ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

Factors Affecting Performance of Local Contractors on Building Construction Projects: The Case of Selected Grade One Local Building Contractors in Addis Ababa.

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Advisor: Dakito Alemu (PhD)

A Research Project Report Submitted in Partial Fulfillment for the Requirements for the Award of the Degree of Master of Art in Project Management,
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June 2022

Addis Ababa, Ethiopia

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STATEMENT OF CERTIFICATION

This is to certify that Yared Tefera has carried out this project work on the topic entitled "Factors Affecting Performance of Local Contractors on Building Construction Projects: The Case of Selected Grade One Local Building Contractors in Addis Ababa" under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the award of Degree of Masters of Art in Project Management.

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Date _____

DECLARATION

I, the undersigned, declare that this research project work is my original work and has not been presented for a degree in any other university. All sources of materials used for the thesis have been duly acknowledged.

Name: Yared Tefera

Signature: _____

Place: Addis Ababa University School of Commerce

Date: _____

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Yared Tefera
June 2022,
Addis Ababa, Ethiopia.

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ABBREVIATION AND ACRONYM

DETR: - Department of the Environment, Transport and the Regions

EEA: - Ethiopian Economic Association

EPRDF: - Ethiopia Peoples' Republic Democratic Front

ETBRC: - Ethiopian building and road construction (ETBRC).

GDP: - Gross domestic product

MoWUD: - Ministry of Works and Urban Development

NEC: - National Engineers and Contractors

ABSTRACT

The purpose of the study was to investigate into the factors that influence the performance of local contractors in Addis Ababa's grade one contractors in building construction. Factors influencing local contractors were used as the independent variables, and contractor performance was used as the dependent variable, to establish the conceptual framework. In order to meet the objectives three research questions and five hypotheses were created. In conjunction with descriptive and a causal or explanatory research design, a quantitative research approach was applied. Relative importance index, Pearson Correlation and multiple regression analyses were conducted to investigate the suggested hypothesis and test the direct relationships among variables. The data were obtained by structured closed-ended questionnaires consisted of thirty-two statements identified and merged under five groups. These groups are cost related factors, time related factors, quality related factors, client satisfaction related factors, and people related factors with a five-point Likert scale. The data were collected from a total target population of 240, grade one consultant, grade one contractor, and project owner that are registered in Ministry of Urban Development and Construction and a sample of 150 respondents, out of which 130(86.78%) were returned from selected grade one consultant, contractor, project owner in Addis Ababa. SPSS was used to examine the data (version 24). Simple random sampling technique was applied to draw the respondents and both descriptive and inferential statistics were used to analyze the data and interpret results. The findings indicated that the Cost factor, time factor, quality factor, and people factor have a positive and significant relationship with performance of local contractor, and client satisfaction have positive and insignificant relationship with performance of local building contractors. Escalation of material cost, cash flow of projects, differentiation of currency price, material and equipment cost, and information coordination between owner and project manager were the five major critical factors that affect contractors' performance. Recommendations towards improvement of the current performance for local building contractors were forwarded: Contractors must pay proper attention to material escalation during preparation of cost breakdown analysis for bid price. A material price escalation clause will properly consider and handle on time by the consultants, owners of projects, and the regulatory bodies. Clients must do payments on time for contractors, and facilitate credit facilities. The Government and all concerned bodies must give proper attention to regulate change in currency prices.

Keywords: Cost factor, Time factor, Quality factor, Client Satisfaction factor, people factor, and performance of contractors.

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of Study

In an economy, the construction industry is the sector that is responsible for the construction, repair, and demolition of buildings and civil engineering works. It's also defined as monetary activity aimed towards the building, refurbishment, repair, or extension of fixed assets and capital investments, such as roads, railways, airports, ports and maritime structures, dams, power plants, and irrigation systems, health centers and hospitals, educational institutions, warehouses, factories, offices, shopping malls, and residential properties (Hagos & Shewangzaw, 2009). The progress of every nation's economic growth can be described by the construction of physical infrastructures such as buildings, roads, trains, and bridges (Takim & Akintoye, 2002).

The construction industry is complex by nature, according to Navon (2005), because it involves a vast number of parties, including clients, contractors, stakeholders, and regulators. In addition, the industry makes a substantial contribution to the advancement and achievement of societal development goals. Contractors are one of the most important players in the industry and the ones that produce the final product, thus any efforts to improve the sector's capacity and capability must include measures to improve their capacity and capabilities as well. According to various literatures analysis, Construction is one of the largest industries, contributing roughly ten percent of the gross domestic product (GDP) in industrialized countries. Ofori (2014) and Jekale (2004), significant construction operations account for around 78 percent of total capital assets, 12 percent of GDP, and more than 50 percent of wealth invested in fixed assets in many developing nations. Despite the construction industry's considerable contribution to the economies of emerging countries and the vital role it plays in their growth, the industry's performance continues to be poor.

Building projects are unique in nature, and the construction process varies widely due to factors such as the physical and economic surroundings, the construction team, and/or location and time, according to Xiao and Proverb (2003) ”internationally different cultural characteristics, traditions, and conventions obstruct the completion of construction projects much more." It entails the development of a wide range of

amenities for human activity, including residential buildings, industrial, health and educational institutions, and so on.

Collins (1996) states performance is described as the oldest documented profession. In its most basic form, performance can be defined as fulfilling or exceeding the expectations of customers in terms of time, quality, and cost. The construction business has a significant impact on both the economy and social conditions. According to Didenko and Konovets (2008) one of the most common examples of project-based industries is construction. It's difficult, costly, time-consuming, and risky. Because it is carried out by a variety of parties, including clients, consultants, contractors, regulators, and stakeholders, it is complex (Dadzie, Abdul and Kwame, 2012).

Governments, contractors, consultants and project managers, and end-users/clients have been concerned about project work performance, and it is the key source of problem for many countries on building construction projects. Time, cost, quality, client satisfaction, client changes, business success, health and safety are just a few of the performance indicators that may be used to assess and evaluate project performance (Cheung, Tam. C., Tam V., Cheung K and Suen (2004) ; DETR 2000). The most essential performance evaluation dimension, according to DETR (2000), are time, cost, and quality. Several studies have been carried out to look at the factors that influence the success of construction projects in developing countries. Lack of competent workers, poor supervision and site management, poor craftsmanship, poor client satisfaction, ineffective leader ship, equipment shortage and malfunctions, and other issues all contribute to construction delays (Mohammed, 2004)

Ethiopia's construction industry is a major source of economic growth. The government's massive investment in infrastructure and residential construction projects has propelled the country to the top of the continent's economic standings. Building construction projects are beneficial in a variety of ways; nevertheless, observations show that local and international contractors complete work at various rates, have varying building quality, and cost upon completion.

As a result, the goal of this research was to determine the major factors affecting the performance of local contractors on building construction projects in Addis Ababa, in case of selected grade one building contractor.

1.2 Ethiopia's Construction Industry

The modern construction industry in Ethiopia is a relatively young phenomenon that may be separated into four distinct phases. The first stage spans the years leading up to 1968, when the majority of civil works (including roads) were completed by foreign contractors through worldwide competitive bids. Relevant skilled labor was also primarily sourced from outside the country. The second stage in the growth of Ethiopia's building sector was from 1968 to 1982, when some modest domestic contractors began to emerge. The government has taken steps to assist contractors in participating in feeder road development projects in order to increase their capacity and competitiveness. In this regard, three national companies are worth mentioning: BERTA Construction Company, National Engineers and Contractors (NEC) and Ethiopian building and road construction (ETBRC).

The third era in the evolution of the industry was Derg regime, which took control of the then-emerging domestic private construction enterprises in 1982. State-owned construction firms were also founded. It was seen as a missed chance for the country to develop a competitive construction sector (EEA, 2006/7). The fourth period of Ethiopian history begins in May 1991, when the EPRDF-led transitional government assumed power. Economic management has changed from command to a free market system, with a slew of reforms aimed at encouraging the private sector, particularly private construction firms. As a result, private contractors have been thriving in the business, whereas public companies have been shrinking (EEA, 2006/7) since 1991. The share of capital budget has been increasing year after year as a result of the introduction of a new market system and development plans. During the years 1997/98 through 2001/02, the capital budget accounted for 58.3 percent of the country's total yearly budget (Jekal, 2006).

The construction industry makes a significant contribution to Ethiopia's economy, as seen by its GDP share. During this time period, the industry has grown at a faster rate than the overall economy. Various infrastructure projects, such as roads, airports, and residential and non-residential dwelling units, have seen significant investment over

this time period. The sector's GDP share of the 10.9 percent growth in GDP in 2016/17 was 3.4 percentage points. In 2016/17, it was the most rapidly growing sector (EEA, 2018).

One of the civil engineering fields is the construction of buildings. Cost overruns, time delays, and poor-quality construction are all issues that plague building construction in underdeveloped countries. Contractors' poor performance and lack stakeholder commitment are two main challenges that hinder the performance of building construction projects in Addis Ababa, Ethiopia (Bahru H.G.,2012). Contractor performance failures can be self-inflicted or caused by external events beyond the contractors' control (Akomah & Jackson, 2016).

1.3. Statement of Problem

All countries' socioeconomic progress relies heavily on the construction industry. The major causes of any construction project's failure are issues and performance failures. The three layers of key causes of performance problems in the construction sector of developing nations are shortages or inadequacies in industry infrastructure, issues generated by clients and consultants, and issues caused by contractor incompetence/inadequacies (Shaban S.A.,2008). The contractor's performance is primarily responsible for attaining project success. However, failing to meet the expectations of the owners of the projects they serve as become a global trend, and many contractors have failed to do so.

Many studies have been conducted to examine the factors that affect the performance of construction projects in developing countries. According to Faridi and El-Sayegh (2006) construction delays in developing countries, particularly in Sub-Saharan Africa, are caused by a lack of skilled labor, inadequate supervision and site management, weak leadership, equipment shortages and breakdowns, and other factors.

Idoko (2008) states many construction projects in developing nations experience significant time and cost overruns, fail to achieve their intended goal, or are completely cancelled and abandoned before or after completion. Previous research found that project failure was mainly due to difficulties and performance failure. The majority of these research concentrated on a single facet of performance, primarily Cost and Time, rather than overall performance.

Lack of management competence and worker participation, added equipment quality management, human error, bad workmanship, and contractual relationship underlining have all been recognized as causes of poor performance in the construction industry in various countries (Atkinson, 1999; Love & Li, 2000).

In Ethiopia, the current state of the construction industry fails to meet domestic and international quality requirements, as well as the sector's performance expectations (MoWUD, 2006). Clients, contractors, consultants, and end-users are all concerned about the performance of building projects. Because construction projects are made up of processes that run from start to finish, they must go through multiple activities at each key stage to achieve the project's objectives and will encounter various bottlenecks (Taber, 2018). Poor productivity is a key challenge in the construction business in developing nations like Ethiopia (Enshassi, 2009).

Temam (2018) investigated the many sorts of factors that have a substantial negative impact on both local and multinational contractors' performance in Ethiopian construction projects. Time, cost, quality, client happiness, and other critical factors affecting the performance of local and international contractors have been identified by Getahun (2016).

