be looked at as having inputs (e.g., resources such as raw materials, money, technologies, and people); processes (like planning), outputs (products or services) and outcomes (e.g. enhanced quality or productivity for customers/clients, productivity).

The system approach is very useful in explaining the public procurement activities. Public procurement system is a unification of various elements which operates together in order to enable the high procurement performance practices that has an impact on the public project performance. Bashina (2013) also noted that procurement is influenced by the external environment and internal processes. In this manner this theory fits for this study since the challenges that face the procurement department can be viewed from the input side, the internal processes of the department and also on the output of the procurement practices.

### **2.3.Procurement planning**

According to Joan (2012) it is identification of the purposes, defining the scope, determining the user department's needs procurement methods to be applied, estimating time, cost and other activities. It is purchasing function through which the users obtain products and services from external suppliers (Economic Commission of Africa, 2003). A good procurement plan helps the public organization will go through which the contract signed between the two contracting parties. Different researcher such as Keith, Vitasek, Manrodt, & Kling (2016) suggests that application of appropriate procurement practices has a potential impact to the performance of organizations and national economies in general. However, Singhal (2011) observed that disruptions in procurement practices at any level devastate organizational performance.

According to Thai (2001) Public procurement practitioners have always walked on a tight rope. Their ability to accomplish procurement objectives is influenced by internal forces such as: interactions between various elements of the procurement systems and other organizations,

types of goods, services and capital assets required for an organization's mission; or quality of the procurement workforce; Staffing levels (e.g. ratio of procurement practitioners to contract actions) and budget resources; Procurement regulations, rules and guidance; and internal controls and legislative oversight (senait et al.,2016).

Procurement planning is the first stage in the public procurement system and it requires the involvement of the concerned bodies during the planning phases. During this stage government body should undertake a needs assessment to define the goods or services being procured and prepare a bidding plan, including planning and preparation of budgets and the procurement method that will in the initial stages shape how the rest of the procurement will be used.

The planning scope is very important in how the budget is drawn that if they are budgeting for long term project or short term. Procurement budgeting procedures involve various steps before the final budget is arrived at. The process usually starts by involving various departments depending on the department needs for the coming financial year. This process must be followed to make the employees own the purchasing budget allocation (CIPS, 2012).

According to FDRE Public procurement and property Administration proclamation No (649/2009) Public bodies shall have to prepare an annual procurement plan showing their procurement for the concerned budget year and containing such details as are stated in the directive to be issued by the Minister. It involves the process of determining what is needed, how much is needed, when it is needed and who answer the questions.

According to Alfred (2013) each user department should prepare an annual rolling work plan for procurement based on the approved budget, which is submitted to the procurement unit to facilitate orderly execution of annual procurement activities. The organizations procurement plan is integrated into the annual sector expenditure program to enhance financial predictability, accounting and control over procurement budgets and to eliminate any disruption in the process. Also, African Development Banks (2015) view that preparation of a realistic procurement plan (PP) to a project is critical for its successful monitoring and implementation. The PP should be

elaborated in coordination with the overall project implementation plan and manual during the early stages of project preparation, and be linked to the overall procurement strategy. Procurement planning is one of the future activities to procure works, goods and services for the public organizations to meet its goals, thus performing the procurement plan should be proactive; failure to request the required works, services and goods early will bring to extend the project program for the next years. One of the major challenges in public procurement is ineffective planning (Anteneh, 2015).

The Federal Democratic Republic of Ethiopia, Public procurement and property Administration Agency (2010) states that: The procurement plan shall be prepared in such a way as to enable the attainment of the following objectives:-

1. To ensure compliance with the principles of public procurement stated in article 5 of the Proclamation.
2. To achieve the work program of the Public Body.
3. To ensure economy and efficiency in the operation of the Public Body by discouraging piecemeal purchase.
4. Exercise prudence and make the necessary preparation to forestall problems that might be encountered in the execution of procurement.

#### **2.4. Contract Administration**

A contract represents a legal binding agreement made by two or more parties to complete specified action/activities at a specific point in time. Contracts may cover the purchase of either goods or services. According to the Federal democratic republic of Ethiopia ministry of finance and economic development public procurement and property administration agency(2011) effective management of contracts is essential to ensure that the objectives of the procurement process are achieved and that all contractual obligations and activities are completed efficiently by both parties to the contract. Additionally, the Federal Public Procurement Directive (2010) public bodies have to ensure that the performance of a procurement contract is completed with the terms and conditions of such contract being complied with and other transactions incidental to such contract being finalized. The Agency also confirms that Contract amendment may become necessary as a result of the application of price variations specified in the contract, the

resolution of disputes, additional or reduced requirements by the public body, agreements to extend the time schedule, or from accepted increases or decreases in prices.

According to Tweneboah and Ndebugri (2017) a contract administration is the process of systematically and efficiently handling the contract creation, execution, and analysis for the purpose of maximizing public finance, public operational performance and minimizing the project related risks in order to increase the project performance. Contract administration effectiveness has a great importance on public project performance. Contracts provide a framework by which an organization manages and mitigates risk in its supplier relationships. As a result, contracts have become the key documents that control the dynamics of everyday business in an ever-increasing fashion. Key Performance indicators should be clearly set within the contract and then measured, reported and monitored on a regular basis.

According to Wiley and INC(2007) the problems related to contracts include:-Document verbiage; Issues regarding unclear specification; Lack of supplier performance; and Unseen financial obligations.

In order for a contract to be legally enforceable, it is commonly agreed that four key elements need to be demonstrated which includes: Mutual agreement, Legality, Consideration and Capacity.

Arrows (2010), further observes that while significant contract monitoring occurs when the vendor is actually performing the service (contract period), preparation during the pre-contract period is essential to effective contract monitoring. Contract monitoring involves those activities performed by government officials after a contract has been awarded to determine how well the government and the contractor performed to meet the requirements of the contract. It encompasses all dealings between the government and the contractor from the time the contract is awarded until the work has been completed.

Hinton (2003) carried out studies regarding the contract administration and identifies the capacity of employees; written policies and procedures; contingency plans; clearly communication of expectations to vendors, performance measures, and post-award meetings; administration plan; organized contract files as effective components of contract monitoring.

Additionally, contract flexibility during economic situation is another determining factor of contract Administration's effectiveness and a contracting organization and a contractor must be



flexible in order to manage the change properly. Another studies carried out by Wysocki (2009) states that Change happens due to institutional changes, technological developments, as well as economic factors. Successful contract management happens when both parties are willing to accept and adapt to change. Trent (2007) conduct study on every contract should establish its basic principles, have clear scope, define execution terms and define procedures essential for successful completion of contract between the two parties and it should also implement changes, evaluate contractor performance, accept or reject the contractor's deliverables, identify and manage risks, handle problems, resolve disputes, approve payments, and finally close the contract process.

On the other hand nowadays, increased complexity, uncertainty, and time pressure in construction projects have increased the need for cooperation among different project actors in order to solve problems in the area of the public projects Anvuur and Kumaras (2007) cited in Eriksson (2015) and other factors studied by Alias et al.,(2015) factors affecting construction projects performance are poor management and guidance; poor relations and coordination; lack of motivation, insufficient infrastructure, political problems, cultural problems and economic conditions.

## **2.5. Specification development**

The user comes up with a clear and complete description of the items they want to procure or the work or services they want to be done. The specifications of works or services are developed according to the need of the organization and it should be developed very carefully because mistakes in specification lead to the wrong works or services to be done.

According to the Nyambura&Geoffrey (2017) views, specification of items should describe the performance of that item, the measurements, time limit for delivery, and method of delivery, suppliers to participate in the tender, whether local or international. The development of specifications plays a very key role in procurement process. If the wrong specifications are developed from the beginning, it will affect the whole project process since the item supplied will not be the correct one and it will cause poor project performance.

During specification development, the client comes up with accurate and complete objective criteria which will guide the supplier on the thing they need to include in the tender before

submission is important for the success of client goals (Grobbs & Benn, 2014). The accurate and complete objective criteria will ensure fairness to the bidders by having a standard tender which every bidder can interpret easily. If wrong specifications are developed, this will lead to delivery of wrong material.

Specification is a proper description of what is needed or wanted to use by the client/user of a product or service. The basic purpose of a specification is to provide a basis for obtaining a good or service that will satisfy a particular need at an economical cost and to invite maximum reasonable competition (Lloyd, R. E, 2004). Process control can be achieved if the buyer uses a fixed design (comprehensive specification) and monitors the behavior of the supplier. This leads to a low-trusting hierarchical relationship (Korczyński, 1996).

Specification sets limits and ignores the items that are outside the boundaries set by the client/user. According to PPOA (2014) Specifications should be updated on the basis of market realities, should be part of the bid document, should come before the preparation of bidding documents and should be prepared by those who know what is required or by a procurement agent or a consultant in the case of complex specifications. In projects, the specification of requirements will lead to the identification of a deliverable or set of deliverables.

## **2.6. Procurement Rules and regulations**

In Ethiopia at various times circulars, regulations and laws have passed by different bodies at different times that cover the issues of public procurement. A sound public procurement system needs to have good procurement laws and regulations. Public procurement laws and regulations have been considered as one of the most important pillars of a sound procurement system. There was a debate about a procurement legal framework that hinders or helps procurement discretion. Ideally, procurement laws and regulations should be clear, consistent, comprehensive, and flexible (OECD, 2006).

Worldwide, public procurement has become an issue of concern and debate, and has been subjected to reforms, restructuring, rules and regulations Kabega, Kule & Mbera (2016). Kabega et al., (2016) reiterated that various public institutions both in developing and developed

countries have instituted procurement reforms which involve laws and regulations but the main challenge has been inadequate regulatory compliance. Public institutions are found to be big spenders and that they deal with massive budgets (Roodhooft & Abele, 2006).

## **2.7. Procurement staff**

A sound procurement system has to have a well skill full and procurement knowledge work force to the specified public procurement jobs. The public procurement staff work force performs successfully acquiring of goods and services and executing and monitoring of contracts (Government Accountability office, 2005). The public procurement professionals play a prominent role in the area of procurement activities.

According to Asresahegn (2017) certain procurement areas especially Building and Road construction projects, public procurement professionals can be a major sources of information for sound decision-making. For a better procurement plan, they need to know in advance, the existence of procurement staff may answer the following questions: (a) how many procurement projects will be conducted in the fiscal year? (b) How much procurement project budgets have to be spent in the fiscal year and will expire by the end of the fiscal year if they are not spent? (c)What projects are most critical for the agency's mission so that extra attention can be given to them?

In today's world there is growing complexity and risks involved in the public procurement, the procurement staff should possess some unique qualities to enable them execute their duties effectively and efficiently in order to maximize value for money and to reduce the growing of corruption in public procurement and even to reduce risk of the public projects. So, the procurement staff should have knowledge in both international and national procurement regulation, standard bidding documents, contract management skills, and be able to monitor the procurement and disposal law or regulation (Agwot, 2016). Public procurement staff Competence is ability, commitments, knowledge, and skills that enable a person (or an organization) to act efficiently perform their task of duties properly and help to increase project performance (Apiyo&Mburu, 2014).

Competent procurement staff in public procurement can solve drawbacks which in counter the process, incompetence staff is an employee, which is poor and unable to contribute to the performance of procurement. The research conducted by Apiyo&Mburu (2014) shows that, there is a positive relationship between staff competence and the procurement practices. Russell (2004) in his studies views that, professionalism in public procurement relates not only to the levels of education and qualifications of the workforce but also to the professional approach in the conduct of business activities.

## **2.8. The Tendering system**

According to the Ethiopian Public Procurement Proclamation (No 649/2009), the Proclamation number Article 33 provides as follows: The following six methods of procurement shall be used in public procurement: Open Bidding (tendering), Request for Proposals, Two-Stage Bidding, Restricted Bidding, Request for Quotations; and Direct Procurement.

In both developed and developing countries, public procurement professionals are under the problem of political interference in the area of the procurement process and contract award decisions (Thai, 2004) and Sakhile Mahyathi (2017). Public procurement is imposed by the political environment within which the management processes are conducted.

On other hand ethical behavior includes the concepts of honesty, diligence, fairness, trust, respect and consistency and this practice may encourage the loss of public money. It is important in the public procurement as it involves the expenditure of public money. Ethical behavior supports openness and accountability in a procurement process and gives suppliers' confidence to participate in the government marketplace. It is an enemy to the development of not only to our country in Ethiopia but also to the global if it is not carried with utmost ethical standard, procurement process offers the most potential for ethical violations (Elsheman, 2002).

According to Ismail, F.et al., (2017) one of the unethical issues identified during the tender evaluation process is forgery of experience and qualification claims. These issues have never failed and to be given a great attention to these issues since the success and quality of the project rely on these factors.

One important thing that Dennis and Willy (2015) their finding shows that some unethical practices included during evaluation of bids sometimes carried out by incompetent people and lobbying of tenders by stakeholders through corruption, extortion and bribery and lack of an effective reporting system.

Organizations within the third world countries are still left behind adoption of information communication technology (Schapper et al., 2006). Applications of ICT enable to achieve operational excellence; new products; services; customer and supplier intimacy; improved decision-making; competitive advantage survival Aboagye, et al., (2015); Inuwa (2014); and Oladapo (2006).

The proclamation, however, limits public bodies to use open bidding as the preferred procedure of procurement except as otherwise provided in the proclamation to use other options (article 33(2)). Even though it is common that each method has its own advantage and drawback, the Ethiopian government prefers the bid way of purchasing especially; open bidding way to perceive the advantage gained by such method.

