



ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE GRADUATE STUDIES
PROJECT MANAGEMENT MASTERS PROGRAM

INVESTIGATION OF FACTORS FOR A SUCCESSFUL PROJECT PERFORMANCE:
THE CASE OF ALEXANDER PUSHKIN – GOTERA ENGINEERING PROCURMENT
AND CONSTRUCTION ROAD PROJECT

By
Divina Tamiru

JUNE, 2023
Addis Ababa, Ethiopia

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A RESEARCH PROJECT WORK SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL
OF COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF MASTER OF ARTS IN PROJECT MANAGEMENT

Advisor
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JUNE 2023
Addis Ababa, Ethiopia

DECLARATION OF CANDIDATE

I, Divina Tamiru hereby declare that this research project work entitled Investigation of Factors for Successful Project Performance: The Case of Alexander Pushkin - Gotera EPC Road Project is original writing of mine that has never been submitted anywhere, whether for a master's degree or an undergraduate honor. Any information used from other works has been acknowledged.

By: Divina Tamiru

Date: -----

Signature: -----

STATEMENT OF CERTIFICATION

This is to certify that Divina Tamiru has carried out this research project work on the topic entitled “Investigation of factors for Successful Project Performance: The case of Alexander Pushkin - Gotera EPC Road Project” under my supervision. This work is original and can be submitted to fulfill a portion of the requirements for the Masters of Art in Project Management degree.

Dr. Seifu M (PH.D.)

Signature _____

Date _____

Approval Sheet

Inspection of factors for Successful Project Performance: A case in
Alexander Pushkin - Gotera EPC Road Project.

By: Divina Tamiru

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ACKNOWLEDGMENTS

I would like to first and foremost express my gratitude to the Almighty God and the Virgin Mary for their unfailing love and support throughout my life.

Next, I'd want to sincerely thank my adviser, Dr. Seifu M. (Ph.D.), for all of his helpful criticism, suggestions, and remarks during this research.

My heartfelt gratitude goes out to everyone who took part in my survey, especially the department head, directorate directors at the client and consultant organizations, project manager, and management teams of the project under study, who voluntarily gave up their valuable time to complete questionnaires and conduct interviews.

Last but not least, I'd like to express my gratitude to my family and friends for helping me out and inspiring and motivating me to complete my research.

Divina Tamiru

ACCRONOMIES AND ABBREVIATIONS

PM: Project Manager

MA: Master of Arts

PMBOK: Project Management Guide Book

BA: Bachelor of Art

CFHEC: China First Highway Engineering Company

AACRA: Addis Ababa City Road Authorities

CEO: Chief Executive Officer

CSFs: Critical Success Factors

ERA: Ethiopian Road Authority

SPSS: Statistical Package for Social Science

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Abstract

Project performance is the major thing that can clearly show the success of one construction process while the project performance itself can rely on several factors. And in this research, an investigation was done on the factors for successful project performance in Alexander Pushkin - Gotera EPC Road Project. Performance success has been observed in this project and I made this research paper to identify what kind of project performance factors were used in this project. Although the success of a specific construction method can be demonstrated by a project's performance, the project's performance can also depend on several other aspects. The evaluation of the Alexander Pushkin - Gotera EPC Road Project's performance is the main objective of this study. This study employed an explanatory design and utilized a quantitative research methodology to identify the variables influencing project outcomes. 50 questionnaires were given, and the stakeholders involved in the projects were surveyed for the data. 46 of the questionnaires (or 92%) were completed and sent on time to the researcher. SPSS was used to analyze the data collected, and tables and figures were used to show the findings. As a result of a number of circumstances, the project showed higher level of efficiency and had a great performance overall. This project evaluated and identified the elements that contributed to the result in subpar project outcomes, to ensure a successful performance.

Key words: *project performance, project management, Project success, success factor, construction project.*

Chapter One: Introduction

1.1 Background of the Research

A project is a difficult, unique; a one-time endeavour constrained by time, budget, and resource requirements with performance objectives. Its goal is to satisfy the expectations of the client.

Over the course of a facility's life, a construction project is completed by a combination of several planned and unplanned events and interactions with changing participants, processes, and environments. According to a review of the important recent literature, construction projects typically end up with significant cost overruns, extended timetables, and quality issues. The capacity to deliver based on established goals should be crucial to the success of the firm because the results of the capital projects have strategic repercussions for the success and profitability of the business (Kivrak, 2008). Meeting the required expectations of the stakeholders and accomplishing the project's intended goal are signs of project success. As it relates to construction, success criteria or a person's definition of success frequently varies from project to project depending on participants, scope of services, project size, the owner's sophistication with regard to facility design, technological implications, and a variety of other factors (Kivrak, 2008).