According to Bahru (2012) schedule delays, cost overruns, and poor construction qual ity affect the majority of building construction projects in Ethiopia as a result of poor contractor performance and a lack of stakeholder commitment. Since the work began, the project has taken more than 200 percent longer to complete. Inflation, inaccurate cost projections, variances, escalation of material prices, insufficient implementing capability, economic conditions, poor project management, and weak project design.

According to Mamaru, Alemayhu and Assefa (2017) poor project management and bad project design were the main factors for building construction projects failures.

According to Atkinson et al (2007) clients will be dissatisfied, if the end product does not satisfy their pricing, quality, time frame, functionality, or delivery performance standards. This means that without the customer meets their required work circumstances, consultants will not have the skills and knowledge needed to create and manage procedures. Successful stakeholders' performance must be measured and controlled in order to sustain continued involvement and cooperation in a construction project. Unlike many other industries, the construction industry has the potential to

have a greater impact through its end products. The industry is no longer immune to public demands and constraints.

According to observations, the majority of building projects carried out by local contractors in Addis Ababa are completed much beyond the contract time range, with significant cost overruns and poor-quality work. These failures might be self-inflicted by contractors or caused by client performance and other external variables beyond their control.

Many studies on the factors influencing the completion or delivery of building construction projects have been conducted, but only a few have focused specifically on the factors influencing the performance of building contractors by comparing international contractors with local contractors using a small target population: the case of selected building contractors in Addis Abeba, Ethiopia. As a result, any construction firm must research factors impacting contractor performance in order to improve contractors' performance and project delivery on schedule, within budget, and to the required quality

Thus, by investigating the factors and identifying critical factors influencing contractors' performance on building projects: the case of selected grade one building contractors in Addis Ababa, Ethiopia, this study seeks to close this knowledge gap.

1.4. Questions for Research

The following are some of the potential research questions that the study aimed to address:

i. What factors affecting performance of local contractor's on building construction projects in the case of grade one local building contractors in Addis Ababa?
ii. What are the critical/key factors affecting performance of local contractor's on building construction projects in the case of grade one local building contractors in Addis Ababa?
iii. To what significance does a critical factor on the performance of local contractor's on building construction projects in the case of grade one local building contractor in Addis Ababa?

1.5. Objectives of the Study

The research objective is a statement of purpose because it is the guide to be accomplished by the researcher in conducting his / her research project (Cooper and Schindler, 2006). The study has the following general and specific objectives.

1.5.1. General Objective of Study

The general objective of the study was to examine the factors affecting performance of local contractors in building construction projects, in case of selected grade one local building contractor in Addis Ababa, Ethiopia.

1.5.2 Specific Objectives

The specific objectives of the study are;

i. To investigate factors affecting local contractors' performance on building construction projects in the case of grade one local building contractors in Addis Ababa.
ii. To identify the critical/key factors affecting local contractors' performance on building construction projects in the case of grade one local building contractors in Addis Ababa.
iii. To assess the significance of critical factors affecting local contractors' performance on building construction projects in the case of grade one local building contractors in Addis Ababa.

1.6 Significance of Study

This research intends to produce findings that will contribute to a better understanding of the primary elements influencing the performance of local contractors on building construction projects, in selected grade one local building contractor in Addis Ababa. The findings could be used by the government to provide the appropriate incentives and laws to maintain the construction industry's continued growth, capacity building, and policy framework.

The research could be valuable for construction consultants, contractor, and project owner who want to know how their services affect the performance of contractors in the construction industry. Furthermore, this study effort will serve as a springboard and stepping stone for other researchers who wish to pursue the topic further. In this study, data was collected from chosen grade one local building contractors, consultants and public project owners in Addis Ababa using a standardized questionnaire.

1.7 Scope of Study

1.7.1 Geographical Scope

The study was basically conducted in Addis Ababa city. This study involved selected local building contractors, consultants as well as public project owners in Addis Ababa.

1.7.2 Subject Scope

The study's content scope was limited to the factors influencing local contractor performance on building construction projects in Addis Ababa. Cost factors, time factors, quality factors, client satisfaction factors, and people factors, all played a role in the performance of local contractors on building construction projects in Addis Ababa.

1.7.3 Time Scope

The research was limited to the years 2017 to 2021. This time frame was chosen because the researcher believes that five years is long enough to investigate the elements that influence local contractors' performance on building construction projects in Addis Ababa, Ethiopia.

1.8 Limitation of Study

The goal of this study was to investigate factors affecting local contractor performance on building construction in the case of a selected grade one building contractor in Addis Ababa. The study's scope was confined to identifying the factors affecting local contractor performance, and it focused solely on grade one building contractors. Another drawback of this study is that it relied solely on a questionnaire to collect data.

1.9 Definition of Key Terms

Contractor: According to Ministry of Works and Urban development directives number 648/2021, A contractor is a corporation or an organization that is registered with a legal authority and certified as a contractor in various parts of the construction industry.

Consultant: According to Ministry of Works and Urban development directives number 648/2021, "consultant means a registered and licensed business consultant in various sectors of the construction industry or an organization licensed to perform new tasks.

Local contractors: Local contractors are companies who registered and carry out the construction works inside their country of origin.

Performance indicator(s): A particular value or characteristic used to measure output or outcome. These are parameters useful for determining the degree to which an organization has achieved its goals. A quantifiable expression used to observe and track the status of a process. The operational data that reflects a facility's, group of facilities', or site's performance or condition.

Performance measurement: Information on the efficiency with which resources are transformed into goods and services (outputs), the quality of those outputs (how well they are delivered to clients and the extent to which clients are satisfied) and outcomes (the results of a program activity compared to its intended purpose) are all part of the process of assessing progress toward predetermined goals.

Performance of contractor: In a contract, a contractors' performance is defined as the execution of an obligation in a way that relieves the contractor of all contractual liabilities. The completion of a task as measured against a set of predetermined criteria, accuracy, completeness, cost, and speed norms.

1.10 Organization of the study

The research will organize into five chapters as follows;

Chapter one; contains the introduction to the research, statement of problem, research questions, study objectives, significance of the study, scope of the study, and definitions of significant terms.

Chapter two: literature review will present theoretical and empirical reviews of related literatures on the various aspects concerning the topic and will develop conceptual framework.

Chapter three: the following topics are illustrated; research design, study population, sample and sampling procedure, data collection and data collection procedures, and data analysis techniques.

Chapter four: the following topics are captured; data collection, analysis, presentation and interpretations.

Chapter five: the following topics are outlined; the summary of findings, conclusion and recommendations of the study.

CHAPTER TWO

2. LITERATURE REVIEW

The literature review gives an insight to readers about the foundations of knowledge and theoretical understanding of the subjects under consideration. Based on the problem, objective, and question of the study, this chapter covers topics related to the historical background, meaning, concept, and theories of factors affecting performance of local contractor in building construction projects. In addition, there are empirical reviews in this chapter. Finally, the study's conceptual framework and hypothesis test were included.

2.1 Theoretical Literature Review

2.1.1. Concept of Construction Projects/Industry

The construction industry is vital for the development of any nation. The development of physical infrastructures, such as buildings, roads, rail lines, hydropower plants, and bridges, can be used to gauge a country's economic progress in numerous ways.

The construction sector plays a unique role in each country's economy, since it was the primary driver of economic expansion in some countries such as the United States and China (Elsokhn, 2014). National prosperity is frequently linked to high levels of construction activity. The industry is important not only because it provides all of the necessary public infrastructure and private structures, but also because it employs a great number of people directly and indirectly. In addition, other sectors, such as the steel and concrete industries, are stimulated throughout the construction phase. As a result, during the construction phase, the construction industry has a significant impact on the economy of a country or region (Elsokhn, 2014).

As construction becomes more complex, a more sophisticated approach is needed to address the initiation, planning, financing, design, approval, implementation and completion of a project. To deal with initiating, planning, financing, designing, approving, implementing, and concluding a project, a more sophisticated strategy is required. Construction projects are typically judged successful if they are completed on time, on budget, according to technical specifications, and to the satisfaction of their customers.

The main characteristics of the construction industry are the complexity of the construction process, the time required to carry it out complete a project, the involvement and integration of various specialties, the uncertainty and risk involved in the construction industry, and the production of one-of-a-kind projects, which has become increasingly common in recent years as a result of globalization. As a result, construction companies should adopt and develop appropriate strategies to reduce the risks of dealing with extreme changes and maximize their chances of success. Because of construction projects demand a significant amount of time and money, good construction project Management skills are necessary if projects are to be completed on time and within budget.

2.1.2. Construction Project Players

Clients, consultants, contractors, users, local governments, and financiers are the primary players in the building construction industry. Clients can be individuals, government organization, group of people, which needs the end product and has the authority and the money to order and approve it. Consultants or designers are specialists tasked with converting a client's specifications into reality. To deliver professional engineering services, consulting engineers must be qualified by education and experience. Consulting engineers provide a wide range of clients with essential professional services. Contractors, also known as builders, are those who carry out physical construction work. Construction standards and safety are regulated by government bodies. The project manager must identify the actors in the construction process, their roles and duties, and the risk associated with their participation. The construction project's participants are categorized into primary and secondary players. The owner, the designer, and the contractor are the most significant participants in any construction project. These are the key participants in any construction project, as each one delivers unique services to help the project achieve its goals. Secondary players, on the other hand, are just as significant as primary players since they have power and influence on the construction process and its result, and are not under the control of the main actors.

2.1.3. Stages in the construction Industry/projects

Construction projects have various stages, which include briefing, designing, tendering, construction and commissioning. The customer specifies project functions and allowable expenses during the briefing stage, allowing the consulting team to accurately

grasp his requirements and deliver cost estimates. The client is expected to choose a project manager who will be accountable to the client at all times during the construction process. Clients are expected to make final decisions on design and site location during the designing stage, as well as give funding for site acquisition and design work. The client makes definite promises for the project's expenditures during the tendering stage; thus, the procedures and processes are properly outlined. At the construction stage, it is expected that the project will be completed within agreed-upon cost and time restrictions, and to a set standard of quality. Contractors bear the majority of the responsibilities. To guarantee that the project was completed according to the document's specifications and that all of the facilities function effectively during the commissioning stage. Each phase of a construction project is distinct, necessitating the use of specialized management strategies and abilities to keep the project on track. From the initial concept of the project to its occupancy, the design and construction process follows a linear path. The project progresses through the stages one by one until it is completed and delivered effectively. The stages of the building process should be recognizable to those participating in the process, since the project team works together in coordination to ensure the project's success.