According to Hussain et al., (2015) views there are unambiguous benefits and distinct pitfalls of the lowest-bidder bid awarding system. It compels the contractors to lower their costs, usually through innovation and modernization, to ensure they win bids and maintain their profit margins. In addition to, the lowest-bidder bid awarding system is useful specifically to the public sector because of the transparency and simplicity, an important criterion of public policy (Photios, 1993).

However, allowing projects to be awarded based on the lower bidder bidding may cause certain project performance problem in terms of delays in meeting the contract duration, increment of the final project cost due to high variations, tendency to compromise quality, and adversarial relationship among contracting parties are the major pitfalls associated with responsive low bid award procedure (Thomas,2009).

Moreover, the low-bid award system encourages unqualified bidders in the competition (in terms of capacity, equipment and staff and experience) and in contrary it discourages qualified contractors to participate in the competition. In a survey conducted in the Oromiya regional state regarding the lower bidders bidding system, practices pose a serious risk and problems like: non-existence of real competition during contractor's selection; time overruns; quality compromising; serious question for public safety, overall project failure and escalation of the final project cost of the estimated cost were the major problems associated with the existing approach of delivering projects Lemma (2006) and this can also be confirmed by (Laychluh, 2012).

Under the low-bidder bidding system, contractors submit bids based on plans and specifications prepared and the contractors submitting the lowest responsive bid are awarded the construction contract. In a few cases, experience levels of the contractor, quality issues, and other criteria are not taken into consideration in awarding these contracts.

According to Ethiopian Proclamation (No 649/2009), the examination and evaluation of bids require the technical qualification of bidders [article 43 (5a)], the successful bid will be the bid that is found to be responsive to the technical requirements and with the lowest evaluated price [article 43 (8a)].

## **2.9. Empirical Review of the Related Literature**

This part reviews empirical studies on public procurement on different issues in relation to the public building construction projects conducted both in Ethiopian and outside of the country.

Yonas (2014) conducted a study in procurement process of Addis Ababa Water and Sewerage Authority. The findings of the study showed that the authority has no any procurement strategy and policy. As a result, the researcher recommended that senior managers should protect the department staff from the misperceptions of the procurement department and assist the department to avoid the corruption process with little adverse effect.

Getnet (2014) in his study on public procurement reform in Ethiopia to identify factors leading to effective public procurement implementation in the country with particular reference to Amhara Regional Bureaus and other government institutions found in Bahir Dar Town. The findings

indicate that familiarity in public procurement rules and regulations, transparency in public procurement processes, ethics in public procurement and efficiency in public procurement processes have a positive and statistically significant impact on effective public procurement implementation. Consequently, another study was conducted by William (2012) on an identification of challenges facing effective application of procurement plans in the central government. The case study was the Prime Minister's Office – Regional Administration and Local Government (PMO-RALG) head office in Dodoma. Moreover it was noted that, procurement should have a mix of staff with different skills and expertise in order to assist the PMU to handle and clarify some of the technical issues that might be required. The research finding was that the Management in PMO-RALG should take responsibility of procurement planning as a critical obligation on their part to make sure procurement processes adhered to procurement regulations.

Another, James Davis (2014) conducts a study on to evaluate procurement practices influencing service delivery in the public sector with a focus on the provision of electricity. The findings revealed that: Procurement rule and regulation lack flexibility and it is hampering the procurements operations, Procurement planning does not take long term cost of ownership into consideration, there is no Sustainable procurement practice by the company even though it has Green policy in places but, the implementation is hampered by organizational culture as well as budgetary constraint.

Nyambura and Geoffrey (2017) under take studies that the effect of the procurement processes on the performance of the public sector. The researcher applies a descriptive and case study research design. The research finding were that specification development, prequalification, tender processing steps and inspection positively affect performance of procurement and by extension Ken Gen's performance. If the wrong quantity, quality (specification) is received then it will negatively affect procurement and by extension the organization's performance.

Ogunsanmi (2013) studied the effects of procurement related factors to project performance. The major finding of the study indicates that procurement selection criteria of cost, time, quality,

project characteristics and external environmental factors have effects on project performance. Competitive, open and selective tendering methods have high impacts on project performance. The researcher recommends that clients, stakeholders, practitioners and consultants are on the onset to consider tendering methods, use selective, open and competitive tendering approaches and discourage excessive variation orders during construction.

Jepchumba (2016) conducted a research Procurement Practices influencing Project implementation in Public institutions in Kenya a Case of Kenya Electricity Generating Company. The researcher used descriptive research design and multivariate regression model. The research finding indicates that to a great extent the successful implementation of projects being affected by adoption of procurement practices and the study recommended that there was need for the company to involve more stakeholders during the implementation and reduction of avenues in which unethical behavior might be introduced in the company.

Kabega and Warren (2016) conducted research on the effect of procurement practices on performance of public projects in Rwanda a case study of Bug sera district office construction project. The relationship between the variables was established by using of Spearman's correlations. The finding indicated that there is a significant relationship between Public Procurement practice and the performance of construction project. The researcher concluded that Public Procurement practices have highly contributed to positive Performance of construction projects.

Timo et al., (2013) conducted a research entitled effect of procurement systems on building project performance in Nigeria, with a view to assess their effect on cost and quality. The study concluded that no procurement system is has done it all in that a procurement system may perform better than the other in an instant and fail in others as revealed in the findings. The study recommends that consultants and other stakeholders in the construction industry and particularly those in the building sector should be up to date as to be able to suitably advise clients when it comes to building procurement, and that before choosing a procurement system the main objective and even supporting objectives should be established.



Deogratius (2014) studied to explore the challenges facing the procurement department in the working organization: A case of Muhimbili. This study looked at four independent variables: Procurement department's role, resource allocation, staff competency and Enhancement of Good procurement Management. Finally, the study concludes that, despite the challenges the procurement department is facing, it will remain to be the most important entity in the organization which needs to be paid much attention.

The research conducted by Apiyo&Mburu (2014) on Factors Affecting Procurement planning in county governments in Kenya: A case study of Nairobi City County. The study aimed to establish how management support, staff competency, Information Communication Technology tools, and budgeting procedure affect procurement planning. The study concludes that, inadequate competencies of procurement staff, lack of management support, ICT tools and budgeting procedures affect procurement planning. Finally, the study recommends a further research to be carried out in other counties to find out if the same results can be obtained.

Chieng and Shah (2012) conducted research on the effects of procurement systems toward performance of the Refurbishment projects. The findings also show that traditional procurement systems are the most suitable to be used in refurbishment project with contract value more than RM500, 000.00 due to its uncertainty.

Samuel Luvala (2018) conducted research on the Effect of procurement management practices on project performance in non-governmental organizations in Nairobi County, Kenya. The study aimed to establish how needs Assessment Practice, Supplier Sourcing Practice, Contract Management Practice, and Inventory Management Practice. The study concludes that, that procurement management practices such as need assessment, supplier sourcing; contract management and inventory management have a positive effect on project performance.

Jeptekeny (2015) entitled Effects of procurement procedures for project performance: a case study of light construction projects at Kenya port authority, Mombasa. The aspects of specification definition, bid invitation, bid evaluation and contract negotiation are the independent variables while project performance is the dependent variable.

## 2.10. Research gaps

There are apparently significant gaps in the academic area of public project performance in the case area leading to wastage of the scarce public resources, creates public criticisms, requires extra budget consumption and takes longer time to deliver. There were no conclusive study has been conducted to quantify the extent of public building construction project performance / failure and the cause of scarce resource wastages.

A previous study carried out by Ethiopian context were by shimelis (2017) appears only to focus on the Effects of procurement practices on performance of public organization in Jimma university its purpose to assess the performance of public organization but not relating to this study objectives and also studies carried out by Roman (2017) public procurement practices and challenges in Ethiopia: case study selected public organizations at Addis Ababa water and sewerage authority.

Moreover, not a lot has been researched in the area from a procurement practice relating with the project performance standpoint. Procurement is a core government function and also a part of the broader public administration system. Though, there were a lot of Studies carried out outside the country level. Some researchers including Ogunsanmi(2013), Kabega and Warren (2016) and Jepchumba (2016), the 1<sup>st</sup> two researcher carried out studies on procurement practices on public project performance whereas the 3<sup>rd</sup> researcher have attempted to bring relating of procurement practices influencing public projects implementation and different researchers carrying out studies either in the Ethiopian case or outside Ethiopian cases their effort has generally been rather too general and as such wanting in detail thereby failing to address the specific aspects of effects of procurement practices on public building project performance.

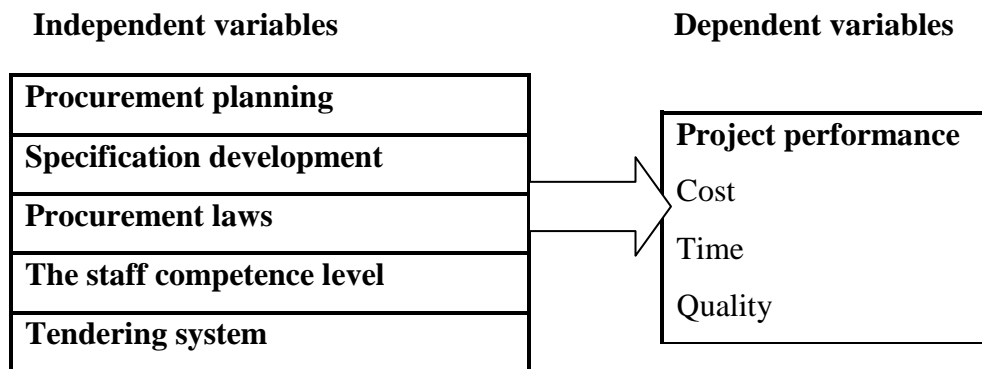
Based on this different study the researcher identifies the effects of procurement practices on public building construction project performance in different countries. The study by Kabega and Warren and (2016) and Timo et al. (2013). Further, this research identifies the most important Knowledge areas of the effects of procurement practices on public Building construction project performance.

This and other related studies were conducted in our country level or other developing countries that were different in culture. Because, of the cultural difference/geographic location the results obtained in our countries may not be applicable in other developing countries due to the cultural

difference. The research conducted by Pär Karlsson (2011) also shows that financial status, educational level and culture all are contextual factors that highly affect the public project performance. A project in the context of one country or culture is likely to experience different problems and have a different structure than projects in another country context (Walker, 2007). The researcher intends to bridge this glaring research gaps. Therefore, this study will identify the effects of procurement practices on public building construction project performance to fill the gaps observed in developing countries especially in Ethiopia in the case area and other countries.

### 2.11. Conceptual Framework

According to Mugenda (2003), a conceptual framework refers to conceptualization of the relationship between variables in the study and it is shown diagrammatically. This part assesses the research variables derived from literature to test whether there are significant relationships between the independent variables and the dependent variable. Apart from showing the direction of the study, through the conceptual framework, the researcher is able to show the relationships of the different constructs that researcher will to investigate. The Conceptual frameworks can be summarized in the following figure below.



Source: Based on the theoretical and empirical literatures

**Figure 2.1 conceptual frameworks**

# **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

## **3. Introduction**

The main objective of this study was to find out the effect of procurement practices on public building construction project performance in Kembata Tembaro Zone and to test the hypothesis to meet the objective of the study.

### **3.1. Research Design**

Research design refers to the plan or organization of scientific investigation, designing of a research study involves the development of a plan or strategy that will guide the collection analyses of data. It is the arrangement of conditions for collection and analysis of data.

#### **3.1.1 Types of study**

The research is a practical problem developed from the observation of construction projects and the research questions are oriented to investigate effects procurement practices on performance of public project. In the review of the secondary data, construction projects were undertaken by Kembata Tembaro Zone starting from 2002 up to 2012 E. C from which ten projects were assessed. This study has utilized a time serious data to undertake the study within a given time and resources.

#### **3.1.2 Approaches of study**

To carry out the study, mixed methods of both qualitative and quantitative approaches were applied to meet the objective of the study. The purpose of using the mixed approach is to gather data that cannot be obtained by adopting a single method and application of mixed research approach enables to: enhances triangulation of data; may help a better understand the relationship between dependent and independent variables; and allows appropriate emphasis in the research process.

Quantitative method is a means for testing objective theories by examining the relationship among variables. Data collected is number and statistics. The data is based on precise measurements and the final report will be statistical report with correlations, comparisons of means and statistical significance of the findings.

On the other hand, qualitative method is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The data typically collected in the participants setting and the researcher making interpretations of the meaning of the data. The final report is narrative report with contextual descriptions and direct quotations from research participants. The mixed method focuses on collecting, analyzing and mixing both quantitative and qualitative data in a single study or series of studies.

Further, the descriptive and explanatory method was used as an appropriate research methodology in this study.

### **3.2. Sources of data**

To arrive at the effective conclusion of the study and to find the main problems of the study, the researcher gathered data from primary and secondary source in detail. The primary data were gathered from the targeted officials in government office (procurement experts, design and construction office experts, respective manager and Audit team), contractor and consultants. It is hoped that the targeted respondents offer relevant information and the success of this study were depends on the response they give accurate and trustfully. The secondary data were gathered from Audit report, office report, from project site Manager, from performance evaluation report and from other sources.