Construction and aerospace industries were the first to seek flexible forms of management due to the working conditions and types of activities they involved. Modern project management, where the various engineering disciplines come together to function as one, has been dated to the 1950s as its inception. Project management systems may be required when a task necessitates significantly more resources (people, money, equipment, etc.) than are typically employed by a department or organization (John, 2004). According to (Arslan, 2009), a project is an intricate, irregular, one-time endeavour that must adhere to a certain time, money, resource, and performance requirements.

In Ethiopia, the construction sector is a key contributor to economic expansion. One of the best performing economies on the continent is being created in the nation thanks to significant government investment in infrastructure and housing construction projects. However, the industry experiences several obstacles and difficult performance issues, just like other emerging nations. According to (Interiors, 2014) the average delay risk for construction

projects in Ethiopia is 38% at a high and very high risk category. The chosen building construction projects are subject to performance elements and issues that are typical of other projects because they are construction projects.

The three main categories of Key Performance Indicators in the Construction Industry are Time, Cost, and Quality (DETR, 2000). The time, cost, and quality achievement are collectively known as the "iron triangle" in project management. The project management is primarily worried about achieving schedule and cost compliances out of these three factors. As a result, project locations only make half-hearted efforts to achieve quality. Project quality may occasionally be neglected in order to meet the timeline and cost goals. Schedule compliance has surpassed quality compliance as the most often utilized project performance criterion (John, 2004).

Over the past few years, the local construction industry has risen in terms of both the value and quantity of projects, and some local contractors are now accepting comparatively larger contracts. International contractors are drawn to Ethiopia mostly because of Ethiopia's more substantial incentives, political commitment from the government, and likely because of its relatively sound judicial system in comparison to many other African states. Chinese businesses make up the majority of the foreign contractors.

The capacity to deliver based on predetermined targets should be crucial to the success of the firm because the results of the capital projects have strategic repercussions for the success and profitability of the business. Meeting the requisite expectations of the stakeholders and accomplishing the project's intended goal are examples of project success. As it relates to construction, success criteria or a person's definition of success frequently varies from project to project depending on participants, scope of services, project size, and the owner's sophistication with regard to facility design, technological implications, and a variety of other factors.

Therefore, the goal of this study is to thoroughly evaluate the success elements for the accomplishment of construction projects, and the methods for avoiding, managing, or controlling.

1.2 Background of the Company

Chinese international contractors have steadily increased during the past decade, becoming significant and strong competitors in the Ethiopian construction market. Chinese international contractors are drawn to the market by the vast development demands around the world, especially in developing countries like Ethiopia. Similar to this, the Chinese government's solid support is crucial for the local and international growth of Chinese contractors. In particular sectors and countries, some renowned Chinese international contractors thrive. This draws attention from the international community to the competitiveness of Chinese foreign contractors.

Chinese contractors are frequently viewed as being extremely productive for several of factors. Their strong work ethic and commitment to finishing jobs quickly are the first contributing factor. Chinese workers are renowned for their dedication to long workdays and their readiness to put in extra effort to achieve deadlines. Construction sites are more productive as a result of this cultural emphasis on discipline and hard effort.

Additionally, Chinese contractors frequently profit from their vast knowledge and proficiency in carrying out complicated projects. China has experienced tremendous urbanization and infrastructure development over the years, which has led to the collection of important information and construction-related skills. Numerous complicated projects, including high-speed rail networks, skyscrapers, and significant infrastructure projects like the Belt and Road Initiative, have been successfully completed by Chinese contractors. They now have a thorough understanding of project management, resource allocation, and problem-solving methodologies thanks to their experience, which enables them to complete tasks more quickly.

China First Highway Engineering Co., Ltd (CFHEC) is one of leading global Chinese contractors, ranking 97th out of the top 500 enterprises in 2018. The company set its foot in Ethiopia when it built roads outside of Addis Ababa. This was followed by many projects including the construction of Friendship Parks, Alexander Pushkin Square to Gotera Interchange Road Project, Kality Road Project and many more. Since then, it has efficiently finalized highways, airport roadways, industrial parks, and real estate development projects.