2.1.4. Contractor Performance

According to Swanson (1995), performance is defined as a system's valuable productive output that can be quantified in terms of production characteristics such as quality, quantity, cost, and time. Elger (2014) defined performance as a set of complex acts that integrate skills and knowledge to achieve a valuable result. A performer can be a single person or a group of people who work together to accomplish a common purpose (Elger, 2014). To perform is to perform a series of complex acts that combine skills and knowledge to achieve a useful result. A performer is required for any performance. According to the cliché, performance is a journey rather than a goal. The level of performance is determined by the journey's location, and each level of performance defines the effectiveness and quality of the performance. Performance is the result of the combined efforts of management, skilled and unskilled employees, and is not a one-man show. Goffman (1956) defined performance as the set of behaviors of a participant on a particular occasion that serve to influence one of the other participants in some way. Employees are greatly affected by a company's culture. Customer satisfaction can be defined as achieving customer expectations or meeting customer specifications in a

timely, high quality, and cost effective manner (Collins, 1996).Since performance can be viewed as a measure of the skills and knowledge needed to achieve and satisfy organizational goals and customer needs, contractors ability to assemble the appropriate technical and trained work force is critical to their overall performance on their individual projects (Abidali & Ali, 2018). According to Ugwu and Haupt (2007), Technical personnel, skilled employees, and unskilled laborers, have a significant impact on the efficiency of building projects. According to Shaban S.A. (2008), the performance problems of the construction sector in developing economies can be classified into three levels: deficiencies or inadequacies in industry infrastructure (primarily resource supply), problems caused by clients and consultants, and problems caused by contractor incompetence/inadequacies. According to Xiao and Davis (2003), the contractor's success can be measured by the level and quality of projects supplied to clients. Low performance and productivity might stem from ineffective construction project management. Client satisfaction, reputation, and competitiveness all benefit from improved contractor performance. Contractor performance is defined as a factor of; construction cost, time, quality, sustainable development, and, the idea being that the attainment of one facet of performance must not be at the cost of another (Hong & Proverbs, 2003). Poor performance, manifested by poor quality of work and low output, is prevalent in construction projects. As a result, performance is defined as the demonstration of competence and understanding in reaching and meeting corporate goals as well as the needs of clients. As a result, a contractor's ability to assemble the appropriate technical and trained staff is vital to the contractor's overall project performance. The contributions of essential technical personnel, as well as skilled and unskilled labor, have a significant impact on the success of a construction project.

2.1.5. Key Performance Indicators

Performance measurement is a systematic and continuous process of achieving accurate information about a project's performance and identifying the factors that influence it. Performance measurement is at the heart of continuous improvement, and it is used for a variety of purposes such as strategic planning, benchmarking, and decision-making. Construction is a complicated sector involving numerous individuals; thus, the degree of coordination is unquestionably high when compared to other industries. One of the ways to gauge an industry's performance is through performance indicators. Performance indicators are factors that have a significant impact on a construction

project's success or failure and should be recognized in order to improve project performance. Critical success or failure factors are another term for them. According to Mbugua et al., (2021) the ten KPIs and their performance metrics affecting building construction projects are;

- Cost (Change in cost planning and Effectiveness of predictability of cost planning),
- Time (Construction time, Construction speed and on time completion),
- Quality (Defects, Quality control, Quality assurance, and Rework factor),
- Safety (Annual accident rate and Lost time accidents),
- Client satisfaction (Client's responsiveness and Proper communication).
- Environment (Environmental protection measures, Energy saving, Extended building life cycle, Increased user comfort, Waste management and Environment friendly equipment),
- Team satisfaction (Clear goals, knowledgeable leadership, appropriate management of internal conflicts, Effective communication and matching employees to areas of expertise).
- Project leadership (Leader's professional qualification, Leadership style, Technical skills, Managerial skill, High employee relationship and Management of stakeholders Communication and collaboration.)
- Productivity (Labor productivity, Machine productivity, Materials consumption, Utilization of advanced technology and Regular equipment maintenance)
- and Proper training and recruitment (Availability of skilled manpower and Knowledge and experience).

A huge variety of performance indicators that can be linked to multiple aspects can be used to measure and evaluate project performance (groups). Although individual and organizational criteria for 'project performance' differ, in general, the evaluation dimensions in any project correspond to the classic limitations of time, cost, and quality, commonly known as the iron triangle (Atkinson, 1996).

2.1.6. Performance Measurements

The purpose of performance measurement is to help companies know how prior decisi onmaking processes or practices contributed to success or failure in the past, and how that information can be applied to improve future performance. These are some of the most important elements of a successful performance measurement system:

Goals that are clearly stated, executable, and measurable at all levels of the company, from management to programs; a set of performance indicators that can be used to ass ess how effectively mission, management, and program objectives are being met; a set of performance indicators that can be used to assess how well mission, management, and program objectives are being met; Set baselines against which progress toward achieving goals can be monitored;

The goal of performance measurement is to reduce or eliminate general variation in the work output or process. The goal is to make informed decisions about actions that will have an impact on the product or process and its result. The purpose of a performance measuring system is to put a strategy into action. Senior management chooses measures that best represent the company's strategy while putting these systems in place. These metrics can be viewed as current and future important success criteria; if they improve, the company's strategy has been applied. The success of the approach is contingent on its soundness.

A performance measurement system is essentially a method that increases the chances of an organization successfully implementing its strategy. When comparing performance measuring systems to an instrument panel on a dashboard, it's easy to see how a management control system should have a combination of financial and nonfinancial measures: A complex system cannot be controlled by a single measure, while a system with too many important measurements becomes uncontrollably complicated.

Performance measurement systems, like as dashboards and benchmarking, include a number of metrics that offer data on a variety of operations. Some of these indicators inform the management about what has occurred, while others provide information about what is now occurring.

2.2. Empirical Review

2.2.1 Cost Factors

The operational and financial efficiency of a contractor can be measured and controlled through working capital management. Research by Mwangi (2016) has shown that factors affecting working capital during construction include; access to credit, misappropriation of contract funds for other use as opposed poor project planning and control, currency fluctuations, and a high cost of finance.

According to Abidali, R. and Ali, Y (2018) the effect of cost factors on the performance of contractors in construction projects in Bagdad, based on items operationalized such as; cash flow of projects, design team experience were the major factors influence on contractor performance in construction projects in Bagdad, Iraq. They recommend; cash flow issues were seen as a critical issue that required proper handling by customers and contractors. To minimize cash flow problems strict commitment by clients required to payment agreements in contracts and finance disciplines and honesty on the contractors' side. The experience of contractors and the experience of the design team should be given special consideration, and contractors should be required to regularly update to themselves and to their employees to achieving high standards throughout the process of production could be done through participation in the training and the organizational meeting on quality control and the need for continuous evaluation by the contractor.

Most contractors in developing countries have very limited funds because they are rarely able to offer the necessary fixed assets as collateral (Ofori, 1991); as a result, a project loss eventually leads to cash flow issues and components of liquidation, materials and equipment costs that affect owners' cash flow and project budget. Project funds are sometimes diverted to personal accounts, putting financial pressure on projects and negatively affecting contractor performance (Akomah and Jackson, 2016). Organizational liquidity is essential for analyzing project budgets and cost performance. As most government agencies experience financial difficulties, payments to contractors are delayed, putting pressure on contractors' cash flow (Ofori 1991). Financial challenges and limited access to finance were identified as the primary and most common factor impact on contractor performance in Jordanian construction projects (Sweis R, et al, 2014).

Therefore; this study considered cost factors as correlates to the performance of contractors in construction projects.

2.2.2 Time Factors

Karim and Marosszeky (1999) agree with the findings, stating that the average delay in payment from the owner to the contractor has an impact on time performance. Delays in contractor payment caused by the long process of making contractor payments in the public sector create financial problems for the contractor (Edmonds and Miles, 1984). According to Musoke (2007), the length of time spent preparing building projects in Sub-Saharan Africa has a significant impact on their success and also most contractors are notorious for poor project schedule and planning, which has a negative impact on project success.

Contractors in developing countries face a shortage of skilled labor due to wages and jobs security offered by large construction companies are higher than those offered by small contractors. According to Sweis R, et al. (2014), labor shortages (skilled, semi-skilled, or unskilled) have a negative impact on the economy. The biggest factors directly affecting contractor performance on building projects are unskilled labor, and excessive owner change orders. The effect of time factors on contractor performance in construction projects in Baghdad, according to Abidali, R. and Ali, Y. (2018) were the main factors influencing contractor performance on construction projects in Baghdad, Iraq, based on operationalized items such as average delay in regular payments, site preparation time, and contractor experience.

They recommend; payments to the contractor by their clients have to be delivered on a timely manner in order for the contractors to stick to their time performances, contractors have to deploy suitable cash flowing forecast and make their spending wise, this recommendation is aligned with Akomah & Jackson (2016).

Construction time is crucial to both clients and contractors, because of the financial ramifications (Okello, 2018). Construction costs rise as a result of delays, and quality suffers as a result. Contractor owners should focus on features such as lifetime employment policies, the work force may be more stable and devoted, and contractors are more ready to spend in training, resulting in a better workforce and higher overall performance, according to Okello (2018). Ofori (2008) and Okello, (2018) states that contractors should focus on factors of time performance, maintain a stable and well-

trained workforce, and create long-term partnerships with their subcontractors in order to improve their overall performance. Project owners should be aware that design changes during construction create uncertainties and hazards, as well as disturbing scheduled work and should be avoided if possible.

All of the research that were conducted, however, demonstrated that there is a considerable link between time issues and the success of construction projects.

2.2.3 Quality Factors

Garvin (2010) defines quality in terms of cost and prices. Quality product is one that provides performance at an acceptable price or conformance at an acceptable cost. In this study, quality factors will mean; conformance to specifications/scope of works, availability of competent staff, quality equipment's of raw materials and quality training.

According to Mbajja (2006), the effect of quality factors on the execution of construction projects based on operational elements such as; compliance with the specification / scope of work, availability of competent personnel, quality of equipment and raw materials and quality of training are just a few of them. Effective equipment management methods not only boost production time and equipment availability, but they also increase corporate profit by lowering a variety of costs, including those associated with costly downtime.

Quality of equipment and raw materials, quality training and meetings, and quality assessment systems in organizations are the major factors that influence contractors' performance on building projects in Ghana's central region, according to the study. Quality factors, as well as innovation and learning factors, are two key groups that influence Ghanaian building contractors' performance, according to the study. 2016 (Akomah & Jackson). During accelerated work, quality standards are almost always compromised (Farrow, 1996). An emphasis on time could make contractors realize quality problems which would cause rework, making the time more difficult to achieve, and therefore more effort is put into trying to ensure satisfactory performance. However, contractors' past performance is one of the most important determinants of predictive performance. This means those contractors who complete projects successfully are more likely to achieve project targets in future. Delays are not uncommon in construction projects (Farrow, 1996), and have significant cost, quality

implications as contended above. Thus, a high priority should be given to contractors' past performance during selection.

Quality issues in the construction industry have been mostly seen as site-specific issues, building structures, manufacturing, financing, and end-users, among others. However, if quality issues can be identified and resolved so easily as such, poor quality standards would long be eliminated entirely in the construction industry. It seems that poor quality standards persist in the construction sector seems to suggest that there is a much more fundamental problem than has been considered or acknowledged so far. This structural problem is related to uncertain construction demand or workload instability.

The relationship between clients and their consultants involves a price-based contractor selection process, as discovered by Tao and Kumaraswmay (2012).However, choosing the lowest bid often leads to problems such as poor quality, cost overruns and delays, which can then lead to enormous legal and economic problems between project partners, as many researchers have found.

2.2.4. Client Satisfaction Factors

Client satisfaction improves when building time is reduced, and contractors gain a competitive advantage in the market. Contractors also prefer to shorten their presence on the job site to save costs and boost profits due to time-related overhead and other major charges such as rental of construction equipment and damage settlement. When delays occur, lost time can be made up by working more hours, more shifts, expanding the number of operatives, and providing more plant, all of which come at a significant cost. The average time it takes for a claim to be approved is one of the variables that causes construction projects to be delayed. (ILO, 1) found that the lack of planning and management skills is said to be the greatest single problem small-scale contractors generally face and affects the performance of contractor.