### **3.3. Data collection Techniques**

To investigate the effect of procurement practices on public building project performance the study has used data instrument of both questionnaires and interviews. Data from the primary source were gathered through both close ended and open-ended questionnaires and interview method has been used by the researcher. The researcher develops a questionnaire in a simple and clear language for the respondents to feel free while answering which helps to understand easily and increase clarity of the question. The questionnaires were delivered to the procurement

experts; design and construction experts, contractors and consultants and others those who have knowhow about the public building construction project in the problem area and inform them how to answer the questionnaire. The researcher interviewed the experts and Top management, those who were involved in the project work directly and consultants in semi-structured form and the researcher may ask any question on the basis of his insight into the problems. Also, the study reviews secondary data obtained from the sampled organizations. This Secondary data were gathered from the project plan, annual Report, from project performance Report, and from the bulletins. This method was chosen for; it is vital in providing background information about the case study before primary data has been collected. Indeed, this has used to cross-check with the primary data that is to be obtained from the field.

### **3.4. Target population of the study**

According to Kumar (2011) sample size for quantitative and qualitative researchers are in the opposite way philosophy. For the quantitative research, the sample size expected to represent unbiased of the population it has been selected by the researcher. On the other hand, in the qualitative research, numbers consideration may influence the selection of the sample such as an event or the situation of interest, and judgment that the person has an extensive knowledge.

In Kembata Tembaro Zone there were seven woredas and three Town administrations each has their own administrative bodies'. Each woredas has 23 independent government sectors and each town Administration has 12 independent government sectors. At zone level, woredas and town administrations there were many public building construction activities ongoing including government offices and meeting halls. Those seven (7) rural woredas and three (3) town administrations were taken as the population of the study area and from those total populations two rural woredas and two town administrations were taken as a target population. Due to the financial, time and other resource constraints sample was employed that represent the total population.

#### **3.4.1 Sampling method**

A sample is a smaller group obtained from the accessible population to represent the whole population while the purpose of sampling is to gain an understanding about some features or attributes of the whole population based on the characteristics of the sample. In the zone there

were seven rural woredas and three towns administration, from this two town administration and two rural woredas which includes shonshicho town Administration, Durame town Administration, Kechabira wored, and Damboya wored were taken as the sample by applying purposive sampling techniques. Since, those selected areas with high commercial activities, various infrastructural activities, different government program and mass population with high needs were selected purposely in order to represent the population. From those selected woredas and town administration, the representative number of samples was selected from targeted officials of government office and others by using simple random sampling techniques. The reason for choosing simple random sampling techniques laid on the fact that all the target population has equal chances to be selected as samples.

#### **3.4.2 Sampling Technique and Procedures**

This study has employed a non-probability sampling method so long as the study is the qualitative and quantitative approach. The sampling technique which the researcher employed in the study was purposive non-probability sampling techniques. The purposive sampling technique involves selecting a sample of a small number of units from a larger population (Kielmann, 2012). Thus, this study was carried out in Kembeta Tembaro Zone. The researcher selected the study area purposively based on the intensity of the problem.

Based on this the study has chosen purposive sampling technique because it is a common method used by different researchers due to the fact that it is particularly time and cost effective and relevant to this study when compared to other sampling methods. Therefore, the sample size has been determined to this study based on the principle of data saturation point when redundancy of information appears.

#### **3.4.3 Sample size determination**

Therefore, the target population of the study was all the selected 2 rural woredas and 2 town administration procurement staff, design and construction staff expert from all selected areas, consultants, and contractors, Audit team and the respective managers at selected areas. The total target populations of the study were 192 staffs. However, sample for the study was not including the community/society.

According to Yamane (1967), the sample size can be computed with the formula,

$$n = \frac{N}{1 + N(e^2)} \dots \dots \dots 1$$

Where, n = sample size

N = population size of the study

e = level of precision

N=192, e=0.05

n = 192/1+192(0.05.0.05)

n = 192/1+0.6 = 240/1.6, n =130

### **3.5. Method of Data Analysis and Presentation**

After accomplishing the collection of data from the primary and secondary sources, the information was then coded and proper statistical tools were applied to achieve the desired objectives of the study. Based on the nature of data collected through questionnaires, semi-structured interview, and document review. Data analysis could be made using the descriptive as well as the inferential statistical analysis. Descriptive statistics were used to describe or explain a given set of data while inferential statistics was used to infer certain characteristics of samples to population. Before starting analysis, data were checked for consistency and completeness and then labeled and entered and then it was analyzed using Statistical Packages for Social Sciences (SPSS) Version 20.

#### **3.6.2. Model specification**

It is the process of determining which independent variables can be included in or excluded from a regression equation. On the other hand, a multiple linear regression model is a theoretical statement about the causal relationship between one or more independent variables and a dependent variable.

The data obtained about the effects of procurement practices on public building construction project performance was analyzed via multiple linear regression technique to determine the



significance of the independent variables on the dependent variables. Multiple linear regression analysis has been employed to estimate the magnitude of the effects of independent variables on the dependent variables. Ordinary least squares (OLS) regression model are specified as follows:

$$Y = \beta_0 + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \beta_4.X_4 + \beta_5.X_5 + \epsilon_i \dots \dots \dots (2) \text{ Where:}$$

Y is Dependent Variable (project performance)

$\beta_0$  the regression coefficient /constant and the independent variables where:

X1, X2, X3, X4, & X5

$\epsilon_i$  is Random Error term

The coefficients  $\beta_1, \beta_2, \beta_3, \beta_4, \&\beta_5$  are the parameters of the predictor variables.

### **3.7. Measure of Dependent and Independent variables**

#### **3.7.1. Measure of Dependent variables**

Variable is the values that can differ at various times for the objective or at the same time for different objects. It also defined as anything that can vary values. Variables are persons or objects that can be manipulated, controlled, or merely measured for the sake of research. It can be categorized as dependent and independent variables. The dependent variables are not manipulated; but instead are simply measured. In this study the project performance is the dependent variable. Each item of the project performance would be measured on a 5- point Lickert scales ranging from (1) strongly disagree to (5) strongly agrees.

#### **3.7.2. Measure of Independent variables**

They are input function which characterized by intentional manipulation, control, variation of knowing rate and cause. The independent variables in the study are procurement planning practices, procurement staff competency level, contract administration, procurement legal document, specification development, tendering system and other related issues. In order to create an appropriate measure of independent variable of procurement practices on project performance, the questionnaires would be prepared each independent variables in the measurement scale of Lickert scales ranging from (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree.

## **CHAPTER FOUR: RESULTS AND DISCUSSION**

### **4. Introduction**

The previous chapter discussed appropriate methodologies of evaluating the effects of procurement practices on public building construction project performance. This chapter explains and discusses the results and findings based on the analysis done on the data collected. The result of the study is discussed by triangulating questionnaire, interview and document review results. The discussions attempt to accomplish the objective of the study and answer the Research questions. After the data has been collected, different statistical measures were used to analyze the data.

Multiple regressions were employed to investigate the effects of procurement practice: procurement planning, contract administration, specifications development, procurement law, staff competency and tendering system to predict the project performance. Employing multiple regression necessitate variable to satisfy the assumption of multicollinearity, autocorrelation, outliers and normality (Hair et al., 2009).

#### **4.1. Response rate**

The questionnaires were distributed to the targeted respondents. For 130 respondents questionnaires were distributed and from which 118 were successfully filled and returned as such, they were considered as the sample with response rate 91%. According to Mugenda and Mugenda (2003) a 50% response rate is adequate for analysis and reporting, while 60% response is rated good and a response rate above 70% very good.

#### **4.2. Demographic characteristics**

These demographic characteristics of the respondents were discussed on sex, age, position, qualification and work experience of the respondents.

##### **Sex of respondents**

The respondents were asked to mark their gender on the questionnaire. Different categories of respondents were involved in this study in order to maximize dependability of the data used in the study.

**Table1: sex of Respondent**

Sex	frequency	percentage
Male	88	74.6
Female	30	25.4
Total	118	100

**Sources: filed Survey result (2020)**

As indicated above in the table 1, 74.6% of respondents were males while 25.4 % were female. The female respondents were low as compared to the male respondents. This may indicate that the participation of female in the study area (problem area) was low. According to Qaisar, Abdul and Aamer (2003) gender does not affect the productivity of the employees, unless unequal treatment exists in the hiring, promotion and facility in the work environment.

**Table2: Age of Respondent**

Age of respondent	Frequency	Percent
22 to 31 years	51	43.2
32 to 41 years	42	35.6
42 to 51 years	24	20.3
52 to 61 years	1	0.8
Total	118	100

**Sources: survey result (2020)**

Above table 2, show that 43.2 percent of the respondents fall within the Age category of between 22 and 31 years old; 35.6 percent of them fall between 32 and 41 years old; 20.3 percent of them falling between the range of 42 and 51 years old; Remaining 0.8 percent of the respondent fall between the age group of 52 and 61. According to skibek (2003), the productivity of individuals decreases from around 50 years of age group. The tables 2 above show that it is possible to say most of the respondents were matured enough, since they were found in the adult age group and their responses could be dependable.

### **Level of Education**

The following table summarizes the respondent's level of education.

**Table3: Educational level of Respondent**

Respondents qualification level	Frequency	percent
Diploma	38	32.2
Undergraduate	59	50.0
Postgraduate	21	17.8
Above	-	-
Total	118	100

**Sources: filed survey result(2020)**

As shown in the table 3, 32.2 percent of the respondents were diploma holders; 50.0 percent of the respondents had undergraduate level and 17.8 percent of the respondents were second degree holders. This section sought to establish the level of academic Qualifications that the respondents have attained. Therefore, the findings show that the majority of the respondents were deemed to be competent enough to answer the researcher's question, and they have sufficient knowhow about the problem area.

#### **Position of respondents**

Table 4, shows the respondent's position indicates that, 33.1 percent of the respondents were procurement expert; 11.9 percent of indicated that contractors and consultants; 30.5 percent of the respondents were design and construction experts and the remaining 24.6 percent of the respondents were others those having know-how and knowledge about the problem areas. Obviously the respondents were with the required knowledge to understand the concept of procurement in relation to the public building construction projects.

**Table4: position of respondents**

Position of respondent	Frequency	Percent
Procurement expert	39	33.1
Contractors and consultants	14	11.9
Design and construction expert	36	30.5
Others	29	24.6
Total	118	100

**Sources: survey result (2020)**

### **The Experience of the respondents**

The other very important point raised here is that the experience of the respondents. The other parameter considered in table 5 was the respondents work experience. Experience is one of the competences to understand the practices of procurement in public building projects.

**Table 5: Experience of the respondents**

Work experience	frequency	percent
1-4 years	30	25.4
5-8years	32	27.1
9-12 years	34	28.
Above 12 years	22	18.6
Total	118	100

*Source: filed survey result (2020)*

The above table 5 shows that the experience of the respondents indicates that 25.4 percent were between 1-4 years' work experience, 27.1 percent were between 5-8 years' work experience; 28.8 percent were between 9-12 years' work experience and the remaining 18.6 percent of the respondents were above 12 years' work experience.

## **4.7. Analysis of independent variables**

### **4.7.1. Procurement planning practices**

The objective of the study was to explain the effects of procurement practices on public building construction Project performance in the Kembata Tembaro Zone. In this regard, the effects of procurement planning practices were analyzed by looking the following indicators; Involvement of concerned bodies, Monitoring and updating of procurement plan, the existence of training program to staff how to prepare procurement planning, major challenges of actual procurement plan and integrating procurement plan with the organization's annual budget. Likert scale was used for measuring the respondent's agreement, where (1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5= strongly agree).

**Table 6: Analysis of procurement planning practices on project performance**

PP		N	Mean	SD
Involvement of concerned	Bodies during procurement pp.	118	3.5405	.95850
Monitoring and updating	of procurement plan	118	3.7567	.93977
Training program to PP.		118	3.0763	1.10288
Unplanned requisition	could be a major challenges	118	3.6847	1.12757
procurement plan by the organization's annual budget		118	3.0593	1.24922

**Sources: filed survey result (2020)**

Table 9 shows that respondents' feedback on the effects of procurement planning practices on public building construction project performance as indicated by the respondents on each question. A good procurement planning will answers the following basic questions of what do you want to procure, when to procure it, from where to procure them, when the resource is available, the method of procurement to be used, how timely procurement failure will affect the user of the items, efficient in the procurement process, and people to be involved in the procurement process.

According to the finding, the majority of the respondents that get agreed on the issue with the (Mean=3.5405) this indicates that there were the involvements of concerned bodies during procurement planning phase at the beginning of the fiscal years. The result obtained above agree with CIPS (2002) which states that involvement of concerned bodies during procurement planning including experts is very important for all user department. These findings were also in line with Apiyo and Mburu (2014) suggestions that procurement planning functions encompasses defining organization's goals, establishing an overall strategy for those goals, and developing a comprehensive hierarchy of plans to integrate and coordinate the activities to be done.

Yet again, the analysis of monitoring and updating of procurement plan the quantitative result shown above in table 9 the findings indicate that all the respondents agreed to the mean of 3.7567 in the Kembata Tembaro Zone the procurement planning were monitored properly and updated periodically in order to limit unscheduled requisition from the clients. According to the

FDRE PPA manual (2011) at the beginning of each fiscal year, all public bodies shall prepare procurement plans reflecting both updated annual plans for the capital budget and annual plan for the recurrent budget. Therefore, this implies that the majority of the respondents indicate that, there was no problem in the case area to the monitoring and updating of procurement plan.

According to Nassazi (2013) training is a type of activity which is planned, systematic and it results in an enhanced level of skill, knowledge, and competency that are necessary to perform work effectively. It helps to close the gap between current performance and expected future performance. There are two categories that public organizations may choose for training and developing skills of its employees in order to achieve their desired objectives. Among these, on-job- training by providing to employees while conducting their regular work at the same working area and off-the-job training involves taking employees away from their usual working environment. Beardwell et al., (2004) argue that technological developments and organizational change have gradually led some employers to the realization that success relies on the skills and abilities of their employees, thus a need for continuous training.