CFHEC has grown into a national special-class general contractor in major highway projects, focusing on construction of high-class highways and large bridges, integrating construction, design, supervising, research, measuring, and machinery manufacturing.

1.3 Background of the Project

The project, Alexander Pushkin square to Gotera Interchange Road Project, is located in the central- western part of the city of Addis Ababa and starts at Alexander Pushkin roundabout and ends at Gotera Interchange, it is intended to harmonize mobility of traffic from six directions at the central-west area of the city of Addis Ababa by combining the functions of overpasses and underpasses. It will also create alternative route from Bole International Airport to the Africa Union through Ethio-China Avenue.

The total length of the project is estimated around 3.8km with different width which is reconstruction and explosion of the straight main road from Pushkin square to Gotera interchange about 2.3km and reconstruction of 2 main road nodes about 1.5km. The project main road will have a separate and dedicated BRT (Bus Rapid Transit) at the center of the road without any distribution at nodes.

Alexander Pushkin Square to Gotera Interchange Road Project harmonizes mobility of traffic from six directions at the central-west area of the city of Addis by combining the functions of overpasses and underpasses. It creates alternative route from Bole International Airport to the African Union through Ethio-China Avenue. The interchange road will upgrade and facilitate mobility in the aforementioned directions and hence travel time will very much reduce. The fact that the interchange is mixed with BRT (Bus Rapid Transit) even more classifies the project road to under high standard roads by reducing the complications of travel creates by service giving and private mobility. The urban area is the provision of an efficient and well planned road network to ensure smooth traffic flow that is expected during peak and non-peak hour.

The project has successfully ended and is giving the services it was intended to give.

Project Stakeholders

Project Name- Alexander Pushkin Square to Gotera Interchange Road Project

Client- Addis Ababa City Road Authority (AACRA)

Contractor- China First Highway Engineering Company Co.Ltd (CFHEC)

Consultant- Best Consulting Engineering PLC

Sub-Contractor 1- Huda Construction

Sub-Contractor 2- HOHA Construction

Sub-Contractor 3- Belam Construction

Location- Addis Ababa, Alexander Pushkin round about to Gotera Interchange

1.4 Statement of Problem

Determining the success of a project primarily requires preliminary research on Critical Success Factors (CSFs) and the relationship between numerous features. A construction project will be directly impacted by the Critical Success Factors (CSFs). Today's sectors are all evolving, and the construction sector is no exception. In fact, one of the most dynamic and complicated ecosystems is involved in construction projects. A dynamic construction business is produced by the rising level of technological, financial, and development process uncertainty (Salleh, 2009). There are no definite project success elements in Ethiopian Construction that are accepted by all significant stakeholders and internal staff. As a result, there are several flaws or delays for each completed construction project (time overruns and over budgets are typical for the performance of construction projects). Sometimes, brand-new issues arise, and despite efforts to apply success criteria, these issues continue to arise. These issues were discovered as a result of the high level of client and internal staff discontent with the progress of the construction project. Numerous factors that led to the aforementioned issues have been listed. Some of the issues include the lack of shared goals and objectives between the project team and the staff at the head office, a lack of cash flow, a lack of foreign currency that causes a delay in the importation of materials, a slow response time for procurement and logistics, poor project monitoring and evaluation, and others. Lack of distinct success factors for project performance was the root cause of all these issues, as well as others that were not stated.

Earlier research has demonstrated that issues and performance failures are the primary causes of any project failure. In addition, there are other causes and contributing elements for this issue. The majority of these studies, primarily Cost and Time, instead of their entire performance, primarily concentrate on one component of performance difficulties. Additionally, there were extremely few studies done on Ethiopia. (Tadesse Ayalew, 2016) Stated that Ethiopian construction companies are allegedly performing ineffectively for a

variety of factors, including management methods, tactics, and roles. (Deneke, 2020) The main challenge identified for lack of project performance is absence of appropriate project management, which results in poor application of integrated management and poor arrangement of several functions, according to his research paper assessment of factors affecting effective performance of construction projects the case of projects of Ethiopian Construction Works Corporation.

But, despite what was stated above Chinese contractors in Ethiopia seems to be succeeding meeting all projects goals in construction by avoiding time overruns and budget overruns and meeting specified qualities with a good performance. The paper will mainly focus on investigating the success factor in Alexander Pushkin – Gotera Road Project which will investigate the Chinese contractor’s factors for success. In order to find out the variables that greatly contribute to the successful performance of projects in the projects of the organization, it is helpful to identify several success factors that influence project success.