Research carried out by Sweis R, et al (2014) has shown that financial difficulties and little access to credit faced by the contractor were considered the primary and most frequent factor affecting contractor performance in Jordanian construction projects, manpower shortages (of skilled, semi-skilled, or unskilled labor), and excessive owner change orders are the leading factors directly affecting contractor performance on construction projects.

As Faridi and EI Sayegh (2006) cited in Sweis R.et al (2014) has reported a shortage of manpower skills, poor supervision and site management, unsuitable leadership and equipment failure have all contribution to construction delays in the United Arab Emirates. Ofori K. et al, (2014), studied the factors influencing the performance of Ghanaian entrepreneurs; the study distinguished between access to credit, lack of ability to compete foreign contractors, low technology, poor project preparation and contracts awarded based on political considerations had the greatest effects on performance of Ghanaian contractors. Research conducted by Arishi S. et al (2006) has revealed that repair on finishing works, delays to schedule and waiting for materials were identified as the key variables, whereas design changes, lack of worker skills and slow decision-making were identified as the main wastage variables driving non-value adding activities in Indonesia.

Research project carried out by Temam F. (2018) (2018) reported that exchange rate differentiation, material cost escalation, organizational liquidity, average complaint approval time and poor project duration estimation were the top five factors influencing local and international contractors in building construction projects in Addis Ababa, Ethiopia. This study has recommended that local contractors in Ethiopia shall ensure that they have enough capital base and adequate cash and the development of the skills of high-level professionals and qualified intermediate personnel to whom the greatest attention is paid. Inflation, inaccurate cost estimates, variations, rising material prices, insufficient implementation capacity, economic conditions, poor project management, weak project design are major factors for building construction delays in Addis Ababa (Belay. et al, 2017). Improved contractor performance leads to improved customer satisfaction, reputation and competitiveness (Xiao and David). The performance of the contractor is linked to several determining factors involving time, money, costs and labor. Many researchers have conducted detailed surveys of entrepreneur performance. Ireland (1985) studied the contributions of managerial actions to the reduction of time and costs and to the improvement of quality, which can contribute to improving project performance.

Abiola, R.O. (2004),found that most projects in Iran had been delayed causing severe damage to contractors and the damage was unbearable and deeply affected contractor performance, which has been found to vary among nations for a long time (Flanagan et al., 1986; Sidwell et al. , 1988; Levy, 1990; Proverbs, 1998). People factor (Employee

altitude, belonging to work and employee's motivation) is also the factors that affect the performance of contractor, and the researcher also aimed to see the effect of people factor on performance of contractor.

2.3 Conceptual Framework

The conceptual framework was designed by considering factors affecting contractor's performance: Cost factor, Time factor, Quality factor, Productivity factor, Client satisfaction factor, Health and safety factor, People factor, and External factors as independent factors and performance of contractors as dependent variable.

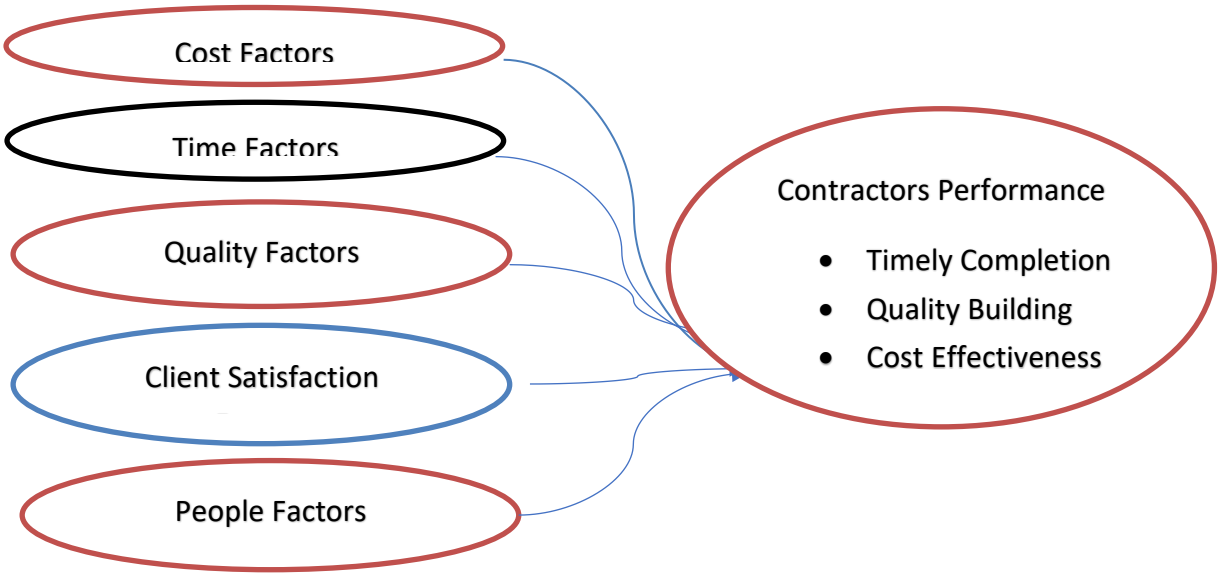

FIGURE 2.1: Conceptual Framework Model

(Source: Akomah, B. B., & Jackson, E. N. 2016, adapted by the researcher 2022)

2.4 Hypothesis of the study

Based on the conceptual framework and research questions, the summary of the null hypothesis of the main questions was outlined in such a manner as follows.

H1: **cost factor** has significantly affect **performance of local contractor** in selected grade one building contractor in Addis Ababa.

H2: **time factor** has significantly affect **performance of local contractor** in selected grade one building contractor in Addis Ababa.

H3: **quality factor** has significantly affect **performance of local contractor** in selected grade one building contractor in Addis Ababa.

H4: **client satisfaction factor** has significantly affect **performance of local contractor** in selected grade one building contractor in Addis Ababa.

H5: **people factor** has significantly affect **performance of local contractor** in selected grade one building contractor in Addis Ababa.

2.5 Organization of Variables

The following 32 factors were identified and summarized based on their relevance from the literature review and practical observations.

Table 2.1: Identified Variables affecting Contractor's Performance

No.	Cost factors
1	Cash flow of project
2	Material and equipment cost
3	Escalation of material cost
4	Differentiation of currency price
5	Project labour cost
6	Cost control system
7	Waste rate of materials
8	Liquidity of organization
9	Access to credits
No.	**Time factors**
1	Site preparation time
2	Planned time for construction
3	Timely decision making
4	Time needed to rectify defects
5	Average delay in regular payments
6	Average delay in Claim approval
7	Materials shortage
8	Equipment shortage
9	Shortage of manpower (skilled and unskilled)
10	Delay in the approval of contractor's submission by the consultant

No.	Quality factors
1	Quality of equipment and raw material
2	Quality Training/meeting
3	Quality assessment system in organization
No.	**Client satisfaction factor**
1	Leadership skills of project managers
2	Information coordination between owner and project partner
3	Number of rework incidents
No.	**People factor**
1	Employee attitude
2	Belonging to work
3	Employers motivation

Source: From literatures review

Table 2.2: Contractor's Performance

No.	
	Performance of contractor
1	Completion of project with allocated budget
2	On time completion of the project
3	Performing with specified quality level
4	Fulfilling Client Satisfaction

Source: From literatures review

CHAPTER THREE

3. RESEARCH METHDOLOGY

3.1 Introduction

A method is the techniques and procedures used to find and analyze research data, including questionnaires, observations, interviews, and statistical and non-statistical techniques (Saunders, Lewis and Thornhill, 2009). This chapter deals with the research approach, research design, sampling design, target population, sampling size determination, sampling technique, data sources, questionnaire design, data analysis, and the ethical considerations.

3.2 Research Approach

According to Kothari (2004), the two fundamental approaches to research are the quantitative approach and the qualitative approach. The quantitative method includes a set of data in numerical form that can be subjected to inconvenient quantitative analysis both formally and informally. The qualitative method, on the other hand, is concerned with a subjective study of attitudes, views, and behavior. The quantitative approach was used in this study to investigate the factors influencing local contractors' performance (cost, time, quality, productivity, and client satisfaction) in the construction of buildings; as a quantitative methodology, it aids in the discovery, presentation, identification, and examination of relationships and trends within data, as well as the collection of results in numerical and organized data (Saunders, Lewis and Thrill, 2009).

3.3 Research Design

A Research Design is a method employed by a scientist or researcher to undertake a scientific investigation that is rigorous and well-organized. A valid conclusion is reached when previously identified elements coexist with any other information or data. The blueprint for achieving research objectives and answering questions is the research design (Cooper and Schindler, 2006).

There are three types of research designs: exploratory research, descriptive research, and causal or explanatory research (Saunders et al., 2009). Exploratory research tries to define an issue, emphasize the discovery of new ideas, and observe for further exploration. Descriptive studies define the features of a single person or a group of

people. The focus of explanatory or causal research is on examining a scenario or a problem in order to explain the link between variables (Saunders et al., 2009). In causal or explanatory research, the researcher analyzes causal or explanatory hypotheses between variables.

The purpose of the study was to determine the link between factors affecting local building contractor performance and the performance of local building contractors at selected grade one building contractors in Addis Ababa, using a descriptive and explanatory or causal research methodology.

3.4. Sampling Design

3.4.1. Target Population

A population is described as a group of items or situations, whether individuals, things, or events, that have particular characteristics and to which the research findings should be applied (McMillan and Schumacher, 2001). The population refers to the entire set of things, events, and individuals that will be researched (William, 2011). The study population consisted of grade one building contractor, consultant, and project owner in Addis Ababa.

According to the registration data of Ministry of Urban Development and Construction for 2021, there are 83 grade one building contractors registered at the Addis Ababa Design and Construction Office, 119 grade one consultants registered at the federal level, and 38 public building project owners/clients who had building projects in Addis Ababa between 2017 and 2021.

Table 3.1: Study Population

Cluster	Target Population
Grade One building Contractor	83
Grade One Consultant	119
Project Owner	38
Total	**240**

Source: Addis Ababa Design and construction office, 2021

3.4.2 Sampling Size Determination

The sample size refers to the number of objects to be collected from the population to form a sample. The representative sample of selected grade one building contractors, consultants and public project owners in Addis Ababa respondent was calculated based on Yamane (1967) formula based on a 95% desired confidence level and a 5% desired level of precision (margin of error).

$$n = \frac{N}{1 + Ne^2}$$

Where: - n = Sample size

N = population size, N= 240

e = level of precision, e=0.05

Thus, the sample size was calculated to be n = 150**.**

Table 3.2: Sample Size Frame

Cluster	**Target Population**	**Stratified sample**	**%**
Grade One building Contractor	83	52	35
Grade One building Consultant	119	74	49
Project Owner	38	24	16
Total	240	150	100

Source: from contractors and consultant's registration data of 2021

3.4.3 Sampling Technique

Sampling is the process of selecting a sufficient number of elements from the population. Simple random sampling, systematic sampling, cluster sampling, quota sampling, and stratified sampling are all examples of sampling procedures. A simple random sampling technique was used in this study, which produced more precise overall population parameters and ensured a more representative sample was selected from a very heterogeneous population Denscombe (2007). To pick 150 respondents for the study, a simple random sample was used. The strategy is the most appropriate because it enables the researcher to assess sample results using statistical method

3.5 Sources of Data

Kothari (2004) noted that there are two types of data, which are primary and secondary. To acquire a picture of the current situation regarding the factors affecting the performance of local contractors in selected grade one building contractors, the researcher uses both primary and secondary data. A structured questionnaire was used to collect primary data from grade one building contractors, grade one consultants, and project owners. In addition, the researcher consults secondary sources such as pertinent journal articles and books.