On the other hand, as it was indicated in the table 9 above, with respect to the analysis of providing a training program to the procurement staff, how to prepare procurement planning professionals to solve planning related problems and to make the system successful. To ensure this, training was identified as one of the important strategy in eliminating challenges facing the public procurement. According to Barnes (2004) specific areas of knowledge should be developed to enable procurement experts to meet the area of challenges and improve their skills and knowledge.

In the study it was revealed that the mean of (3.0763) the respondents were disagree on the issue. The above finding indicates that, the procurement planning training was not provided to the procurement staff adequately in the case area. Therefore, Training would improve their skills in specialized aspects of the procurement (OECD, 2005; Dennis & Willy, 2015).

According to the FDRE PPA (2011) at the beginning of each fiscal year, all public bodies shall prepare procurement plans reflecting both updated annual plans for the capital budget and annual plan for the recurrent budget. Table 9 Question rose to the sampled respondents to rate their

response, the (mean= 3.6847) of the sampled respondents agree with unplanned requisition could be a major challenges to go with the actual procurement plan in the problem area. On the other hand, the user department faces a problem of unplanned work programs, which had not been considered at the beginning of the fiscal year.

Unplanned requisitions are in all types of construction projects (Ibbs et al., 2001). The most common effects of unplanned requisition, during the construction phases, are the increase in project costs (Construction Industry Institute, 1990). So, in an ideal world, changes of plan will be confined to planning stages. However, most of the time late changes often arise from the clients occurring during construction, and frequently causes serious disruption to the project. Project unplanned requisitions were identified as a major source of conflicts and disputes in the construction industries of many countries (Yates and Hard castle, 2003). Researches clearly show that a poorly defined scope is the most frequently mentioned barriers to the public project success. According to the Fetene (2013) the main causes of these problems were:-Additions required by clients; accidents; force majeure; change in plans/specifications; value engineering; and acceleration.

Table 9 shows that, developing a procurement plan by integrating it into the organization's annual budget question were addressed to the sampled respondents to rate their responses, the mean 3.0593 of the result shows that a procurement plan is not integrated to the organization's annual budget. The above findings also indicate that there was a problem of developing procurement plan by integrating it into the clients' organization's annual budget. These findings agree with Burt et al., (2004) that procurement is vitally important due to the considerable amount of government budgets were invested annually in the public sector. Therefore, it was revealed that many respondents believe that procurement planning has effect on the performance of public building construction project to a large extent as indicated by the average mean 3.4235.

#### **4.7.2. Specification development**

The other objective of the study was the effects Specification development practices on public building construction project performance within the public institutions in the Kembata Tembaro Zone. In this regard, Specifications of Public Building Construction Projects in KTZ were clearly expressed the extent of works under consideration, Specifications developed by professionals,



use simple and clear language such that it can readily be understood, materials purchased were in line with the specification development, and the specifications were efficient to guide the bidder at the time of tendering to arrive at a reasonable cost for the project work. The Specification development practices were measured using a 5-point Likert scales were; where (1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5= strongly agree).

**Table7: Analysis of specification development**

Specification development	N	Mean	SD
Specifications were Clearly express the extent of works	118	3.3983	.80744
Specifications were developed by professionals	118	3.6441	.77928
Specifications use simple and clear language	118	3.1186	.99717
materials purchased were in line with the specification	118	3.0254	1.00819
The specifications were efficient to guide the bidder	118	3.4153	.88989

*Sources: filed survey result (2020)*

From the findings given in Table 11, it can be seen that (Mean= 3.3983) the sampled respondents responded agree that the Specifications of public building construction projects in Kembata Tembaro Zone were clearly expressed the extent of works under consideration.

On the other hand, for the public building Specifications were developed by professionals as the table 11 above indicates when the sampled respondents were agreed (Mean=3.6441). Table 11 of the finding indicates that (Mean=3.118) of the respondents reveals to agree to the Specifications of public Building construction projects in the Kembata Tembaro Zone use simple and clear and can readily be understood and Mean=3.0254 of the sampled respondents responded that agree with the project materials purchased were in line with the specification developed in the Kembata Tembaro zone.

Regarding the analysis of the specifications were efficient to guide the bidder at the time of tendering to arrive at a reasonable cost for the project work, the table 11 indicates, where, Mean=3.4153 of the respondents responded that agree with that specifications were efficient in Kembata Tembaro zone public Building construction project the bidder to arrive at a reasonable cost for the project work and lower Percentage of the respondents were strongly agreed.

### 4.7.3. Procurement legal documents

The study presents the analysis and discussion of questions raised to the sampled respondents to rate their response on effects Procurement legal documents practices on public Building construction project performance within the public institutions in the Kembata Tembaro Zone.

According to Thai (2009), law clearly covers the scope of public procurement and property administration and determines how different aspects of procurement and property administration functions are carried out in the public organization and how people working in the public procurement and property administration functions should behave. Therefore, it is easily accessed by the users and be applicable to all procurements and property administrations undertaken by public institutions.

*Table 8: Analysis of procurement laws*

Procurement law(PL)	N	Mean	SD
PL were flexible	118	3.0763	1.06343
PL were Clearly understood and consistently implemented	118	3.3390	.93571
PL follows the Accountability	118	3.3729	.99397
Procurement staff have knowledge on PL	118	3.2881	1.03859
The PL trainings was given for new procurement staff	118	3.0270	.95884

**Sources: filed survey result (2020)**

According to the Asresahegn (2017) the public procurement legal document includes procurement laws and regulations that lead to procurement efficiency or inefficiency and it is clear, consistent, comprehensive and flexible. Public procurement laws and regulations clearly cover the scope of public procurement, all stages of the procurement processes, methods and procurement, ethics, and transparency. The (mean= 3.0763) respondents responded as disagree to the legal documents that guide the public procurement were not flexible.

The Procurement legal documents were clearly understood and consistently implemented in the Kembata Tembaro zone when the mean value is 3.3390. This implies that those legal documents (proclamation, regulation, directives, guidelines, working manuals and other pertinent documents) that govern the practices of public procurement and property administration were clearly understood by employees charged with the responsibilities of procurement and property administration and consistently implemented within the public institutions of the case area.

Asresahege (2017) in his publication states that public procurement legal documents should be clear, consistent, comprehensive, and flexible. On the other hand the (mean=3.3729) of the respondents agreed that the procurement legal document that govern and guide the public procurement follows the Accountability in the case area.

Table 12 of the finding indicates that, the mean value is (3.2881) the respondents reveals to agree with Procurement staff have knowledge of procurement rules, regulation and finance directives in the case area. Regarding the analysis of the providing procurement training to the new procurement staff and those who have less understanding staff in the area of legal issues, the table12 indicates that, (mean=3.0270) of respondents disagree with the issues providing training to the newly arrived staffs.

#### 4.7.4. The procurement staff competence level

The other objective of the study was effect of the procurement staff competence level practices on public Building construction project performance within the public institutions Kembata Temabro Zone. In this regard, the procurement staff were adequately equipped with the required knowledge, skills and ability to undertake procurement tasks, the procurement staff has been utilized latest IT based tools to undertake the procurement tasks, selecting the procurement staff based on integrity and leadership qualities, the ethical status of the procurement staff, and quality of procurement workforce is a challenge of project performance. The Specification development practices were measured using a 5-point Likert scales were; where (1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5= strongly agree). These questions were analyzed descriptive by using percentage in the table below.

**Table9: Analysis of procurement staff competency level**

	N	Mean	SD
equipped with the required skills	118	2.9576	1.06534
Utilizing latest IT	118	2.9915	.99996
selecting based on integrity & leadership	118	3.7837	.99342
ethical status of staff	118	3.4414	1.14958
quality of workforce	118	3.7117	1.05082

**Sources: filed survey result (2020)**

Table 13 depicts that, (Mean=2.9576) of the respondents responded as disagree to the Procurement staffs were adequately equipped with the required knowledge. This implies that the Procurement staffs were not adequately equipped with the required knowledge this affects to the project performance. The result of data analysis done by the researcher through document review and interview made by knowledgeable key persons from the sampled organizations informs that there existed the problem of above raised issues in the case area.

Use of Electronic communications and transaction processing Technologies by government organizations to improve the procurement practices and for the success of projects were also another issue that need attention in the problem area. According to the Cohen et al., (2002) that, application of IT tools to undertake the procurement tasks where one of the most important tools which enablers of effectiveness and are source of competitiveness. Supporting to the analysis shown in the table 13 realities based on the physical observation made by the researcher during the filed survey, and result of interviews from the sampled government organizations, procurement Department is facing the problem applying the IT to improve their procurement practices. This indicates that procurement Departments were still operating with the manual system in the majority of the sampled organizations and they do not have their own web address to contact with procurement agency to get any change of procurement rules, laws and guidelines and other supportive documents that helps in the area of work.

Of the total respondents to the question procurement staff is utilizing the latest IT based tools to undertake the procurement tasks respondents (Mean=2.9915) responded as disagree. Therefore, the result indicates that the public procurement in the public institutions were in the problem of utilizing IT.

The findings indicated that the issue of selecting the procurement staff based on integrity and leadership qualities had been implemented in the case area in this study. This is indicated by positive mean value for the descriptive statics as indicated above (Mean=3.7837). The sampled respondents agreed that selecting the procurement staff based on integrity and leadership qualities. Table 13 depicts that, (Mean=3.7117) respondents responded as agree the quality of the procurement workforce was a major challenge for project performance problem in the Kembata Tembaro Zone.

#### 4.7 .5.The effects tendering system on project performance

The final objectives of the study were the effects of the tendering system on public Building construction project performance in Kembata Tembaro zone. The tendering system practices were measured using a 5-point Likert scales where; (1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5= strongly agree). It was analyzed by descriptive using percentage in the table below. In this regard, tendering system on project performance was analyzed by looking the following indicators: the tendering should be free and fair from political interference; Unethical practices in tendering system would influence the effectiveness of the projects performance, application of IT in any stage of tendering process in KTZ, selecting a capable contractor during bid evaluation would affect the projects' performance and providing enough time to unsuccessful bidders for complains were the basic issues in this part.

**Table10: Analysis of tendering system on project performance**

	N	Mean	SD
Tendering should be free and fair	118	2.9576	1.06534
Unethical practices influence the effectiveness	118	3.1981	.99996
Application of ICT in tendering	118	3.4831	.99342
Selecting a capable contractor	118	3.2966	1.14958
Procurement practice Provided the bidders sufficient time	118	3.6727	1.0508

*Sources: filed survey result (2020)*

On political interference, in both developed and developing countries, public procurement professionals are under the problem of political interference in the area of the procurement process and contract award decisions Thai(2004) and Mahyathi(2017).

The participants were asked to indicate to what extent the tendering system affect the performance of public building construction project in Kembata Tembaro Zone. From the findings it was indicated that there was effects tendering in the performance of public building construction project in kembata Tembaro Zone indicated by the mean value. From the table14 above where the respondents responded as the tendering system is not fair and free from political interference (mean=2.9576), unethical practices in tendering system that influence the effectiveness of the public building construction projects performance (Mean=3.1981),

application of IT in any stage of tendering process in KTZ (Mean=3.4831), selecting a capable contractor during bid evaluation would affect the performance project( mean=3.2966) and providing enough time to unsuccessful bidders for complains( mean=3.6727).

#### 4.7.6.1 Summary of the mean values of procurement practices

The table below indicates the summary of all the six independent variables of the procurement practices instigated in this study.

*Table 11: Summary of the mean values of procurement practices*

<b>Independent variables</b>	<b>N</b>	<b>Average Mean</b>	<b>SD</b>
Procurement planning	118	<b>3.4235</b>	<b>.63685</b>
Specification development	118	<b>3.3203</b>	<b>.56827</b>
Procurement law	118	<b>3.2218</b>	<b>.73289</b>
procurement staff	118	<b>3.3771</b>	<b>.71230</b>
Tendering system	118	<b>3.3216</b>	<b>.67553</b>

**Sources: filed survey result (2020)**

Findings showed that to the large extent procurement practices in the kembata Tembaro zone. This was indicated by positive mean value greater than average 3 values whereby Procurement planning practices indicted by mean of 3.4235, Specification development indicted by mean value 3.3203, Procurement law indicted by mean value 3.2218, procurement staff competency level indicted by mean value 3.3771, Tendering system indicted by mean value 3.3216.

#### 4.8. Project performance indicators

The project performance indicators were measured using a 5-point Likert scales were (1=strongly disagree, 2=disagree, 3=not sure, 4=agree and 5= strongly agree).

**Table12: Analysis of project performance indicator (cost)**

	N	Mean	SD
Projects were completed with planned budget limit	118	2.5045	1.0356
Price level changes of material in markets	118	3.4234	.9190
payment certificate to be verified by the consultant	118	3.6669	.9157
Improper application of finance law	118	3.6864	.8027
Competent procurement staffs enhance to cost reduction	118	3.7373	.7559
The tendering system helped the project to buy within the budget	118	3.7881	.6647

**Sources: survey result (2020)**

According to the Brown and Hyer (2010) project performance can be measured on the basis of time, cost and quality it is commonly known as the triple constraint. These three factors represent the basic project performance indicators in this study. According to Jepchumba (2016), a successful project must be on time, on budget and deliver quality and anything less will be either a failed project or a challenged project. The seventh objective of the study was the project performance indicators in Kembata Tembaro zone public building construction projects and this part of the study can be divided into three section cost, time and quality.

As a result, the above table15 indicates that, (Mean=2.5045) of the respondents that get disagreed that the public building construction projects in the Kembata Tembaro Zone was not completed with the planned budget limit and it requests more budgets to complete the project and it causes the project success (performance).