Construction projects are usually impacted by success factors, which can aid project partners in more effectively, achieving their desired goals. The current investigation was inspired by these gaps in the literature.

1.5 Research Questions

The following crucial research questions are put forth to operationalize the aforementioned research problems and objectives:

1. What are the factors affecting the performance of construction projects?
2. What is the connection between the performance of construction projects in Alexander Pushkin – Gotera Road Project, and factors like the nature of the project, planning the project, relationships between the parties and external factors.
3. How did the above mentioned factors impact the performance of construction projects?

1.6 Research Objectives

The objectives of this research will be as follow:

General Objectives

In order to provide management answers the main objective of this project is to investigate and identify crucial elements for the successful performance of construction projects.

Specific Objectives

This study specifically aims to evaluate the most important criteria for the success of building projects and determine which ones are more important. Additionally, the research:

- Identifies the corporate elements that affect project performance.
- Evaluates how well the project performed in comparison to existing success standards.
- Examine the company's methods for project monitoring, evaluation, and feedback.
- Identify the reason why Chinese contractors are more productive

1.7 Scope of the Research

The study focuses on the project performance of Alexander Pushkin Square to Gotera Interchange Road Project. After reviewing the works of numerous linked literatures of the topic of interest, the researcher analyzed aspects that are regarded common independent of the project type and organizational structure in this study. This research will solely be concentrating on the performance of the project.

1.8 Limitation of the Research

The researcher was only able to look at office data and was unable to thoroughly examine all of the project performance areas. Consequently, the result can be excessively tied to the success of the initiative.

1.9 Significance of the research

This study was conducted to examine the correlations between the construction project's various components that affect project performance. The study's preliminary findings are presented in this document. The focus of the paper is on identifying the variables that tend to increase and decrease project performance.

Therefore, this study will fulfill its purpose of encouraging construction companies and others to comprehend construction performance. Additionally, it may be crucial to look at construction work difficulties and potential sources of performance issues. Since this study will identify the causes of projects' subpar performance, it can be used by project managers, consultants, and other workers who might be involved in a construction project interested in the matter to address specific issues.

Finally, it is believed that additional researchers may refer to this study.

1.10 Organization of Study

There are five chapters in this paper. The introduction to the research paper includes a subject matter explaining the background of the study, the statement of the problem, the research questions, the objectives of the study, the research hypothesis, the scope of the study, the limitations of the study, and the importance of the study. The second chapter, on the other hand, talks about literature reviews, which cover theoretical analysis, empirical viewpoints, and conceptual framework. The introduction, study methodology, research design, research population, technique of data collecting, method of data analysis, scale and reliability test, and ethical considerations are all covered in the third chapter, in contrast. The study's data presentation, analysis, and interpretation portion is covered in detail in chapter four, as is the study's findings, conclusion and recommendations section, which is covered in chapter five.

Chapter Two: Literature Review

2.1 Introduction

In this research paper the researcher evaluates some current literature on project success variables with an emphasis on the construction industry. The problem of construction project failure is first reviewed, followed by an examination of elements that lead to project failure and are therefore crucial for success. Areas and factors that contribute to success are then reviewed in more detail.

Definition of Project

Projects are temporary, but their deliverables may exist beyond the end of the project. Projects may produce deliverables of a social, economic, material, or environmental nature.

International Project Management Association define project as followed, “A project is a time and cost constrained operation to realize a set of defined deliverables up to quality standards and requirements. (Nijkerk, 2006)

A project is a unique, transient endeavour, undertaken to achieve planned objectives, which could be defined in terms of outputs, outcomes or benefits. (Nijkerk, 2006)

A project is an endeavour in which human, financial, and material resources are organized in a novel way to undertake a unique scope of work, of given specification, within constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives. (Turner & Rodney, 2009)