3.6 Questionnaire Design

A questionnaire is easy and straightforward to handle and helps gather information from respondents (Zikmund et al., 2010). The questionnaire was consisting of three sections, section one is structured to collect demographic information from the respondent, and section two consist of factors affecting the performance of local contractors' questions, section three consist of performance of contractor's questions.

The results of the questionnaire led to a better knowledge of the elements that influence the performance of local contractors in selected grade one building contractors in Addis Ababa. A 5-point Likert-type scale ranging from 1 to 5 is used to rate factors affecting the performance of local contractors (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = highly agree). The participants' cost, time, quality, client happiness, and people element are all measured on the scale. Contractor performance was also graded on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (strongly agree)

3.7 Method of Data Analysis

Data collected via a questionnaire were analyzed using version 24 of the Statistical Package for Social Sciences (SPSS). The Pearson correlation test was used to establish the nature, direction, and significance of the link between factors impacting local contractor performance and performance of local contractors, as well as to determine the extent to which two or more variables are related. SPSS was used to summarize and present the data using descriptive statistics such as frequencies, percentages, means, and standard deviations.

The relative importance index method (RII) was used to identify and rank the elements that influence local contractor performance on building construction projects as

assessed by the respondents. The relative importance index will be computed as (Cheung, 2004; Iyer and Jha, 2005; Ugwu and Haupt, 2007): using equation

$$RII = \frac{\epsilon W}{A*N} \text{ , } (0 \leq \text{RII} \leq 1)$$

Where: W - weight of each factor ranges from 1 to 5,

(where = 5, is Very high and =1 strongly disagree)

A - is the highest weight (i.e. 5 in this case) and;

N - is the total number of respondents

3.8 Validity and Reliability

3.8.1 Validity

According to Joppe (2000), validity refers to the degree to which data analysis findings accurately reflect the subject under inquiry. To strengthen the validity of the surveys, they were altered from past research and standard questions. In addition, before the questionnaires were sent, the researcher discussed them with the adviser to ensure the study's validity.

3.8.2 Reliability

Reliability relates to the consistency of a measure and it's based of internal consistency. Cronbach's alpha coefficient is a popular measure for determining the internal consistency of each construct's elements. Cronbach's alpha coefficient is a number between 0 and 1 that indicates how reliable something is. According to Sekaran and Bougie (2016), reliabilities below 0.60 are bad, those below 0.70 range are acceptable, and those over 0.80 are good, according to Sekaran and Bougie (2016). The Cronbach's alpha from the analysis was 0.803, which was good, according to Sekaran and Bougie (2016) reliabilities results.

Table3.3 Reliability Test of items

Variable	Cronbach's Alpha	No of Items
Cost Factor	0.741	9
Time Factor	0.740	10
Quality Factor	0.747	3
Client Satisfaction Factor	0.741	3
People Factor	0.889	3
Performance of contractor	0.786	4

Source: own survey, 2022

3.10 Ethical Consideration

This study was conducted taking into account ethical issues. According to Bryman and Bell (2007), the researcher notes the following ethical considerations: all participants were briefly informed about the reason for conducting the research and their contribution to its completion, the dignity of research participants was respected and prioritized, the privacy of research respondent was protected, and any communication related to the research should be done with honesty and frankness.

CHAPTER FOUR

4 DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter contains the result of data presentation, analysis, interpretation, and discussion, findings under each presentation are aimed at achieving the research objective. In this regard, the chapter discusses the response rate; descriptive analysis; the result of tests of assumptions; and hypothesis testing.

4.2 Response Rate of Respondent

A total of 150 questionnaires were distributed, of which 130 (86.7%) were returned on time, while 20 (13.3%) of the respondents did not return them. Therefore, 130 questionnaires served as a source of data for analysis, finding presentation, and concluding. The characteristics of the samples collected proved that responses obtained from the individuals could be extremely helpful in order to answer the research questions.

Table 4.1: Description of distributed questionnaires response rate

Description	Selected respondents		
	Distributed	Collected	Percent
Consultant	74	66	50.8
Contractor	52	46	35.4
owner/employer	24	18	13.8
Total	150	130	100

Source: own survey, 2022

4.3 Demographic Profile of Respondent

This section presents a descriptive analysis of the personal profile of the respondent of a selected grade one building contractor, consultants and public building project owners in Addis Ababa. The personal profile includes: gender, age, type of organization, organization you work for, work experience, and education level. Descriptive statistics were carried out on the demographic variables as a means of describing the respondents.

Table 4.2: The demographic profile of respondent

Variable	Items	Frequency	Percent
Gender	Male	74	56.9
	Female	56	43.1
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Age	20-29 years	35	26.9
	30-39 years	61	46.9
	40-49 years	16	12.3
	Over 50 years	18	13.8
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Types of Organization	Consultant	66	50.8
	Contractor	46	35.4
	Owner	18	13.8
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Organization you work	Private	96	74
	Government	30	23
	Other	4	3
	Total	130	100

Variable	Items	Frequency	Percent
Work Experience	< 5 years	18	13.8
	5-10 years	59	45.4
	10-15 years	30	23.1
	15-20 years	13	10.0
	>20 years	10	7.7
	Total	130	100.
Variable	**Items**	**Frequency**	**Percent**
Educational Level	Diploma	24	18.5
	Bachelor's degree	71	54.6
	Master	35	26.9
	Total	130	100.

Source, own survey, 2022

4.3.1 Gender profile of respondent

From the above table, we can understand that 74(56.9%) of the respondents are male and 56 (43.1%) are female. This tells us that majority of the respondents in this survey are male and we can conclude that most of engineering professional in the grade one building contractors and consultants in Addis Ababa are male.

4.3.2 Age profile of respondent

As observed from the table, large number of respondents are dominated by the age group of 20-39 years was 96 (73.8%), those in the age group of more than 50 are 18 (13.9%), respondent whose age group fall in between 40 - 49 are 16 (12.3%). This indicate that majority of respondents (73.8%) are between 20 -35 years old which shows they are relatively younger age group and expected to have energy, passionate to their work.

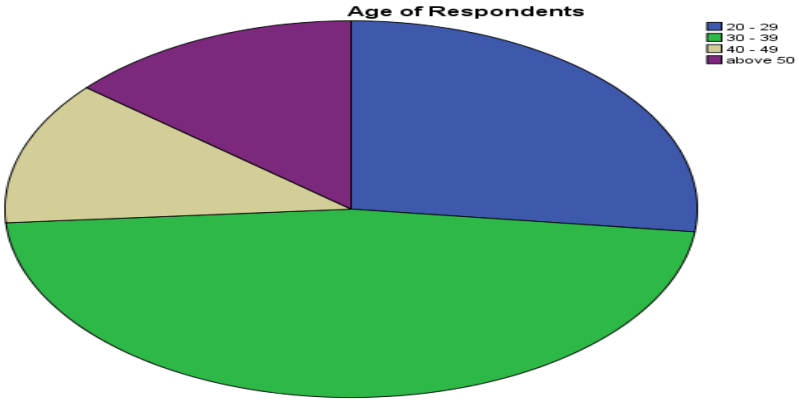

Figure 4.1: Age of Respondent

4.3.3 Types of Organization

As observed from the table, large number of respondents are Consultant 66 (50.8), followed by contractor 46 (35.4) and then project owner (13.8%).

4.3.4 Organization of respondents

As shown in the above table, majority of the respondents work in private organization 96 (74%), 30 (23%) of respondents work in government organization, and the rest 4 (3%) other organization.

4.3.5 Work Experience

As shown in the above table, majority of respondents 89 (68.5) have 5 to 15 years of work experience, 18 (13.8%) have less than 5 years of work experience, 23 (7.7) respondents have more than 15 years of work experience. This indicate that majority of respondents (68.5%) have 5 to 15 years of work experience.

4.3.6 Educational level of respondent

Concerning the educational level of the respondents, the largest portions 71 (54.6%) were Bachelor's degree holder, 35 (26.9%) of them were Second Degree or Master's Degree holders, and the remaining 24 (18.5%) of them were College graduates with Diploma. The result reveals that the majority of the respondents of the grade one building contractor and consultants in Addis Ababa.

4.4 Descriptive Analysis

To investigate the perception of the respondents regarding the factors affecting performance of local building contractors (cost, time, quality, client satisfaction, and people factor), and performance of contractor: the researcher has summarized the following factors using frequency, mean, and standard deviation using 5-point Likert scale. The 5-point with their numeric value was: 1: Strongly Disagree; 2: Disagree; 3: Neutral, 4: Agree, and 5: Strongly Agree.

The mean shows how much the sample group agrees or disagrees with the various statements on average. According to Marczyk et al. (2005), the lower the mean, the more people disagree with the claims. The higher the mean, the more agreeable the statement is to the respondents.

Thus, a mean score of 1 to 2.33 indicates low agreement, a mean score of 2.34 to 3.67 indicates moderate (medium) agreement, and a mean score of 3.68 or higher indicates strong agreement (Zaidatol et al., 2012).

Table 4.3: Descriptive statics of variables

Aspects	Statics	Minimum	Maximum	Mean	Std.dev
Client satisfaction	130	1	5.00	3.879	.785
Cost factor	130	1	4.44	3.832	.694
Time factor	130	1	4.60	3.679	.688
Quality factor	130	1	5.00	3.551	.748
People factor	130	1	16.33	3.351	1.438
Performance of contractor	130	1	5.00	2.545	.618

Source: own survey, 2022

As shown in the above table 4.3, Client satisfaction was assed using three questions with mean score of 3.879 and a standard deviation 0.785. Cost factor was evaluated using nine questions with a mean score of 3.832 and a standard deviation (SD) of 0.694. Time factor was assessed using ten questions; with a mean score of 3.679 and a standard deviation (SD) of 0.688. Quality factor was assessed using three questions; with a mean score of 3.551 and a standard deviation (SD) of 0.748. People factor was assed using

three questions with mean score of 3.351 and a standard deviation 1.438. Finally, performance of contractor was assessed with four questions with mean score of 2.545 and standard deviation of 0.618.

The mean of; cost factor, time factor, and client satisfaction are greater than 3.68 and it reveals the majority of respondents strongly agree with the given statement following (Marczyk et al., 2005; Zaidatol et al., 2012). While mean of; quality factor, people factor, and performance of contractor is with range of 2.34 to 3.67 and it reveals that the respondents moderately agree with the given statements.

4.5 Factors affecting the performance of contractors

Contractor performance in building construction projects is influenced by a number of factors. Contractor performance is frequently responsible for project completion success or failure in terms of time, cost, quality, customer satisfaction, and people considerations.