On the other hand, as the table 15 above indicates that, that Mean=3.423 of the respondents responded not sure that price level changes of material in markets the problem area has an effect on the project performance.

Regarding the analysis of payment for construction works on the basis of the progress of work against payment certificate to be verified by the consulting Engineer by supervising the work table 15 indicates, Mean=3.6669 of respondents agree with the issue of payment for construction work in the Kembata Tembaro Zone was on the basis of the progress of the work is confirmed by the consulting Engineer by supervising the work by physically. This trend helps to prevent illegal payment and reduces unethical practices in the area and it's important for the project success.

Yet again, with respect to the analysis of the tendering system helped the project to buy requirements within the budget: this is indicated by 3.7881. This implies that the tendering system helped to buy the public building construction materials within the planned budget. The competent procurement staffs enhance to cost reduction in the public building construction project.

**Table 13: Analysis of project performance indicator (time)**

	<b>N</b>	<b>Mean</b>	<b>SD</b>
The material is ready for use according to the planned time	118	2.7203	1.05316
On time claim response for items missing defected	118	3.0990	1.08484
Delays of payment from client	118	2.9909	.98095
The legal document would be Periodical and revised	118	3.3515	.85616
Timely deliveries of services	118	3.4407	1.00887
In the tendering system the duration taken influence the performance	118	3.7373	.77821

**Sources: survey result (2020)**

According to the Aga (2016) project performance are usually reported in terms of budget and time overruns and discrepancy between the real and intended outcomes. As a result the above table 16 indicates that, Mean=**2.7203** of the respondents that get disagreed that the construction material is not sufficiently ready for according to the planned time schedule for the construction work. On the other hand, delays of payment from client in public building construction project questions were addressed to the respondents to rate their responses. The result in the table 16 above indicates that the Mean=**3.0990** of the respondents get agreed on the issues that clients are not making payment to the contractors regularly according to the contract agreement between the two parties.

Regarding the analysis of on time claim response for items missing defected not comply with specification and contract the respondents in the table 16 above rates that, the mean, **2.9909** of the respondents responded that agree with the legal document that guides the procurement processes in the case area were periodical and revised this because of things become changing and to make the system healthy.

Table 16 depicts that, the Mean=3.3515 of respondents responded agree to timely deliveries of services and the tendering system the duration taken influence the project performance this was indicated by mean=**3.7373**. This implies that, the tendering system duration taken influence the public building construction project performance.



**Table 14: Analysis of project performance indicators (quality)**

	N	Mean	SD
PBC projects constructed with quality materials	118	2.7627	1.05958
Delivery of materials according to the contract	118	2.8305	1.08844
Development of quality specification	118	3.644	1.87242
Problems are identified & corrections made on finance directives	118	3.5678	.8719
Providing adequate training to procurement staff	118	3.7203	.8462
Tendering system helps to worked within the required standards	118	3.805	1.7980

**Sources: survey result (2020)**

The above table 17 result indicates that Mean=2.7627 respondents responded that, public Building construction projects were not constructed with the quality materials in the case area, this is because of the researchers interview result shows that the consultant Engineers were not followed- up the progress of the work jointly with the client and the key informants informs that there is also an ethical problem of consultants. Table 17 shows Mean=2.8305 of respondents responded disagreed to delivery of quality materials were not according to the specification specified in the contract agreement signed by the parties.

As a result the above table 17 indicates that, majority of Mean=3.6441 the respondents that get agreed that specification developed were quality and prepared by qualified engineers in the public building construction projects in the Kembata Tembaro Zone as the respondents rated and interview conducted during the researcher survey time.

Regarding the analysis of violations of finance directives, the respondents responded that Mean=3.5678. This implies that problems are identified and corrections made about to violation of finance directives at the early stages which helps to narrow severity of the problem. Since, finance directives are the guiding principles that control the overall financial procedure.

The result of the statement that providing adequate training to procurement staff will improve quality of staff competency, Mean=3.7203. This indicates that the majority of the respondents responded agreed with the issue meaning that training will help to the experts to develop

knowledge in the area and which enhance to do better in his/her place. The tendering system helped the project worked within the required standards: This indicated by the respondents that Mean= 3.8059 of the respondents agree.

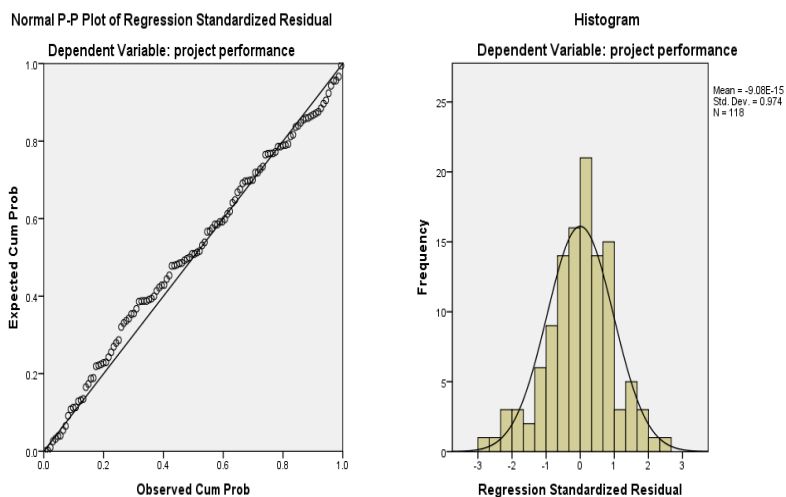
## 4.9. Inferential statically analysis

### 4.9.1 Checking the Assumptions of Multiple Regression and Reliability of the data

Multiple regressions are one of the statistical techniques. It makes a number of assumptions about the data, and it is not all that forgiving if they are violated. It is important to check normality, outliers, linearity, multicollinearity, and Autocorrelation. Before conducting regression tests, checking of assumption was done.

#### A. Normality Assumption

A normal distribution is not skewed and is defined to have a coefficient of kurtosis is 3. The residual scatter plot allows us to check whether the residuals should be normally distributed about the predicted dependent variable scores. If the residuals are normally distributed, the histogram should be bell-shaped. The residuals are normally distributed with a mean of zero and standard deviation of approximately one. The residual seems normally distributed and with mean of zero and standard deviation 0.974 which is approximately 1. Thus, the model fulfills the assumption of normally distributed.



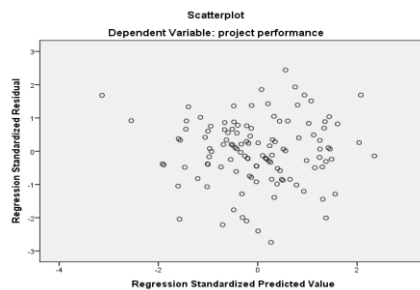
Source: SPSS result

**Figure1: Normality assumption checking**

Moreover, in the normal probability plot, it is expected that our points will lie on a reasonably straight diagonal line from the bottom to the top right which can be conformed from p-plot depicted (Julie, 2005).

**B. Outliers**

Multiple regressions are very sensitive to outliers (very high or very low scores). The presence of outliers in the data may result in to misleading linear regression model. Checking for extreme scores should be part of the initial data screening process for all the variables. Outliers can either be deleted from the data set or, alternatively, given a score for that variable that is high, but not too different from the remaining cluster of scores. According to SPSS Manual by Pallant (2005) additional procedures for detecting outliers are also included in the multiple regression programs. Outliers on dependent variable can be identified from the standardized residual plot that can be resulted from SPSS output shown in the figure 4.2 below. Therefore, in this study there is no outlier’s problem.



Source: SPSS result

**Figure2: outliers assumption checking**

**C. Multicollinearity**

The other assumptions of multiple linear regression models assume that there is little or no multicollinearity in the data. The existence of Multicollinearity in the data is checked by applying various criteria including Correlation matrix; tolerance; Variance Inflation Factor (VIF) and Condition Index. A correlation matrix helps to ensure the correlation between explanatory variables.

If an independent variable is an exact linear combination of the other independent variables, then we can infer that the model suffers from perfect collinearity, and it cannot be estimated by

(Brook, 2008). Cooper and Schindler (2009) recommend that a correlation coefficient about 0.8 between explanatory variables should be corrected since it is a sign of multicollinearity problem. In this study the correlation matrix for the independent variable shows that the highest correlation is 0.578, since there is no correlation above 0.8 or 0.9 as stated by Cooper and Schindler (2009) and Hair et al., (2006) respectively, and the other criteria applied to check the assumption in this study is a Variance Inflation Factor (VIF). Similarly, with  $VIF > 10$  there is an indication for multicollinearity to be present. From the correlation table we see that VIF (variance inflation factors) of significant variables is less than 10 it indicates there is no multicollinearity problem in the data. Therefore, we can conclude that in this study there is no problem of multicollinearity.

#### **D. Homoscedasticity**

This assumption is theoretically expressed by Brooks (2008) has been assumed that the variance of error is constant. In this assumption, the variance of the residual is homogenous across levels of the predicted values. If the data is linear and normal there is no need of checking then it is said to be Homoscedasticity. The scatter plot is a good way to check whether homoscedasticity (that is the error terms along the regression are equal) is given. If the model is fitted, there should be no pattern to the residuals plotted against the fitted values. If the errors do not have a constant variance, it is said to be Heteroscedastic. As, it can be seen from the scatter plot in the figure 4.1 the error term was normally distributed.

#### **E. Autocorrelation**

It can be defined as adjacent residuals of any two observations not being independent of each other or correlated. For any two observations the residual terms should be not correlated (or independent). This assumption can be tested with the Durbin-Watson test, which tests for serial correlation between errors. This assumption was theoretically expressed by the number of scholars among that (Brooks, 2008) and (Verbeek, 2004).

As it has been revealed in the model summary table, we see that Durbin-Watson test statistic value for the model was  $d = 1.723$ . This means there is no autocorrelation problem in the data. Because the Durbin-Watson test  $d$  implies,  $1.5 < d < 2.5$  or  $d$  is around 2 shows that there is no autocorrelation problem in the data.

#### 4.9.1.1. Reliability

The reliability of an instrument or questionnaire is concerned with the consistency, stability and dependability of the scores (Milan, 2007). The study used the cronbach (Alpha) model to test the reliability of the data. Cronbach's alpha is commonly used in studies as an indicator of instruments or scale reliability or internal consistency. Alpha become widely used after being discussed by cronbach (1951) who reasonably suggested that using the label  $\alpha$  was more convenient than repeatedly using the Kuder Richardson Formula 20. Brown (2002) indicates that cronbache's alpha reliability coefficient normally ranges between 0 (if no variance is consistent) and 1 (if all variance is consistent) the closer coefficient is to 1.0 the greater the internal consistency of the items in the scale and alpha score of 0.7 or higher internal consistency.

In this study all items are responded on a Likert scale of 1-5, where 5=strongly agree, and 1=strongly disagree, 2=disagree, 3=neutral and 4= agree. To establish whether the items on this questionnaire all reliably measure the same construct, 118 participants were completed questionnaire and based on their scores the Cronbach's alpha has been calculated to check the internal consistency reliability. Cronbach's alpha ( $\alpha$ ) < 0.6 indicates unsatisfactory internal consistency reliability (Malhotra & Birks, 2007) and  $\alpha > 0.7(0.6)$  indicates satisfactory reliability commonly acceptable (Nunnally and Berstein, 1994). According to Baker (1994), taking 10% to 20% of the sample size of the study has been taken to check the reliability of the study.

*Table15: Reliability test result*

Cronbach Alpha	N of Items
0.82	18

**Sources: SPSS result**

As it has been shown in the reliability statistics table above, the Cronbach's alpha coefficient ( $\alpha=0.802$ ) which is greater than the specified alpha coefficient of 0.70. Basically this means the respondent who tends to choice high score for one item also tended to choice high score to others; similarly the respondents who tend to choice low score for the other valuable items.

#### 4.9.1.2 Validity

According to Gideon (2015) validity is the accuracy and meaningfulness of the inferences, which is based on the research results, it is the degree to which the results obtained from the analysis of the data actually represents the phenomena under study. To ensure that the data acquired were valid in this study, the following steps were taken; a wide-ranging literature review was undertaken to understand how personal in-depth interviews and survey conducted. The researcher crosscheck data collected through questionnaire by interviewing similar points during interview to check the validity of data and the reliability of the data were checked by applying the Cronbach alpha coefficients. This study adopted construct validity. Construct validity refers to how well you translated or transformed a concept, idea or behavior into a functioning and operating reality.

#### 4.9.2. Correlation analysis

A correlation coefficient expresses quantitatively the magnitude and direction of the liner relationship between two variables, Pearson correlation coefficient shows the magnitude and direction of relationships (either positive or negative) and the intensity of the relationship (-1 to +1).

**Table16: Pearson correlation matrix among variables in the study**

	<i>PP</i>	<i>CA</i>	<i>SD</i>	<i>PLD</i>	<i>PSCL</i>	<i>TS</i>
<i>PP</i>	1					
<i>CA</i>	.576**	1				
<i>SD</i>	.205*	.004	1			
<i>PLD</i>	.141	.084	.016	1		
<i>PSCL</i>	.448**	.088	.097	.117	1	
<i>TS</i>	.188*	.045	.122	.008	.018	1
	.587**	.251**	.084	.189*	.402**	.000 1

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

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

A correlation coefficient expresses quantitatively the magnitude and direction of the liner relationship between two variables, Pearson correlation coefficient shows the magnitude and direction of relationships (either positive or negative) and the intensity of the relationship (-1 to +1). In this section a correlation analysis to establish when relationships do exist between variables conceptualized in the framework. The study used one of the most commonly used types

of correlation coefficient which is Pearson correlation coefficient methods because of the statistical accuracy that usually results from this method.