Definition of Project Management

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management is accomplished through the appropriate application and integration of the project management processes identified for the project. Project management enables organizations to execute projects effectively and efficiently. Effective project management helps individuals, groups, and public and private organizations to: Meet business objectives; Satisfy stakeholder expectations; Be more predictable; Increase chances of success; Deliver the right products at the right time; Resolve problems and issues; Respond to risks in a timely manner; Optimize the use of organizational resources; Identify, recover, or terminate failing projects; Manage constraints (e.g., scope,

quality, schedule, costs, resources); Balance the influence of constraints on the project (e.g., increased scope may increase cost or schedule); and Manage change in a better manner. Poorly managed projects or the absence of project management may result in: Missed deadlines, Cost overruns, Poor quality, Rework, Uncontrolled expansion of the project, Loss of reputation for the organization, unsatisfied stakeholders, and Failure in achieving the objectives for which the project was undertaken. Effective and efficient project management should be considered a strategic competency within organizations. It enables organizations to: Tie project results to business goals, compete more effectively in their markets, Sustain the organization, and Respond to the impact of business environment changes on projects by appropriately adjusting project management plans. (PMBOK, 2017)

Successful project management can then be defined as achieving a continuous stream of project objectives within time, within cost, at the desired performance/technology level, while utilizing the assigned resources effectively and efficiently, and having the results accepted by the customer and/or stakeholders. Because each project is inherently different and each customer can have different requirements, the activities included within the process groups may change from project to project. (Kerzen, 2017)

Construction Projects

Construction can be an action or a process. It entails a series of steps that either result in the creation of new buildings and infrastructure or could involve adjustments to the existing infrastructure and structures (Radosavljevic, 2012). Any construction job that is attempted or undertaken includes construction projects. A project entails a number of intricate or connected actions and tasks that use up resources in order to accomplish some specific goals. According to a set of requirements and a finite budget, it must be performed (Munns, 1996) (Pinto et al, 1988).

Construction projects are notorious for going over budget, running behind schedule, and experiencing scope creep. Delays, excessive spending, and poor quality are some of the issues the construction sector is currently dealing with. Some of these issues have been successfully resolved using the conventional construction management approach. Construction management is defined as the comprehensive planning of a project that allocates the necessary resources to complete the project on schedule, within budget, and to the desired quality. The "Scope

Triangle" is a visual representation of the three trade-offs in a project, including cost, time, and quality. (Fall, 2013)

The key to effective project management is assembling the tasks and assets required to complete the project's goals and deliverables within the allocated timeframe and within the budget that was originally anticipated. (Fall, 2013)

Due to the huge number of project participants, including clients, consultants, contractors, stakeholders, stockholders, and regulators, the construction business is complicated in nature. Because of the industry's complexity, fragmentation, and high level of casual labour employment, it is sensitive to subpar contract performance (Rawlinson & Steve, 2005). When a project is successfully finished, the organization enters the future state and accomplishes the particular goal. According to the (Buckinghamshire, 2012) , "A project is often considered successful if it meets the objectives in accordance with their acceptance criteria, within an established timeframe, and within budget. Projects are started to take advantage of business possibilities that are consistent with the strategic objectives of an organization. A business case is frequently created before a project is started in order to describe the project goals, the necessary investment, and the quantitative and qualitative requirements for project success.

2.2 Theoretical Framework

Performance Theories

Even though it is thought that being a good performer in the construction sector is thought to be expensive, contractual prospects are utilized to discover the well-performance contractors (Enshassi et al, 2009). Six initial notions based on the theory of Performance are developed and connected to create a framework that aids in describing performance as well as performance advancements (Elger, 2010).

In comparison to other businesses, the construction industry requires significantly more attention to function well. Additionally, if performance is not given as much attention, especially for the corrective works, it may cost more than originally planned. (Bailey, 2000)

According to (Elger, 2010), performance is not one time thing, it is a sequence of steps and how the performance can determine the state of the process. On this level, several categories can be stated to identify extent performance in terms of; framework, extent of facts, extent of abilities, extent of character, individual issues, and predetermined issues.

Performance Measurement Theory

There is a difference between performance indicators, performance measurements, and performance assessment, according to (Mbugua, 1999) and (Love, 2000). Performance indicators, as indicated in (Mbugua, 1999), outline the quantifiable proof required to demonstrate that a planned effort has produced the anticipated result. In other words, indications are labeled measures when they can be measured with some level of accuracy and clarity. However, performance indicators are typically used when obtaining a precise measurement is not possible. Performance metrics are the quantitative or monetary indicators, according to (Sinclair, 1995).