4.5.1 Cost factors

The cost of any project determines its success. Cost has been identified as a critical success criterion, with some studies citing an intelligent budget plan and accurate cost estimation as key success determinants. Cost factors are one of the key elements determining contractor performance.

When the respondents are asked for the ranking of the impact of influencers that are included under the cost factors group. The "relative importance index *RII"* and rank of the factors that affect the performances of contractors on building projects is determined as in Table 4.4,

Where; SDA =Strongly Disagree, D= Disagree, N= Neutral, A= Agree, SA= Strongly Agree

Table 4.4: the relative importance index and rank of cost factors

A	Factors	SDA	D	N	A	SA	Total Respondents	Weighted Total	RII	Rank
Cost										
1	Escalation of material cost	6	1	12	71	40	130	528	0.817	1
2	Cash flow of project	7	0	12	67	44	130	531	0.812	2
A	**Factors**	**SDA**	**D**	**N**	**A**	**SA**	**Total Respondents**	**Weighted Total**	**RII**	**Rank**
3	Differentiation of currency price	7	1	15	67	40	130	522	0.803	3
4	Material and equipment cost	6	0	16	73	35	130	521	0.802	4
5	Access to credits	6	1	21	74	28	130	507	0.780	5
6	Liquidity of organization	6	0	23	75	26	130	505	0.777	6
7	Project labor cost	6	2	48	61	13	130	463	0.712	7
8	Cost control system	6	12	43	47	22	130	457	0.703	8
9	Waste rate of materials	6	12	45	51	16	130	449	0.691	9

Source: own survey, 2022

As shown in the Table 4.4., escalation of material cost was given rank first with RII (0.817). This result shows the escalation of material cost in building construction industry in Addis Ababa becomes the major problem which building contractors are faced. According to Temam (2018), this factor was ranked first. Escalation of materials

refers to cost changes which result from changes in prices of input materials. These changes in price levels in turn are driven by underlying economic conditions. Escalation can be driven by change in productivity, technology and market condition including high demand of labor and material shortage, profit margin and other factors. The escalation of material costs highly affects contractor performance. It may the causes of delay in completion, cost overrun for building construction projects.

Cash flow of projects was given second rank with RII (0.812). This factor was ranked by Abidali, R. and Ali, Y. (2018) and Sweis et al, (2014), Akomah & Jackson (2016) as the first factors that affect contractor's performance, and also this factor according to Enshassi al.et, (2009) was ranked as the third factors. Cashflow is basically incoming and outgoing of money. For sustainable construction operation of a company, cashflow must be kept positive all the time. Negative cashflow affects contractor's performance. It means the contractors don't have money to fund their operations. They may become unable to pay salaries; raw material supply, equipment cost. The result may cause of delay on the building construction work, and even abandoned the project.

Differentiation of currency price was given third rank with RII (0.803). This factor was ranked by Temam (2018) as the second factor affecting contractors' performance in building construction projects. The predominant lack of foreign currency in the country, which consequently leading to the failure of contractor's performance.

4.5.2 Time factors

One of the most critical project success criteria is the amount of time it takes to complete the project. It has also been considered as a factor that can assist in the fulfillment of the other factors. Because time is one of the three triple constraints of projects, any deviation from the timetable has an impact on the project's cost and scope. Working efficiently is the key to making optimal use of time.

When the respondents are asked for the ranking of the impact of influencers that are included under the time factors group. The "relative importance index *RII"* and rank of the factors that affect the performances of local contractors on building projects is determined as in Table 4.5,

Table 4.5: The relative importance index and rank of time factors

No.	Time Factor	SDA	D	N	A	SA	Total respondents	Weighted total	RII	Rank
1	Average delay in regular payments	7	1	24	75	23	130	496	0.791	**1**
2	Planned time for construction	8	9	33	59	21	130	466	0.763	**2**
No.	**Time Factor**	**SDA**	**D**	**N**	**A**	**SA**	**Total respondents**	**Weighted total**	**RII**	**Rank**
3	Delay in the approval of contractor's submission by the consultant	9	8	31	67	15	130	461	0.763	**3**
4	Site preparation time	7	6	14	62	41	130	514	0.731	**4**
5	Equipment shortage	6	6	36	61	21	130	475	0.729	**5**
6	Time needed to rectify defects	8	9	27	68	18	130	469	0.722	**6**
7	Materials shortage	10	8	34	63	15	130	455	0.717	**7**
8	Timely decision making	7	7	36	55	25	130	474	0.709	**8**
9	Shortage of manpower	7	1	25	73	24	130	496	0.700	**9**

	(skilled &unskilled)									
10	Average delay in claim approval	9	14	40	55	12	130	437	0.672	**10**

Source: own survey, 2022

As shown in the table 4.5, average delay in regular payment was given rank first with *RII* (0.791). The research results agree with research result under taken by Abidali, R. and Ali, Y. (2018), Karim and Marosszeky (2016), Akomah & Jackson (2016) which also identified Average delay in regular payments as the most critical time performance factor. Planned time for construction and delay in approval of contractor's submission by the consultant was ranked second with RII (0.763). Site preparation was ranked third with RII (0.731). Yerevan Ali (2018) discussed this factor in their study and ranked second. Akomah & Jackson (2016) discussed this factor in their study and ranked 1st that means site preparation is important to a contractors' performance.

4.5.3 Quality factor

Quality, whether in the form of a product or a process, has long been regarded as a req uirement for project success.

Quality performance, as defined by some academics, is a crucial project success criter ion. In addition, several other studies used the term "product quality" to refer to quality as a criterion. Some researchers, on the other hand, see the quality management system as a project success factor that helps other criteria and variables succeed.

When the respondents are asked for the ranking of the impact of influencers that are included under the quality factors group. The "relative importance index *RII"* and rank of the factors that affect the performances of local contractors on building projects is determined as in

Table 4.6: The relative importance index and rank of quality factors

No	Quality Factor	SDA	D	N	A	SA	Total respon dents	Weighted total	RII	Rank
1.	Quality of equipment and raw material	6	1	26	73	24	130	498	0.766	1

2.	Quality training/meeting	6	11	32	63	18	130	466	0.717	2
3.	Quality assessment system in organization	6	19	53	42	10	130	421	0.648	3

Source: own survey, 2022

As shown in the table 4.6, quality of equipment and raw material was given rank first with RII (0.766). Quality training/meeting was given second rank with RII (0.717). Quality assessment system in organization was rank third with RII (0.648). The result is in line with Akomah & Jackson (2016).

4.5.4 Client Satisfaction Factors

The importance of client satisfaction factorsin the construction sector is that clients satisfaction standards can be carried over into interactions with other industry profess ionals. It's crucial to have a statistic that assesses how employees interact and provide clients since it establishes standards that might be valuable when dealing with clientnd other workers, such as subcontractors. Having excellent clients service abilities helps to avoid communication failures. When the respondents are asked for the ranking of the impact of influencers that are included under the client satisfaction group. The "relative importance index *RII"* and rank of the factors that affect the performances of local contractors on building projects is determined as in Table 4.7.

Table 4.7: The relative importance index and rank of client satisfaction factors

No	Client Satisfaction	SDA	D	N	A	SA	Total respondents	Weighted total	RII	Rank
1	Information coordination between owner and project manager	6	2	20	64	38	130	516	0.794	1
2	Number of rework incidents	6	1	22	77	24	130	502	0.772	2
3	Leadership skills of project managers	6	1	35	58	30	130	495	0.762	3

Source: own survey, 2022

As shown in the table 4.7, Information coordination between owner and project manager was given rank first with RII (0.794). Number of rework incidents was given second rank with RII (0.772). Leadership skills of project managers were given third rank with RII (0.762).

4.5.4 People Factors

Employee attitude, employee motivation, and sense of belonging to work are example s of people/human factors that affect project and contractor performance.

When the respondents are asked for the ranking of the impact of influencers that are included under the people factor group. The "relative importance index RII" and rank of the factors that affect the performances of local contractors on building projects is determined as in Table 4.8.

Table 4.8: The relative importance index and rank of people factors

No	People factor	SDA	D	N	A	SA	Total respondent	Weighted average	RII	Rank
1	Employee motivation	12	21	23	37	37	130	456	0.702	1
2	Employee altitude	11	29	31	31	28	130	426	0.655	2
3	Belonging to work	21	31	23	39	16	130	388	0.597	3

Source: own survey, 2022

As shown in the table 4.8, employers motivation was given first rank with RII (0.702). employee atitude was given second rank with RII (0.655). belonging to work was given third rank with RII (0.597). According to Akomah & Jackson (2016), employee attitude was ranked first, belonging to work was ranked second and employee motivation was ranked third.

4.6 Major or Critical Factors Affecting the Performances of local Contractors

There are numerous elements that influence construction and contractor performance. The following are the key or significant elements impacting contractors among these many influencing factors.

From the table, escalation of material cost ranked first with RII (0.817) from cost factors affecting performance of local contractor, which means that this factor has the largest effect among the rest performance factors.

Cash flow of projects was ranked second with RII (0.812), differentiation of currency price was third with *RII* of (0.803), material and equipment cost were fourth with RII (0.802) and Information coordination between owner and project manager was ranked fifth with RII (0.794).

Table 4.9: The Major Factors that Affect the Performances of Contractors

No.	Major Factors affect the performance of contractor	RII	Rank
1.	Escalation of material cost	0.817	1
2.	Cash flow of project	0.812	2
3.	Differentiation of currency price	0.803	3
4.	Material and equipment cost	0.802	4
5	Information coordination between owner and project manager	0.794	5

Source: own source, 2022

4.7 Correlation Analysis

Correlation analysis is a statistical approach for determining the strength of a link between two variables. It may be thought of as a standardized covariance that indicates how a change in one variable correlate predictably to a change in another (Zikmund et al, 2013). The relationship between the dependent variable (contractor performance) and the independent variables (cost, time, quality, client satisfaction, and people factor) affecting contractor performance is presented in this section.

4.7.1 Relationships between Dependent and Independent variable

The strength of the correlations between factors affecting performance of contractor (cost, time, quality, client satisfaction, and personnel factor) and contractor performance in chosen grade one building contractors in Addis Ababa is investigated using correlation analysis. The link between cost and contractor performance, time and contractor performance, quality and contractor performance, client satisfaction and contractor performance, and people factor and contractor performance. The outcomes of this investigation were presented in the sections below, using Pearson correlation analysis statistics.

Pearson correlation measures used to check the strength and direction of the linear relationship between dependent and independent variables. The relationship between the variables is acquired through Pearson product-moment correlation coefficient "r".

Pearson correlation coefficients reveal magnitude [-1 to +1] and the direction (-1 to+1) of relationships. Correlations are perhaps the most basic and most useful measure of association between two or more variables. According to Marczyk, D. & Festinger, (2005) correlations of .01 to .30 are considered small, correlations of .30 to .70 are considered moderate, correlations of .70 to .90 are considered large, and correlations of .90 to 1.00 are considered very large.

As shown in below table 4.10, the result shows there is a moderate and significant correlation between performance of contractor and factors affecting performance of contractor (cost, time, quality, client satisfaction and people factor).

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As shown in below table 4.10, the result shows there is a moderate and significant correlation between performance of contractor and factors affecting performance of contractor (cost, time, quality, client satisfaction and people factor).