A correlation coefficient of 0 means there is no linear relationship between the variables (Valerie and McColl, 2005). The results of table19 show the correlation analysis that shows all the procurement practice variables were positively related to the project performance.

According to Julie (2002), strength of correlations can be interpreted as follows: Strength of correlation •  $r = .10$  to  $.29$  or  $r = -.10$  to  $-.29$  small effects (weak), •  $r = .30$  to  $.49$  medium effects (moderate), •  $r = .50$  to  $1.0$  large effect (strong).

The regression coefficient table19 below indicated that, there was a positive correlation between project performance and procurement planning as shown by correlation coefficient of 0.575, this relationship was found statically as the significant value 0.000 which is less than 0.05, the study found a positive correlation between project performance and procurement planning. The study also found a positive correlation between project performance and specification development as shown by correlation coefficient of 0.141 and had a significant value of 0.127 which is greater than 0.05.

Further, the correlation between project performance and procurement law was also a positive correlation as shown by the correlation coefficient of 0.448 this relationship was found statically significant value 0.000 which is less than 0.05 where, the correlation between project performance and procurement staff competency level was a positive correlation by the correlation coefficient of 0.188 this relationship was statically significant value 0.042 which is less than 0.05. Also, the correlation between project performance and the tendering system was a strong positive correlation by the correlation coefficient of 0.587 this relationship was found statically significant value 0.00 which is less than 0.05. Therefore, there is a positive correlation between the variables shown above and project performance.

### **4.9.3. Regression result and Discussion**

Regression analysis results were discussed under this section. This part indicates the discussion of the casual relationship between the explanatory variables and the outcome variable.

#### 4.9.3.1 Regression Model Summary.

The model summary box outlines that overall fitness of the model. The model summary indicates the amount variances in the dependent variables by predictor variables.

**Table17: model summary for multiple linear regressions**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.800 <sup>a</sup>	.641	.621	.229962	.641	32.963	6	111	.000	1.723

**Sources: SPSS Result**

Predictors: (Constant), PPP, SD, PLD, PSCL, and TS

The above model summary table shows, the project performance and procurement practices studied the five independent variables (procurement planning, procurement laws, staff competency and tendering system) were significantly correlated with the coefficient of R=0.8. The table 20 shows Adjusted R<sup>2</sup> value was 0.621 can be interpreted as 62.1 % of the variation in the dependent variables can be explained by variations in the independent variables in this study as represented by the Adjusted R Square. Hence, the five independent variables explain 62.1% of public building construction project performance with particular reference to Kembata Tembaro Zone. The other factors not included in this study contribute about 37.9% of the factors affecting public building construction project performance in this study.

According to Singh (2007), an adjusted R square of above 75percent is very good, between 50-75percent is good, between25-50 percent is fair and below 25percent is poor and in the given case. Therefore, the adjusted Square is 62.1% which is in the range of good.

#### 4.9.3. 2. ANOVA Test Results

ANOVA (F-test) results in the table 21 shows the regression between predictor variables and the project performance.



**Table18: overall significance: ANOVA (F-test)**

Model	Sum of Squares	D f	Mean Square	F	Sig.
1 Regression	10.461	6	1.744	32.98	.000 <sup>b</sup>
Residual	5.868	111	.053		
Total	16.329	117			

**Sources: SPSS Result**

- a. Predictors( constant ), PPP,CA, SD, PLD , PSCL, and TS

Table 21 indicates the summary of the analysis of variances and f-statistics. The study employed ANOVA test to test the significance of the Regression. The significance value is 0.000 which is less than 0.05% thus the model is statically significant in predicting how procurement planning, contract administration, specification development, legal documents, staff competency and tendering system affecting the project performance in the study. The above table 21 shows that the model is good in the fit of the data or at least one of the parameter is different from zero or significant predictor of project performance. Because the p-value of the model is less than 0.05 or it is significant and  $F=32.98$  indicates independent variables statically significantly predict the dependent variables ( $F 6, 111 = 32.98, P < 0.05$ ).

**4.9.3.3 Regression coefficients**

From the table 22 below the findings of the regression indicates that how much the dependent variable varies with independent variables when all other independent variables are held constant. So, from tables below shows that five (5) significant independent variables that influence the dependent variable because a  $p < 0.05$ . Then the variables those have p-value less than 0.05 are procurement planning, contract administration, procurement legal document, Procurement staff competency level and Tendering system. The rest only one variables specification development is insignificant.

**Table 19: summary of Linear Regression coefficient analysis**

	Unstandardized	Standardized		T	Sig.	Collinearity Statistics	
	Coefficients		Coefficients			Tolerance	VIF
	B	std. Error	Beta				
Constant	.892	.220		4.062	.000		
(X <sub>1</sub> )	.268	.035	.456	7.748	.000*	.934	1.07
(X <sub>3</sub> )	.002		.003	.055	.956	.961	1.04
(X <sub>4</sub> )	.127	.032	.249	3.992	.000*	.832	1.20
(X <sub>5</sub> )	.076	.030	.146	2.540	.012*	.982	1.01
(X <sub>6</sub> )	.200	.036	.362	5.587	.000*	.773	1.29

**Sources: SPSS**

$$Y = 0.892 + 0.456X_1 + 0.131X_2 + 0.249X_4 + 0.146X_5 + 0.362X_6$$

In the above table 22 all the predictor variables were statically significant except specification development with  $p < 0.005$ , ( $\beta_1=0.456$ ,  $p=0.00$ ,  $\beta_3=0.249$ ,  $p=0.00$ ,  $\beta_4=0.146$ ,  $p=0.012$ ,  $\beta_5=0.362$ ,  $p=0.00$ ) the result conforms the expected sign of hypothesis for all predictor variables.

If all the other variables kept constant, a unit increases in procurement planning practice lead a 0.456 increase in project performance. Likewise, a unit increases in procurement legal document lead a 0.249 increase in project performance; a unit increases in staff competency lead a 0.146 increase in project performance and a unit increases in tendering system lea a 0.362 increase in project performance. These results imply that of the five variables studied; procurement planning practice contributes more to project performance then followed by tendering system, procurement law, procurement staff competency level, and lastly contract administration practice was least contribution to project performance.

#### **4.9.4.1 Regression analysis for cost**

Regression analysis was conducted to decide whether independent variable was a significant determinant of the dependent variable cost.

**Table20: model summary of Multiple Linear Regressions analysis for cost**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.643 <sup>a</sup>	.414	.382	.43464	.414	13.062	6	111	.000	2.197

**Sources: SPSS Result**

a. Predictors: (Constant), PPP, CA, SD, PLD, PSCL, and TS

b. Dependent Variable: cost as the project performance

Regression analysis results in table 23 shows that the goodness of fit for the regression between cost and the independent variable was satisfactory. An R squared of 0.414 indicates that 41.4% of the variability in cost can be explained by the independent variables.

**Table 21: summary of Linear Regression coefficient analysis for cost**

Model	Unstandardized Coefficients		Standardized Coefficients Beta	T	Sig.
	B	Std. Error			
(Constant)	.620	.416		1.491	.139
(X <sub>1</sub> )	.244	.065	.281	3.742	.000*
(X <sub>2</sub> )	-.061	.072	-.063	-.847	.399
(X <sub>3</sub> )	.261	.060	.346	4.356	.000*
(X <sub>4</sub> )	.139	.058	.177	2.385	.019*
(X <sub>5</sub> )	.205	.068	.250	3.026	.003*

**Sources: SPSS Result**

Dependent Variable: cost as the project performance

By looking at the variable table 24 show that the PPP ( $\beta_1=0.281$ ,  $P < 0.05$ ), PL ( $\beta_4 =.346$ ,  $P < 0.05$ ), PSCL ( $\beta_5=.177$ ,  $P < 0.05$ ) and TS ( $\beta_6=0.25$ ) had significant independent effects on the cost for project performance. However, SD (Specification development) did not significantly predict the variance in cost for project performance. This indicates that PPP, PL, PSCL, and TS had an effect on cost of project success, but CA, and SD had no effect on cost in this study.

The estimated regression model of the study would be written as:

$Y = \beta_0 + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \beta_4.X_4 + \beta_5.X_5 + \beta_6.X_6 + \epsilon$ . Therefore, using the multiple regression coefficients in table 25 above, the fitted regression model would be written as:

$$\text{Cost} = 0.62 + 0.281 X_1 + 0.012 X_2 - 0.063 X_3 + 0.346 X_4 + 0.177 X_5 + 0.205 X_6 + \epsilon$$

$\beta_1 = 0.281$ ; Shows that a one unit increase in procurement planning practice leads to an increase in cost by 0.281 other factors held constant.

$\beta_4 = 0.346$ ; Shows that a one unit increase in procurement laws leads to an increase in cost by 0.346, other factors held constant.

$\beta_5 = 0.177$ ; Shows that a one unit increase in procurement staff competency level leads to an increase in cost by 0.177, other factors held constant.

$\beta_6 = 0.25$ ; Shows that a one unit increase in Tendering system leads to an increase in cost by 0.25, other factors held constant. One can understand from the above says that, the higher the beta coefficient of the variables the higher the contribution that the independent variables have on the dependent variable (cost). Therefore, the Procurement law has the highest contribution ( $\beta = 0.346$ ,  $p < .05$ ) on cost for project performance, then followed by procurement planning practice ( $\beta = 0.281$ ,  $p < .05$ ), Tendering system ( $\beta = 0.25$ ,  $p < .05$ ) and procurement staff competency level practice was least contribution to cost for project performance.

1. The Hypothesis-1: Procurement Planning has a significant effect on project performance of Kembata Tembaro zone public building construction project. Procurement planning is accepted because of  $P = 0.000$ ,  $P < 0.05$ .
2. The Hypothesis-3: Specification development has reduced during analysis made since its validity. Hypothesis is not accepted for further analysis and it is not measured its significance level.
3. The Hypothesis-4: Procurement law has a significant effect on performance of public building construction project in Kembata Tembaro zone. Therefore, procurement law is accepted because of  $P = 0.000$ ,  $P < 0.05$  significance level.

4. Hypothesis -5: Staff Competency has a significant effect on performance of public building construction project in Kembata Tembaro zone. Therefore, procurement Staff Competency is accepted because of  $P=.019$ ,  $P < 0.05$  significance level.

5. Hypothesis-6: Tendering system has a significant effect on performance of public building construction project in Kembata Tembaro zone. Therefore, Tendering system is accepted because of  $P=.003$ ,  $P < 0.05$  significance level.

#### 4.9.4.2 Regression analysis for time

According to the Clough et al., (2000) Project time has been defined as duration of the project on the date stated in the contract agreement signed by both parties. It is also defined as the duration that is needed to complete the work starting from site handover until finished.

**Table22: model summary of Multiple Linear Regressions analysis for time**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig.F Change	
1	.619	.383	.349	.49843	.383	11.465	6	111	.000	2.006

**Sources: SPSS Result**

a. Predictors: (Constant), Tendering system, Procurement staff competency level, specification development, contract administration, procurement planning, procurement Laws.

b. Dependent Variable: Time as the project performance

**Table23: summary of Linear Regression coefficient analysis for time**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.181	.477		0.380	.705
(X1)	.272	.075	.281	3.636	.000*
(X2)	.037	.082	.034	.450	.654
(X3)	.181	.069	.215	2.632	.010*
(X4)	.061	.067	.069	.908	.366
(X5)	.289	.078	.316	3.727	.000*

**Sources: SPSS Result**

A close looking at the variable table26 shows that the  $X_1$  ( $\beta_1=0.281$ ,  $P < 0.05$ ),  $X_2$  ( $\beta_2 =0.154$ ,  $P < 0.05$ ),  $X_4$  ( $\beta_4=0.215$ ,  $P < 0.05$ ) and  $X_6$  ( $\beta_6=0.316$ ) had significant independent effects on the time for project performance. However, the rest SD (Specification development) and procurement staff competency level did not significantly predict the variance in time for project performance. This indicates that PPP, PL, and TS had an effect on time of project success, but PSCL, and SD had no effect on time in this study.

The estimated regression model of the study would be written as:

$Y = \beta_0 + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \beta_4.X_4 + \beta_5.X_5 + \beta_6.X_6 + \epsilon$ . Therefore, using the multiple regression coefficients in table 26 above, the fitted regression model would be written as:

$$\text{Time} = 0.181 + 0.281X_1 + 0.154X_2 + 0.034X_3 + 0.215X_4 + 0.069X_5 + 0.316X_6 + \epsilon$$

$\beta_1 = 0.281$ ; Shows that a one unit increase in procurement planning practice leads to an increase in time by 0.281 other factors held constant.

$\beta_4 = 0.215$ ; Shows that a one unit increase in procurement laws leads to an increase in time by 0.215, other factors held constant.

$\beta_6 = 0.316$ ; Shows that a one unit increase in Tendering system leads to an increase in time by 0.316, other factors held constant.

From the regression analysis, the higher the beta coefficient of the variation, the higher the contributions to the independent variables have on the dependent variable (time). Therefore, tendering system has the highest contribution ( $\beta=0.316$ ,  $p < .05$ ) on time for project performance, then followed by procurement planning practice ( $\beta =0.281$ ,  $p < .05$ ), procurement laws ( $\beta=0.215$ ,  $p < .05$ ) and contract administration least contribution to time for project performance.