Performance Measurement, on the other hand, is a systematic way to assess the inputs and outputs in a manufacturing or construction activity and serves as a tool for ongoing improvements ((Sinclair, 1995); (Mbugua, 1999)). Numerous performance measurements have surfaced in management literature in response to calls for performance improvement that is constant. Some examples include: the financial measures ((Kangari, 1992); (Kay, 1993); (Brown, (1994)), client satisfaction measures (Kometa, 1995; Harvey and Ashworth, 1997; and Chinyio et al., 1998), employee measures (Shah and Murphy, 1995; and Abdel-Razek, 1997), project performance measures (Belassi and Tukel, 1996) and industry measures (Latham, 1994; Egan, 1998; Construction Productivity Network, 1998; and Construction Industry Board, 1998); as cited in (Mbugua, 1999).

Measurement of Project Performance

Wegelius Lehtonen asserts that construction companies must soon quantify their measurement techniques, In order to guide the outcomes and implementation effectiveness of commercial activity, (Karim & Marosszeky, 1999) presented broad ideas on performance quantifying schemes that have been one of the key methods employed by the production parties. (Wegelius-Lehtonen, 2001)

Navon asserts that performance evaluation is a comparison of the expected and actual capacity for job computation, additionally; he stated that performance monitoring is necessary to keep track of ongoing projects and update the important database. (Navon, 2005)

The importance of performance measurement is to help construction companies understand the extent to which important and substantial procedures are headed for accomplishment or decline

from prior accomplishment, and the reason why this knowledge leads to further improvements (Elger, 2010). Tangen discovered that performance measuring is a complex process that heavily relies on supervision, accounting, and financial limitations; the topic of performance measurement has recently attracted significant interest from both academics and professionals. (Tangen, 2004)

Construction Project Failure

A large percentage of construction projects fail. In the U.S., between 65% and 80% of construction projects fail by either:

1. Failing to meet their stated objectives,
 2. Running significantly late, or
 3. Costing far more than planned, or some combination of these three issues ((Miller, 2013); (Kaminski, 2013)).
- The definition of a failed project in that estimate – a project that fails significantly in the areas of scope/purpose, time and/or cost – is a common one. Some other definitions of failure that are sometimes used include failure to satisfy the customer and failure to improve the business. Failed construction projects are a problem because they drain resources.

They might put a strain on finances, which would be problematic for businesses. The reasons or drivers of project success, as well as why some projects fail and others thrive, are of great interest. Since the project manager is responsible for overseeing all aspects of the project, including managing the team to ensure proper operation, many people view project management to be of the utmost importance. The expertise of the project team, the methodology used, and the availability of established, tried-and-true methods or technology to complete the work (i.e., the project's level of difficulty) are some other elements that affect project success.

Project Failure Factors

Some studies examined the reasons/factors behind project failure, which offers insight into the causes of project success. Research on the reasons why construction projects fail is extensive. The failing building projects had serious challenges with scope defining and control. I discovered a recent scientific study that examined the role of scope in the success or failure of

projects. According to the article by (Mirza, 2013) improper scope definition is crucial for project failure and is also a major factor in its success. The work that has to be done to achieve the goals is described in the scope. The team's activities and decision-making are guided by the scope throughout the project. A product or outcome that meets the needs of stakeholders must be delivered if the scope is not properly defined up front (by failing to involve the appropriate stakeholders in scope discussions, identify requirements, and prepare a clear, well-defined scope document). In other instances, during the project, stakeholders may develop new desires or change their minds about what they first desired. (Anthopoulos, 2016) stated that the highly publicized failure of the e-government Health care government project in the United States as a case study to examine the causes of e-government project failures. According to the literature, failures were caused by: design-reality gaps (concerning hard-soft gaps, private-public gaps, and country context gaps), missing focus (insufficient knowledge of business needs or objectives), content issues (scope problems along with changing requirements), skill issues (inadequate skills of project team), execution issues, regulatory issues, external factors, and missing user satisfaction (projects do not meet users' expectations and products), among other things.

Construction Projects and Performance

Pre-construction, construction, and post-construction phases make up a typical construction project. In order to achieve the output and objectives defined by the client, several actions are carried out during these stages. As a result, it is critical for the site manager to evaluate their performance in relation to the various tasks or sub processes carried out during the construction project. A project's performance can be viewed as the outcome of the process as well as its existence (Liang, 2011). The performance measurement or indicators chosen for the project must be understood and accepted by the site manager in order for the site manager to be effective.