Table 4.10: Relationship between Independent and Dependent variables

Correlations							
		Performance of Contractor	Cost	Time	Quality	Client Satisfaction	People
Performance of Contractor	Pearson Correlation	1					
	Sig. (2-tailed)						
Cost	Pearson Correlation	.453**	1				
	Sig. (2-tailed)	.000					
Time	Pearson Correlation	.430**	.822**	1			

	Sig. (2-tailed)	.000	.000				
Quality	Pearson Correlation	.417**	.649**	.737**	1		
	Sig. (2-tailed)	.000	.000	.000			
Client Satisfaction	Pearson Correlation	.424**	.691**	.771**	.739**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
People	Pearson Correlation	.312**	.342**	.276**	.277**	.271**	1
	Sig. (2-tailed)	.000	.000	.001	.001	.002	
**. Correlation is significant at the 0.01 level (2-tailed).							

Source: own survey, 2022

4.8 Testing Hypothesis with Regression Analysis

A hypothesis is merely an educated suggestion regarding the answer to your research question that can be tested. A hypothesis is commonly defined as a researcher's attempt to explain a phenomenon of interest. Those hypotheses are the researcher's attempt to explain the phenomenon under investigation, and that explanation should include a forecast regarding the variables under investigation. These predictions are then put to the test by collecting and evaluating data, which can either support or disprove (falsify) the hypotheses. The purpose of regression analysis is to determine the relationship between one dependent variable and a set of independent variables or predictors (Pallant, 2005). The amount of variance in the dependent variable that may be explained by independent variables is also determined via regression.

Table 4.11: The Model Summery for respondents' response

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.554[a]	.307	.279	.52528	1.742
a. Predictors: (Constant), people, client satisfaction, cost, quality, time					
b. Dependent Variable: performance of contractor					

The factors R Square have the value of 0.307 and expressed that 30.7% of the variation of performance of local contractor at selected grade one building contractor in Addis

Ababa can be explained by the variables taken into consideration (people, client satisfaction, cost, quality, time). The adjusted correlation ratio shows that 0.279 of the total variation. This due to the regression line, given the number of degrees of freedom. The multiple correlation coefficients(R), with a value of 0.554, represent the correlation ratio indicating the existence of link between local contractor performance and its main factors. This is a satisfactory result to understand that the independent variable has effect on the dependent variable.

The residuals in a multiple linear regression model are assumed to be independent of one another (Ugwu and Haupt, 2007). The Durbin-Watson statistic is used to determine if the residuals are serially correlated. The Durbin-Watson statistic has a range of values from 0 to 4. In general, if the Durbin-Watson statistic is around 2, the residuals are not associated, and a range of 1.50 to 2.50 is appropriate. We can also see from the table above that the assumption of residual independence is met.

Accordingly, the five hypotheses which were developed earlier in chapter two were tested based on the regression coefficient data.

Table 4.12: Summary Result of Regression Analysis

Model		β	Sig.
1	(Constant)	.575	.051
	Cost Factor	.322	.001
	Time Factor	.002	.008
	Quality Factor	.119	.003
	Client satisfaction	.045	.360
	People factor	.042	.000
Dependent Variable: Performance of Contractor			

Source: own survey, 2022

Hypothesis 1

H1: There is significant relationship between **cost factor** and performance of contractor:

According to the regression coefficient result for this variable, the grade one building contractor's performance improved by 32.2 percent as a result of the change in the cost component, assuming all other factors stayed constant. Hypothesis 1 is accepted since

this shows that the cost element has a significant and favorable link with the contractor's performance. The results refute Kasala's (2012) assertion that the cost issue has no appreciable influence on contractor performance. On the other hand, the findings of Abidali, R. and Ali, Y. (2018) regarding the direct and significant impact of cost factors on the performance of contractors in building projects concur with this research.

Hypothesis 2

H2: There is significant relationship between **time factor** and performance of contractor:

The time factor regression coefficient result was defined as (β =0.002, P0.01, sig.008), which implies that a 2 percent increase in contractor performance is explained or justified by changes in the time factor, assuming all other variables are held constant. Since the time factor has a significant relationship with and an impact on contractor performance, Hypothesis 2 is accepted. This outcome is consistent with Kasala (2012), who claimed that the time element had a major impact on contractor performance.

Hypothesis 3

H3: There is significant relationship between **quality factor** and performance of contractor:

The quality factor regression coefficient result was defined as (β =0.119, P0.01, sig.0.310), which implies that the changes in the quality factor are responsible for 11.9 percent of the increase in contractor performance, assuming all other variables remain constant. Since the quality factor has a significant relationship with and an impact on contractor performance, Hypothesis 3 is accepted. This outcome is consistent with Kasala's (2012) findings, which indicated that the quality component had a substantial and favorable association with contractor performance.

Hypothesis 4

H4: There is significant relationship between **client satisfaction** and performance of contractor:

The regression coefficient result of client satisfaction in selected grade one building contractor was indicated as (β=0.045, P>0.01 as Sig.0014, which implies that 4.5% of increase in performance of contractor is due to the change in the client satisfaction, assumed all other variables are being constant, which entails that client satisfaction has

insignificant relationship and affect the performance of contractor, therefore, the Hypothesis 4 is rejected.

Hypothesis 5

H5: There is significant relationship between **people factor** and performance of contractor: The regression coefficient result of people factor in selected grade one building contractor was indicated as (β=0.042, P<0.01 as Sig.000, which implies that 4.2% of increase in performance of contractor is due to the change in the people factor, assumed all other variables are being constant, which entails that people factor has significant relationship and affect the performance of contractor, therefore, the Hypothesis 5 is accepted.

Table 4.13 Summary of hypothesis result

Hypothesis	Method used	Result
H1: cost factor significantly affects the performance contractor in selected grade one building contractor in Addis Ababa.	Correlation & Regression	Accepted: (β = 0.322, p < 0.05) 95% confidence
H2: time factor significantly affects the performance contractor in selected grade one building contractor in Addis Ababa.	Correlation & Regression	Accepted: (β = 0.002, p < 0.05) 95% confidence
H3: quality factor significantly affects the performance contractor in selected grade one building contractor in Addis Ababa.	Correlation & Regression	Accepted (β = 0.119, p < 0.05) 95% confidence
H4: client satisfaction factor significantly affects the performance contractor in selected grade one building contractor in Addis Ababa.	Correlation & Regression	Rejected: (β = 0.045, p > 0.05) 95% confidence
H5: people factor significantly affect the performance contractor in selected grade one building contractor in Addis Ababa.	Correlation & Regression	Accepted: (β = 0.042, p < 0.05) 95% confidence

Source: own survey, 2022

CHAPTER FIVE

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter provides the summary of findings with respect to the study objectives, conclusions and recommendations of the study.

5.2. Summary of Findings

This study aimed to examine the factors that affect the performance of local contractor in selected grade one building contractor in Addis Ababa. Data for the study was obtained through distribution of questionnaires to a pre-determined sample of contractor, consultant, and project owner in Addis Ababa. A total of 150 questionnaires were distributed to respondents and 130 were returned with a response rate of 86.7%. An overall value of Cronbach alpha (α =0.802) was obtained and the overall internal consistency test of research instruments was found in "excellent" reliability range.

The personal profiles of the respondents were analyzed as per their gender, age, types of organization, organization you work, work experience, and education level. The majority of the respondents in this survey are male which accounts for 74(56.9%) and we can conclude that most of engineering professional in the grade one building contractors and consultants in Addis Ababa are male. The age group shows that most of the respondents are aged in the range of 20-39 years was 96 (73.8%), of the total respondents. Concerning the organization, the respondents work, large number of respondents are Consultant 66 (50.8), of the total respondents. Majority of the respondents work in private organization 96 (74%), about the work experience of the respondent's majority of respondents 89 (68.5%) have 5 to 15 years of work experience, and 71 (54.6%) were Bachelor's degree holder.

Thirty-two factors were identified and merged under five groups. These groups are cost related factors, time related factors, quality related factors, client satisfaction related factors, and people related factors. Escalation of material cost, cash flow of projects, differentiation of currency price, material and equipment cost, information coordination between owner and project manager, average delay in regular payments, site preparation, access of credits, number of rework incidents, and quality of equipment

and raw material were ranked the top ten most important performance factor by the respondents of the questionnaire. This result is in line with many previous studies.

Through the descriptive statistical analysis, an overall frequency, percentages, and mean score were computed for each independent variable factor affecting performance of local contractor (cost, time, quality, client satisfaction, and people factors), and dependent variable (performance of contractor). The overall study revealed that the mean score for the measures of Client satisfaction was relatively high mean (M) = 3.879 with standard deviation (SD) 0.785, followed by cost factor mean score of 3.832 and a standard deviation (SD) of 0.694, Time factor with a mean score of 3.679 and a standard deviation (SD) of 0.688, Quality factor with a mean score of 3.551 and a standard deviation (SD) of 0.748, and People factor with mean score of 3.351 and a standard deviation (SD) 1.438. And the mean score of performance of contractor is 2.545 and standard deviation of 0.618.

Relative importance index RII was used to measure factors affecting the performance of local contractor on building construction projects. Based on the result escalation of material cost ranked first, Cash flow of projects was ranked second, differentiation of currency price was third, material and equipment cost were fourth, and Information coordination between owner and project manager was ranked fifth

The Pearson correlation analysis result indicates that with 95% confidence level cost, time, quality, client satisfaction, and people factors had with performance of local contractor was significant at $p = 0.000$ with cost factor ($r=.453$) at $p = 0.000$, time factor ($r=.430$) at $p = 0.000$, quality factor ($r=.417$) at $p = 0.000$, client satisfaction ($r=.424$) at $p = 0.000$, and people factor ($r=.312$) at $p = 0.002$ respectively and all factors affecting performance of contractor moderately correlated with performance of local contractor.

The regression results have shown that factors affecting performance of local contractor (cost, time, quality, client satisfaction, and people factors) has positive and significant predictor of performance of local contractor with cost factor ($\beta=0.322$, $P<0.01$), people factor ($\beta=0.042$, $P<0.01$), Time factor ($\beta= 0.002$, $P<0.01$) and Quality factor ($\beta=0.119$, $P<0.01$). Client satisfaction ($\beta=0.045$, $P>0.01$) has positive and insignificant predictor of performance of local contractor.

Five hypotheses were tested to answer the research questions and fulfilled the research objectives. Hypothesis 1, Hypothesis 2, Hypothesis 3, Hypothesis 5 is accepted since

the p-value for regression and correlation (< 0.05) falls below the established 95% confidence interval and hypothesis 4 are rejected because a p-value is greater than 0.05.

5.3 Conclusion

I. The contractor's performance is affected by all aspects defined in the conceptual frame work, such as cost, time, quality, client satisfaction and people or human factors.

II. Cost related factors such as escalation material costs, project cash flow, currency pricing differentiations, and material and equipment costs have been discovered to be the most significant determinants affecting local grade one building contractors in Addis Ababa. Furthermore, issues in information synchronization between owners and project managers have an impact on contractors' performance.

III. These factors have an impact on contractors' performance ai terms of on-time completion, staying within budget, and delivering the required quality of a building project, pushing them to work less efficiently and effectively.