1. The Hypothesis-1: Procurement Planning has a significant effect on project performance of Kembata Tembaro zone public building construction project. Procurement planning is accepted because of  $P=0.000$ ,  $P < 0.05$ .

2. 3. The Hypothesis-3: Specification development has reduced during analysis made since its validity. Hypothesis is not accepted for further analysis and it is not measured its significance level.

4. The Hypothesis-4: Procurement law has a significant effect on project performance of Kembata Tembaro zone public building construction project. Therefore, procurement law is accepted because of  $P=.010$ ,  $P < 0.05$  significance level.

5. Hypothesis -5: Staff Competency reduced during analysis made since its validity. Hypothesis is not accepted for further analysis and it is not measured its significance level.

6. Hypothesis-6: Tendering system has a significant effect on project performance of Kembata Tembaro zone public building construction project. Therefore, Tendering system is accepted because of  $P=0.000$ ,  $P < 0.05$  significance level.

#### *4.9.4.3 Regression analysis for quality*

In our country Ethiopia quality is an important issue in public building construction projects. The objective of any construction project is to complete the given project within the estimated budget, time and the quality.

**Table24: model summary of Multiple Linear Regression analysis for quality**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig.F Change	
1	.413 <sup>a</sup>	.171	.126	.46497	.171	3.803	6	111	.002	2.179

**Sources: SPSS Result**

- a. Predictors: (Constant), Tendering system, Procurement staff competency level, specification development , contract administration, procurement planning and procurement legal document
- b. Dependent Variable: quality as the project performance indicators.

From the above model summary we observe that, the six predictor variables (PP, PLD, TS, PSCL, and SD) all combined could only account for 12.6% of the total variation of project performance (Adjusted R-square = 0.126). This implies that, the remaining 87.4% of variation in project performance are as a result of other factors not covered by this study.

Therefore, there is a need to improve the model by incorporating more factors to make it more reliable and effective since the Adjusted R- square = 12.6% which is low (Singh, 2007)

#### 4.10. Hypothesis tests result

The following summary of hypothesis test result is extracted from regression model one.

**Table25: Hypothesis result summarized**

Procurement practices	sig.	P-values	Decision
Procurement planning	.000 **	P=0.000, p < .05	H11 is accepted
Specification development reduced during		analysis p=0.956, p > 0.05	H13is rejected
Procurement legal document	.000 **	p=0.000, p < 0.05	H14 is accepted
Staff competency level	.012**	p=0.000, p < 0.05	H15 is accepted
Tendering system	.000**	p=0.000, p < 0.05	H16 is accepted

**Sources :SPSS Result**



1. The Hypothesis-1: Procurement Planning has a significant effect on project performance of Kembata Tembaro zone public building construction project. Procurement planning is accepted because of  $P=0.000$ ,  $P < 0.05$ .
2. The Hypothesis-3: Specification development has reduced during analysis made since its validity. Hypothesis is not accepted for further analysis and it is not measured its significance level.
3. The Hypothesis-4: Procurement law has a significant effect on project performance of Kembata Tembaro zone public building construction project. Therefore, procurement law is accepted because of  $P=0.000$ ,  $P < 0.05$  significance level.
4. Hypothesis -5: Staff Competency has a significant effect on project performance of Kembata Tembaro zone public building construction project. Therefore, procurement Staff Competency is accepted because of  $P=0.002$ ,  $P < 0.05$  significance level.
5. Hypothesis-6: Tendering system has a significant effect on project performance of Kembata Tembaro zone public building construction project. Therefore, Tendering system is accepted because of  $P=0.002$ ,  $P < 0.05$  significance level.

#### **4.1.1 Interviews results**

The interview and survey result of the study indicate that most of the respondents were procurement experts and during the survey the researcher observes that those procurement experts were new graduates, those who are from other department and low qualification level. The interview result obtained shows that one of the major problems in developing a procurement plan by integrating it into the organization annual budget was the gap between the client and finance procurement experts.

The interview result also indicates that most of the procurement staff was from the other disciplines and non-professionals (Economics, statics, other social fields and most of them were upgraded from the lower status without attending the regular program). The interviewed personnel's strongly argued that those who arrived from other disciplines were incompetence of understanding the public procurement rules and manuals adequately and implementing it improperly, low capacity of understanding, unable to prepare a procurement plan properly, low

capacity of evaluating the bidding documents, unable to manage the procurement documents terms and conditions and unable to report any problems about to the process.

Supporting to the above analysis table 13, the physical observation made by the researcher and result of the interview made with the key persons from sampled institutions indicates that public procurement in the public institution was still facing problem of using new IT this would affect the procurement practices effectiveness and efficiency also it would cause the project performance problem.

The qualitative data analysis done through interviews made by knowledgeable key persons from the sampled institutions indicates that clients, design and construction experts were not effectively communicate and coordinate, this is due to the SNNPRS design and construction office assigns the Zone design and construction as an agent this by itself creates a gap that Zone design and construction office has a poor communication and coordination. The clients were not effectively communicated and coordinate with the contractors during payments. Therefore, this situation affects the project performance.

The construction projects were affected by a cluster of variables that are related to the characteristics of the project and to the construction team. Finding of the result indicated that, the commitment of the stakeholders to the completion of the projects were low. Also, the interview results show that, the role of stakeholders in the completion of the projects were low because of the client has no sufficient budget and less attention to the project work, the contractor's financial capacity to resist challenges, material price increase and less follows up of regulatory group.

#### **4.12. Analysis of secondary sources**

Here, in the review of the secondary data, construction projects were undertaken by Kembata Tembaro Zone starting from 2002 up to 2012 E. C from which ten projects were assessed. The projects reviewed were 10 from 30 projects that were selected purposively. The discussions of selected projects were attached in appendix B. The summaries of sample projects shows: a summary of project type, contract amount and the actual cost, contract time and actual completion time for public building construction projects.

To summarize, from the secondary data ten projects were selected for analysis, we see that the project incurred the problem of over budget, delay, and project quality problems. Most of the projects indicate that over budgeted and schedule variances. Accordingly, project 1, 6, 8, 9 and 10 consumed more than targeted cost and have problem of project schedule variances. Therefore, the analysis of the selected public building construction projects main causes were a problem of procurement practices.

## CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with the findings, conclusion and recommendations. The conclusions and recommendations drawn were in line with the objectives of the study. Areas of further research were suggested and limitations were taken in to account.

### 5.1 Summary of major findings based on specific objectives

- ✚ The procurement planning training was not provided to the procurement staff adequately in the case area.
- ✚ Unplanned requisition causes additional budget and could be a major challenges to go with actual procurement plan.
- ✚ One of the major problems in developing a procurement plan by integrating it into the organization annual budget was the gap between the client and procurement experts.
- ✚ One of the challenges to contractors to do their work according to the signed contract agreement was materials price fluctuation that makes the contractors beyond their capacity.
- ✚ Conflicts during contractor's payments this can be emerged from Finance bureaucracy and design and construction office to assure payment certificate for the progress of the work.
- ✚ The responsible bodies were not following up the projects by inspecting woks on all occasions of site visits to monitor progress of work according to the contract signed.
- ✚ The procurement legal documents that guide the public procurement were not flexible.
- ✚ The public institutions were still facing a problem of using IT for the public procurement in the case area.

- ✚ Conflicts during contractor's payments this can be emerged from Finance bureaucracy and design and construction office to assure payment certificate for the progress of the work.
- ✚ The responsible bodies were not following up the projects by inspecting works on all occasions of site visits to monitor progress of work according to the contract signed.
- ✚ The procurement legal documents that guide the public procurement were not flexible.
- ✚ The public institutions were still facing a problem of using IT for the public procurement in the case area.

## **5.2 Conclusion**

From the finding, the study concludes that there was a significant positive relationship between procurement practices including procurement planning; contract administration effectiveness, specification development procurement, legal documents, procurement staff competency level and tendering system and project performance.

The study also concludes that independent variables (procurement planning, procurement laws, staff competency and tendering system) that were studied explains 62.1% of the variability of the dependent variables in the Kembata Tembaro Zone from a logistical perspective in the study area. The other factors not included in this study contribute about 37.9% of the factors affecting public building construction project performance in this study.

The study found out that the public building construction project is facing challenges in procurement practices which lead to not achieving its objectives in terms of timely completion, with quality materials, and at reasonable costs. On the other hand, unplanned requisition causes additional budget and could be major challenges to go with procurement plan is an influence of procurement planning. According to Alfred (2013) procurement planning is very important for every procuring entity because it will give to: avoid rush orders which can be cost full, timely delivery requirements and proper selection of procurement choice. Also, the procurement

planning training was not provided to the procurement staff adequately in the case area to fill their knowledge gap and to become effective. One of the major problems in the developing procurement plan by integrating it into the organization annual budget was the gap between the client and finance procurement experts.

The commitment of all the concerned bodies or parties in project completion in the public building construction projects in the case area was low.

The study further revealed that one of the challenges to contractors to perform their work according to the signed contract agreement was materials price fluctuation that makes the contractors beyond their capacity since the contract does not have provisions for such problem for this reason most of the public projects were under these incidences and affects project performance. The other findings of the study were, conflicts during contractor's payments this can be emerged from Finance bureaucracy and design and construction office to assure payment certificate for the progress of the work according to the agreement. A project is a multidisciplinary industry and its work involves various actors. Additionally, one of the major problems of the public building construction project performance in case area was the responsible bodies were not following up the projects by inspecting works on all occasions of site visits to monitor progress of work according to the contract signed.

As it is clearly indicated in the literature review section of the study, public procurement laws and regulations should be clear, consistent, comprehensive, and flexible (OECD, 2006). But the finding of the study reveals that, the procurement legal documents that guide the public procurement were not flexible as the respondents indicated in the problem area.

Another finding of the study was the Procurement staffs were not adequately equipped with the required knowledge because most of those staff was not specialized in procurement field, and they were assigned wrongly without their profession. A sound procurement system need a competent procurement staff, it helps to handle all the changes and challenges as it comes.

Now a days procurement related information's were exchanged by the application of IT in order to increase effectiveness and efficiency of the procurement system but public procurement in the

public institution were still facing problem of using new IT in the area of the study this would affect the procurement practices effectiveness and efficiency. Also it would cause the project performance problem and other findings of the procurement workforce related issues were the ethical status and quality of workforce of the procurement staff in the area of the problem.

Finally, the study concludes that, regarding the tendering the political interference has an effect on the tendering process and also selecting the capable contractor during bid evaluation in the public building construction project in the Kembata Tembaro Zone has an effect on the project performance.

### **5.3 Recommendations**

Based on the identified major findings of the study, the following recommendations are suggested to improve procurement practices and reduce the major challenges and recommendations are made by a researcher on the five procurement practices:-

- ✚ Providing a procurement planning training to the procurement experts helps to eliminate risks because the trained personals are able to make better thereby reducing and avoiding waste; provides the skills and abilities needed to adjust to new situations and enables to meet the area of challenges. Therefore, public procurement agency and HRM department should take the responsibility to give periodic and updated a procurement planning related issues by providing training either on-job-training or off- job - training to the staff.
  
- ✚ The Construction industry is complex in its nature since; it consists of different parties' clients, contractors, consultants and regulators. The government organizations (clients) requests unplanned work by signing other work program with contractors which is not part of the 1<sup>st</sup> agreement and not part of the planned work program. This causes challenges between parties to solve this problem the researcher recommends that the project activities should be properly identified, the project scope should be clearly defined at the beginning and the specifications will be developed professionally and experienced workforce and finally monitor and manage the balance of these components through the life of the project.

- ✚ Developing a procurement plan without organization annual budget is unachievable goal and it became a dream to solve such problem the public organizations in the case area should take a responsibility to improve developing a procurement plan by integrating it into the organization annual budget.
- ✚ Public procurement in any country has and will always face many challenges. Either developing or developed country has its own socioeconomic, cultural and political environment, and each country's face different types of challenges. Among this one of the challenges to contractors to do their work according to the signed contract agreement was materials price fluctuation that makes the contractors beyond their capacity. The researcher recommends that, to reduce the challenges all parties (client, contractor and design and construction) should pay attention. Regarding clients and government authorities, both of them should give attention to the inflation and the procurement contract should be flexible and about contractor's side making accurate pricing during the bidding time and the Planning and scheduling the works from start of the project and during the work to match with the resources and time to develop the work to avoid the challenges.
- ✚ A contract is a legally binding agreement between two or more parties to complete a specified action at a certain point in a time. A delay in the payment for service by the project owners /clients can lead to significant problems. Even delays on payment some time provoke the contractor to claim for interest rates and this can cause a conflict between the two parties and it leads to the stoppage of the project work. In order to reduce conflicts during contractor's payments, the study also recommends that the client pays progress payment to the contractors on time and improve coordination between parties to build a smooth relationship and to make the work environment conducive so as to solve conflicts without going to the court and to keep the contract agreement promises.
- ✚ One of the basic characteristics of a project is coordination among the diverse area call for teamwork and a complex set of activities. In order to narrow the gap of inspecting works on all occasions of site visits to monitor progress of work according to the contract



the concerned bodies of the regional office of design and construction work collaboration with the zone design and construction office experts works with project stakeholders.

- ✚ Regarding to the flexibility of the procurement legal documents the researcher recommends that the regional government should update and revise and it should be based on the local conditions.
- ✚ Another finding of the study shows that, the Procurement staffs were not adequately equipped with the required knowledge because most of those staff was not specialized by procurement filled, and they were assigned wrongly without their profession. A sound procurement system needs a competent procurement staff it helps to handle all the changes and challenges as it comes from various dimensions. In order to reduce this problem the researcher recommends that the sampled organizations take the assignment of the procurement process requires competent workforce during preparation of bid document, bid evaluation, contract administration, evaluation of the specified specification and changing it to the application, preparing potential procurement planning, and high level of understanding and reading the procurement rules, laws and guidelines and assigning the right person at the right place at the right time in order to improve the project performance.
- ✚ The use of IT by procurement staff in government organizations helps to improve the procurement practices for the success of projects were also another issue that needs attention in the problem area. The researcher recommends that, the government organizations should develop their address properly to contact with their stakeholders and procurement agency to obtain any change and modification of procurement rules, laws and guidelines and other supportive documents that helps for the area of work and to perform the procurement task by using software in order to use their time effectively and increase the performance and enables the procurement staff to become competent and to achieve the desired objectives.
- ✚ The public procurement may face different challenges in both developed and developing countries each of them have their own economic, social, cultural, and political environment and also the public procurement professionals have always tried to keep

their practices transparent but in this study the finding indicates that though politics were present in the tendering process indirectly in the case area. The researcher recommends that the independent bodies such as the Audit Bureau of Southern Nations, Nationalities and People's Regional State will work in collaborations with the Kembata Tembaro Zone Audit Bureau and also work in collaboration with the Anti-corruption commission and finally the result will be announced to public timely and in periodic.

✚ Most of the political leaders who are assigned from zonal level to the woredas and town administrations were not professional and well-educated due to this reason they want to interfere and politicize the procurement officials, so they fear to operate their tasks and lack confidence. The Researcher also recommends that in order to protect the procurement systems from the political interference and working independently to procurement officials the government should take responsibilities during political leaders assigning, and screening stage and cutting unnecessary linkage and putting clear ethical standards for procurement officials.

✚ Finally, the researcher recommends that selecting the capable contractor during bid evaluation in public building construction projects will be given a serious attention since various research findings also highly recommends this issue because large amount of public budgets are invested in this area. Lastly, procurement of public building construction project bid evaluation needs cooperation of the parties; critical review of bidding documents; and strength of bidding committee.

Therefore, the further study should be conducted to investigate the other factors 37.9% that influence the public building construction performance in this study. The specification development not considered during analysis because its validity. In this case project performance,  $R=0.800$  indicates a good level of prediction.

#### **5.4. Future Research**

The study seeks to find the effects of procurement practices on public building construction project performance in Kembata Tembaro Zone. The results of this study can be further utilized to suggest several directions for further research. More research on this area is needed because

this study has used specific variables and other variables that may affect the project performance need to be investigated.

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# Appendix A

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MSc IN PROJECT MANAGEMENT AND FINANCE

QUESTIONNAIRE TO PROJECT STOCKHOLDER

## Dear respondent

I am an MA in project management and finance student of college of Business and Economics Jimma University. I am currently conducting a research on the topic, “effect of procurement practices on public building construction project performance “a case study of the Kembata Tembaro Zone. I hereby solicit for your opinion through the medium of the questionnaire. This questionnaire is purely for academic Research purpose. Any information provided will be strictly treated confidentially and your genuine and valuable feedback is crucial to achieve the objective of the study .You are not required to write your name on the face of the questionnaire. I really thank you a lot for your concern in advance.

## SECTION 1: Demographic Information of Respondent

1. Gender of the respondent? A .male B .female
2. Age of Respondent? A. 22-31 B. 32-41 C. 42-51 D.52-61
3. Respondents designation/position: A. procurement expert  B. Contractors and consultants  C. Design and construction office experts)  D. Others
4. Highest level of qualification A. Diploma level  B. Undergraduate level  C. post graduate level  D. above  E. others
6. Relevant Working Experience Year: A. 1-4  B. 5-8  C. 9-12  D. above 12 years

## Multiple choose the questions

- A. How many public Building construction projects do you know follows penalties for non-performance of projects according to the contract agreement in Kembata Tembaro Zone?  
A) 1-3 projects B) 4-6 projects C) 7-9 projects D) more than 10 projects E) None
- B. How do you rate the commitment of all parties to the project completion in Kembata Tembaro Zone?  
A) Very low B ) low C) medium D) High E) Very High
- C. How do you rate the effects of poor communication and coordination of procurement staff members /clients /contractors on public building construction projects performance in Kembata Tembaro Zone?  
A) Very low B) Low C) medium D) High E) Very High ) Not sure
- D. The most common tendering method practiced in the Kembata Tembaro Zone/woredas /city administrations were:

- A) Open tendering B) Restricted tendering C) Two stage tendering D) Request for quotation E) Direct procurement F) Other (if any) \_\_\_\_\_

## SECTION 2: Effects of procurement practices on public project questions

Please express your opinion based on the representative numbers listed below by marking (√) under each.

1-Strongly disagree(SDA) ,2 -Disagree (DA) ,3-Not sure (NS) ,4-Agree(A), 5-strongly Agree (SA)

No		SDA	DA	NS	A	SA
<b>1.0</b>	<b>Procurement planning practices</b>	1	2	3	4	5
1.1	Involvement of concerned bodies during procurement planning are vitally important to public Building construction projects in kembata Tembaro Zone					
1.2	Monitoring and updating of the procurement plan for public Building projects in the Kembata Tembaro Zone is undertaken in regular ways					
1.3	There is training program how to prepare procurement planning for public Building construction projects in the Kembata Tembaro Zone					
1.4	Unplanned requisition could be a major challenges to go with an actual procurement plan for public Building construction projects in the Kembata Tembaro Zone					
1.5	Developing a procurement plan by integrating it into the organization's annual budget and undertake each procurement as planned in the Kembata Tembaro Zone public Building construction projects.					
<b>2.0</b>	<b>Contract administration</b>					
2.1	In Kembata Tembaro Zone public Building projects Communication of the terms and a condition of contracts were consistent during project deliverables					
2.2	In kembata Tembaro Zone public Building construction projects Contract administration monitors, controls and evaluations reduce the number of projects uncompleted ,reduce risk and improve quality of projects					
2.3	The flexibility of contract administration during the economic Price fluctuation adjustment provisions was provided in the contract of in					

	the Kembata Tembaro Zone					
2.4	The Conflicts regarding contractor payments affect contract administration effectiveness of public building construction projects in the Kembata Tembaro zone					
2.5	Client and consultant jointly inspecting work on all occasions of site visit to monitor progress of work according to the contract					
<b>3.0</b>	<b>Specification development</b>					
3.1	The Specifications of Public Building Construction Projects in Kembata Tembaro Zone were Clearly express the extent of works under consideration					
3.2	Specifications of public Building construction projects in Kembata Tembaro Zone were developed by professionals					
3.3	Specifications of Public Building construction projects in the Kembata Tembaro zone use simple and clear language such that it can readily be understood					
3.4	In kembata Tembaro zone for public building construction projects the materials purchased were in line with the specification developed					
3.5	The specification of public Building construction projects in Kembata Tembaro Zone was efficient to guide the bidder at the time of tendering to arrive at a reasonable cost for the project work					
<b>4.0</b>	<b>Procurement legal documents</b>					
4.1	In Kembata Tembaro Zone the legal documents that guide the public procurement of Building projects were flexible					
4.2	The Procurement legal documents were Clearly understood and consistently implemented in Kembata Tembaro Zone public Building construction projects					
4.3	The procurement legal documents that govern and guide the public procurement follows the Accountability in Kembata Tembaro Zone public Building projects					
4.4	Kembata Tembaro Zone Procurement staff has knowledge of procurement rules ,regulation and finance directives					
4.5	The procurement legislations trainings were given for the new procurement staff and those who have less understanding personnel					

	in the area of legal issues in the Kembata Tembaro Zone					
<b>5.0</b>	<b>The procurement staff competence level</b>					
5.1	In Kembata Tembaro Zone the procurement staff was adequately equipped with the required knowledge, skills and expertise to undertake procurement tasks of public Building construction projects					
5.2	In Kembata Tembaro Zone the procurement staff is Utilizing latest IT based tools to undertake the procurement tasks of public Building construction projects					
5.3	To the success of public projects in Kembata Tembaro Zone were the issue of selecting the procurement staff based on integrity and leadership qualities would improve the procurement practices					
5.4	The ethical status of the procurement staff involved in Kembata Tembaro zone public Building projects					
5.5	Professionalism or quality of procurement workforce is a challenge of public Building construction project performance in Kembata Tembaro Zone					
<b>6.0</b>	<b>The Tendering system</b>					
6.1	In Kembata Tembaro Zone the public Building projects Tendering should be fair and free from political interference					
6.2	Unethical practices in tendering system that influence the effectiveness of the public Building construction projects performance in the Kembata Tembaro Zone					
6.3	Application of ICT in any stage of tendering and advertising tendering process in Kembata Tembaro Zone					
6.4	Selecting a capable contractor during bid evaluation in Kembata Tembaro Zone public Building construction project					
6.5	The procurement practices of Kembata Tembaro Zone provided the bidders sufficient time for complains for unsuccessful bidders in public building construction projects					

### Section 3: project performance indicators

#### Cost

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1.1	The public building Construction projects were completed with planned budget limit					
1.2	Price level changes of material in markets					
1.3	Payment for construction works shall be made on the basis of the progress of work against payment certificate to be verified by the consulting engineer supervising the work					
1.4	Improper application of finance directives and rules would results additional costs					
1.5	Competent procurement staff enhances to cost reduction					
1.6	The tendering system helped the project to buy within the budget					

### **Time**

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
2.1	The construction material is ready for use according to the planned time schedule					
2.2	Delays of payment from client in public Building construction projects					
2.3	On time claim response for items missing defected not comply with speciation and contract					
2.4	The legal document would be Periodical and Revised					
2.5	Timely deliveries of services					
2.6	In the tendering system the duration taken influence the project performance					

### **Quality**

	<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3.1	Kembata Tembaro Zone public Building construction projects were constructed with quality materials					
3.2	Delivery of quality materials according to the specification specified in the contract in Kembata Tembaro zone public Building projects					
3.3	Development of quality specification on public Building projects					
3.4	Problems are identified and corrections made regarding to violations of finance directives					
3.5	Providing adequate training to procurement staff will improve quality of staff competency					
3.6	The tendering system helped the project worked within the required standards					

### **Interview questions**

The interview will be conducted to collect data for the study the effect of procurement practice on public building construction project performances .It presents the interviewees with their position and work experiences.

1. What is the current status of Public Building construction project in relation to the procurement practices?

2. Does the service requestor have clear terms and conditions to refund to the service provider when there is economic fluctuation and other hazardous that is beyond limitation?
3. How do you know the tendering system transparency and fair competition?
4. How do you know the procurement staff competence awareness about the procurement rules and regulations?
5. How do you know the clarity and applicability of procurement proclamation, rules and regulations for both service provider and service requestor?
6. Does the service requestor/vendor have sufficient resource to proceed until the completion of the project?
7. When does the procurement entity (contracting authority) open tenders?
8. What are the major challenges of public building construction project performance look like in the Kembata Tembaro zone?
9. Do you know to what extent does procurement contract administration effectiveness does affect the public building construction project performance?
10. To what extent procurement staff competence level does affect public building construction project performance?
11. How the tendering system does affect the public building construction project performance?
12. Does the public building Construction projects were completed with planned budget limits?
13. Do you know the procurement Team members and experts were well communicated during the procurement planning phase in order to become effective?
14. To what extent do Contract administration monitors, controls and evaluations reduce project risks and improve project quality?
15. What are the measures undertaken by the zone to improve its performances of building construction projects (if any)?



**Dear Sir**

The researcher is a graduate student of MA in Project management and Finance of Jimma University. The requirement of the program is to come up with a research related the field of study. The aim of this questionnaire is to study the “effect of procurement practices on public building construction project performance “a case study of the Kembata Tembaro Zone. This questionnaire is required to be filled with exact relevant facts as much as possible. All data included in this questionnaire will be used only for academic research and will be strictly confidential.

Your response, in this regard, is highly valuable and contributory to the outcome of the research.

Regards,

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**Jimma, Ethiopia**

## Appendix- B

### INFORMATION OF THE PROJECTS FROM SECONDARY DATA

N o	Selected public projects	Date of agreeme nt signed	Expecte d to be finished	Actual time taken to complete	BCWP /Contract Amount	ACW P	cost variance in Birr	Schedule variance	Project status currently
1	Kechabira woreda Assembly and Office hall	2002 E.C	620 days	1,250day s	12 million	14mill ion	2million	630 days	Finished On
2	Shinshicho town administrati on Industrial building	2005E.C	510 days	-	17 million	Not finishe d	-	-	On progress
3	Kechabira woreda Doctors Dormitory	2009E.C	320 days	-	4million	Not finishe d	-	-	On progress
4	Shinshicho town administrati on Assembly and Office hall	2003E.C	580 days	-	10 million	Not finishe d	-	-	stopped
5	Kembata Tembaro Zone	2009 E.C	750 days	-	72million	Not finishe d	-	-	stopped

	Complex cultural hall and office (bahil maikal)								
6	Damboya woreda court office Assembly hall and Office	2007 E.C	520 calendar days	950 days	4.5 million	4.9 million	0.4 million	430 days	Finished
7	Damboya woreda primary hospital	2008 E.C	560 days	-	31 million	Not finished	-	-	progress
8	Shinshicho town administration primary school	2009 E.C	210 days	350 days	950,000 Birr	1.2million	250,000	140 days	Finished
9	Damboya Woreda Gongi Health Center	2004 E.C	385 days	762 days	16 million	19.5 million	3.5 million	377 days	Finished
10	Damboya woreda OMFI	2008E.C	425 days	610 days	6 million	8.3 million	2.3 million	185 days	Finished