5.4 Recommendation

The goal of this research is to identify factors and critical factors affecting the performance of local contractor in selected grade one building contractors in Addis Ababa. To this end the following recommendations are forwarded to local contractor in building construction to reduce the adverse effects on their performance.

i. Contractors must pay great attention to elements such as cost, scheduling, quality, client satisfaction, and human factors that influence their performance on building projects. During the compilation of the cost breakdown analysis for the bid price, special attention should be paid to material escalation. The consultant, project owners, and regulatory agencies will correctly analyze and handle a major price escalation clause on time. Clients must pay contractors on time and make credit available to them. The government, as well as all other involved bodies, must pay close attention to currency price fluctuations.

ii. Local contractors should ensure that they have a solid capital foundation and ad equate cash flow to prevent becoming financially-
strapped during the project. They should also refrain from using project funding for non-project purposes.

iii. In order to increase the contractor's performance, clients must make regular pay ments to contractors in order to alleviate cash flow concerns and provide credit to contractors. Changes in currency prices must also be regulated by the govern ment, as well as all other relevant bodies.

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APPENDICES- A: Research Questionnaire

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERECE

Dear participants,

I am currently working on a research on Factors Affecting the Performance of Local contractors on Building Projects in Addis Ababa: case of grade one contractors, as a partial fulfillment for my MA study in Project Management at the AAU, School of Commerce. This research is aimed to Investigate, and Identify the Factors Affecting Performance of Local contractors on Building projects and to recommend appropriate measures gained from best practices.

To successfully conduct this research, it is required to look into the issues from different perspectives by involving professionals who have experience in the Ethiopian Building Construction Sector. In this respect, you are among the one who can give the correct information; hence I kindly request you to respond to the questions.

I would like to confirm you that your response will be kept strictly confidential and it will be used exclusively for the purpose of this research. Besides, your quick response is extremely important in order to finalize the research timely and I would appreciate if you complete and return it within one week.

Thank you very much for your time and cooperation.

Yours faithfully,

Yared Tefera

Tel: +251-911- 112236

E-mail: yared955@gmail. com

SECTION 1: Respondent's' Profile

Please tick (√) appropriately.

1.1. Name of organization: _____

1.2. Gender Male [ ] Female [ ]

1.3. Types of organization

Consultant [ ] Contractor [ ] Employer [ ]

Other [ ] Please specify ……..

1.4. In which organization do you work?

Government [ ] Private Company [ ] Others (specify)……

1.5. Which one best describes your age bracket?

20 – 29 years [ ] 30 – 39 years [ ] 40– 49years [ ] Over 50 years [ ]

1.6. How long have you been involved in the Construction projects?

Less than 5 years [ ] Between 5 to 10 years [ ] Between10-15 years [ ] Between 15-20 years [ ] Above 20 years [ ]

1.7. Indicate the level of your education?

Diploma [ ] Bachelor's degree [ ] Masters [ ] PhD [ ] Others (Please specify)……

SECTION 2:

2.1. To what extent do the following factors affect contractor's performance? Please react in terms of your organization's experience and /or your knowledge about the degree of impact and frequency of occurrence of the under listed factors on building construction projects by using the scale given. Please tick (√) appropriately**. 5= Strongly Agree, 4= Agree, 3=neutral, 2= disagree, 1= Strongly Disagree**

No.	Factors	Degree of Impact on Contractor's Performance				
	Cost factors	**SDA**	**D**	**N**	**A**	**SA**
1	Cash flow of project					
2	Material and equipment cost					
3	Escalation of material cost					
4	Differentiation of currency price					
5	Project labour cost					
No.	**Factors**	**Degree of Impact on Contractor's Performance**				
	Cost factors	**SDA**	**D**	**N**	**A**	**SA**
6	Cost control system					
7	Market Share of organization					
8	Waste rate of materials					
9	Liquidity of organization					
10	Taxation at source (withholding tax and VAT)					
11	Access to credits					
12	Deduction of retention money (% age of retention money)					
No.	**Time factors**					
1	Site preparation time					
2	Planned time for construction					
3	Timely decision making					
4	Time needed to rectify defects					
5	Average delay in regular payments					
6	Average delay in Claim approval					
7	Materials shortage					
8	Equipment shortage					
9	Shortage of manpower (skilled and unskilled)					

10	Delay in the approval of contractor's submission by the consultant					
No.	**Quality factors**					
1	Quality of equipment and raw material					
2	Quality Training/meeting					
3	Quality assessment system in organization					
No.	**Client satisfaction factor**					
1	Leadership skills of project managers					
2	Information coordination between owner and project partner					
3	Number of rework incidents					
No.	**People factor**					
1	Employee attitude					
2	Belonging to work					
3	Employers motivation					

SECTION 3: Contractor Performance

No.	**Factors**	**Performance of contractor**				
	Performance of contractor	**SDA**	**D**	**N**	**A**	**SA**
1	Completion of project with allocated budget					
2	On time completion of the project					
3	Performing with specified quality level					
4	Fulfilling Client Satisfaction					

APPENDIX-B Result from SPSS

Table 3.3: Reliability Test of items, SPSS output

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Cost Factor	16.8747	10.169	.746	.702	.741
Time Factor	17.0579	10.177	.754	.775	.740
Quality Factor	17.1551	10.094	.695	.621	.747
Client Satisfaction Factor	16.8269	9.839	.711	.666	.741
People Factor	17.3551	8.866	.353	.153	.889
Performance of contractor	18.2621	11.308	.507	.262	.786

Table 4.2: The demographic profile of respondent

Frequency Table

Variable	**Items**	**Frequency**	**Percent**
Gender	Male	74	56.9
	Female	56	43.1
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Age	20-29 years	35	26.9
	30-39 years	61	46.9
	40-49 years	16	12.3

	Over 50 years	18	13.8
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Types of Organization	Consultant	66	50.8
	Contractor	46	35.4
	Owner	18	13.8
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Organization you work	Private	96	74
	Government	30	23
	Other	4	3
	Total	130	100
Variable	**Items**	**Frequency**	**Percent**
Work Experience	< 5 years	18	13.8
	5-10 years	59	45.4
	10-15 years	30	23.1
	15-20 years	13	10.0
	>20 years	10	7.7
	Total	130	100.
Variable	**Items**	**Frequency**	**Percent**
Educational Level	Diploma	24	18.5
	Bachelor's degree	71	54.6
	Master	35	26.9

	Total	130	100.

Table 4.3: Descriptive statics of variables

Aspects	**Statics**	**Minimum**	**Maximum**	**Mean**	**Std.dev**
Client satisfaction	130	1	5.00	3.879	.785
Cost factor	130	1	4.44	3.832	.694
Time factor	130	1	4.60	3.679	.688
Quality factor	130	1	5.00	3.551	.748
People factor	130	1	16.33	3.351	1.438
Performance of contractor	130	1	5.00	2.545	.618

Table 4.8 the relative importance index and: cost factors, time factors, quality factors, client satisfaction factors and people factors

No.	Factors									
		SDA	**D**	**N**	**A**	**SA**	**total respondents**	**weighted total**	**RII**	**rank**
A	**Cost**									
	Cash flow of project	7	0	12	67	44	130	531	0.817	1
	Material and equipment cost	6	0	16	73	35	130	521	0.802	4
	Escalation of material cost	6	1	12	71	40	130	528	0.812	2
	Differentiation of currency price	7	1	15	67	40	130	522	0.803	3
	Project labor cost	6	2	48	61	13	130	463	0.712	7
	Cost control system	6	12	43	47	22	130	457	0.703	8

	Waste rate of materials	6	12	45	51	16	130	449	0.691	9
	Liquidity of organization	6	0	23	75	26	130	505	0.777	6
	Access to credits	6	1	21	74	28	130	507	0.780	5
B	**Time**									
	Site preparation time	7	6	14	62	41	130	514	0.791	1
	Planned time for construction	8	9	33	59	21	130	466	0.717	7
	Timely decision making	7	7	36	55	25	130	474	0.729	5
	Time needed to rectify defects	8	9	27	68	18	130	469	0.722	6
	Average delay in regular payments	7	1	24	75	23	130	496	0.763	3
	Average delay in claim approval	9	14	40	55	12	130	437	0.672	10
	Materials shortage	10	8	34	63	15	130	455	0.700	9
	Equipment shortage	6	6	36	61	21	130	475	0.731	4
	Shortage of manpower(skilled &unskilled)	7	1	25	73	24	130	496	0.763	2
	Delay in the approval of contractors submission by the consultant	9	8	31	67	15	130	461	0.709	8
C	**Quality**									

	Quality of equipment and raw material	6	1	26	73	24	130	498	0.766	1
	Quality training/meeting	6	11	32	63	18	130	466	0.717	2
	Quality assessment system in organization	6	19	53	42	10	130	421	0.648	3
D	**Client Satisfaction**									
	Leadership skills of project managers	6	1	35	58	30	130	495	0.762	3
	Information coordination between owner and project manager	6	2	20	64	38	130	516	0.794	1
	Number of rework incidents	6	1	22	77	24	130	502	0.772	2
E	**People**									
	Employee aptitude	11	29	31	31	28	130	426	0.655	2
	Belonging to work	21	31	23	39	16	130	388	0.597	3
	Employers motivation	12	21	23	37	37	130	456	0.702	1
f	**Performance of contractor**									
	Completion of projects with allocated budgets	32	50	22	24	2	130	304	0.468	4
	On time completion of the projects	37	51	25	15	2	130	284	0.437	5

	Performing with specified quality level	27	47	24	19	13	130	334	0.514	3
	Fulfilling client satisfaction	32	36	26	21	15	130	341	0.525	2
	Fulfilling regulatory and community satisfaction	14	40	32	27	17	130	383	0.589	1

Table 4.9: The Major Factors that Affect the Performances of Contractors

No.	**Major Factors affect the performance of contractor**	**RII**	**Rank**
1.	Escalation of material cost	0.817	1
2.	Cash flow of project	0.812	2
3.	Differentiation of currency price	0.803	3
4.	Material and equipment cost	0.802	4
5	Information coordination between owner and project manager	0.794	5

Table 4.10: relationship between Independent and dependent variable

Correlations							
		Performance of Contractor	Cost	Time	Quality	Client Satisfaction	People
Performance of Contractor	Pearson Correlation	1					
	Sig. (2-tailed)						
Cost	Pearson Correlation	.453**	1				
	Sig. (2-tailed)	.000					
Time	Pearson Correlation	.430**	.822**	1			
	Sig. (2-tailed)	.000	.000				
Quality	Pearson Correlation	.417**	.649**	.737**	1		
	Sig. (2-tailed)	.000	.000	.000			
Client Satisfaction	Pearson Correlation	.424**	.691**	.771**	.739**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
People	Pearson Correlation	.312**	.342**	.276**	.277**	.271**	1
	Sig. (2-tailed)	.000	.000	.001	.001	.002	
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 4.11: The Model Summery for respondents' response

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.554[a]	.307	.279	.52528	1.742
a. Predictors: (Constant), people, client satisfaction, cost, quality, time					
b. Dependent Variable: performance of contractor					

Table 4.12: Summary Result of Regression Analysis

Model		B	Sig.
1	(Constant)	.575	.051
	Cost Factor	.322	.001
	Time Factor	.002	.008
	Quality Factor	.119	.003
	Client satisfaction	.045	.360
	People factor	.042	.000
Dependent Variable: Performance of Contractor			