According to (Thomas, 2002) the main performance indicators of construction projects include budget consistency, improvement in task performance, custom of value, protection of workers from accidents, capitals, supervision skills, assertion and contractual arguments, communication with subcontractors, character and quantity of subcontracting companies, and supervision abilities. According to (Chan, 1996) the construction timetable frequently serves as

a crucial beginning point for evaluating the performance of a project and the competence of the construction business, which gradually elevates its significance.

Factors of Project Management and Project Success

According to (Turner & Mancini, 2019) the five core functions of project management can be explained as follows:

1. The project entails work, and that scope of work must be managed.
2. We assemble the resources into a temporary organization which must be managed.
3. In order to deliver the desired benefit, the asset must function in certain ways, and at required levels of performance. Therefore, the performance, or quality, of the asset must be managed. But to deliver a quality asset the work of the project must also meet certain quality standards. Quality needs to be managed.
4. In order for the project to be of value to both the client and contractor, it must cost less than the value of the benefit. Thus, cost needs to be managed. This involves managing the consumption of all resources, including people and material, not just money.
5. Time needs to be managed for several reasons. In order for the work of the project to take place effectively and as efficiently as possible, the input of the various resources needs to be coordinated. Also, there will be a time value associated with the benefit from the asset. The later it is delivered, the less its value, so the timing of the work needs to be managed to deliver the asset within a time frame that will give the desired benefit.

The success standards commonly associated with a well-performed construction project: These standards encompass various aspects of the project and contribute to its overall success.

Here are some key factors to consider:

Safety: A successful construction project must put the safety of everyone involved, including employees, contractors, and members of the public, first. In order to achieve this goal, it is critical to follow safety standards, put in place the necessary safety precautions, and maintain a safe workplace.

Quality: Delivering a high-quality end product is essential. This involves using suitable materials, following industry standards and codes, and ensuring that construction meets or exceeds client expectations. Quality control processes and inspections should be in place to ensure compliance.

Timeliness: Completing the project within the established timeline is a vital success standard. Efficient project planning, effective scheduling, and proper resource allocation help ensure that construction progresses smoothly and milestones are met on time.

Budget adherence: Staying within the allocated budget is another critical factor. Effective cost management, accurate estimating, and regular monitoring of expenses help control costs and prevent overruns. Any necessary changes or modifications should be properly communicated and approved to avoid financial setbacks.

Communication: Open and effective communication is key to a well-performed construction project. This includes maintaining clear and transparent lines of communication among all stakeholders, such as the project team, clients, subcontractors, and suppliers. Regular progress updates and prompts resolution of any issues or conflicts contribute to project success.

Stakeholder satisfaction: Meeting the expectations and needs of all project stakeholders is essential. This includes the client, investors, end-users, and the local community. Regular engagement, feedback collection, and addressing concerns promptly help build positive relationships and ensure stakeholder satisfaction.

Sustainability: In the present era, where environmental awareness is growing, it has become more and more crucial to integrate sustainable practices into construction projects. Following environmentally friendly construction standards, reducing waste, and adopting energy-efficient solutions all play a significant role in ensuring the project's success and leaving a positive, long-lasting environmental footprint.

Documentation and Record-keeping: Maintaining accurate documentation throughout the project is crucial. This includes contracts, permits, change orders, drawings, progress reports, and any other relevant records. Proper documentation ensures accountability, facilitates project tracking, and provides a reference for future maintenance or modifications.

By focusing on these success standards, a construction project can be well-performed, meeting the objectives of all stakeholders while maintaining safety, quality, timeliness, and budget adherence.

Success Factors Influencing Project Performance

Various project success factors have been identified in different projects around the world.

Project Success Criteria

Project success factors are elements of the project or its management that can be influenced to increase the chance of achieving a successful outcome. The reverse, pitfalls, are management mistakes which increase the chance of failure. (Turner, 1999)

Turner further stated that there are two components of project success:

1. Success criteria: The dependent variables by which we will judge the successful outcome of the project.
2. Success factors: The independent variables which will influence the successful achievement of the success criteria.

The success criteria for a project must be established before it begins in order for it to be successful. This is a prerequisite for the project's success, but it's not adequate in and of itself. Unfortunately, nothing can absolutely ensure project success. You must strive to identify the majority of the important stakeholders in order to satisfy this requirement. Before you begin, it is crucial to agree on the success criteria for a number of reasons, including:

- You want everyone to share the same understanding of the project's goal. Even unintentionally, it is impossible to bring disparate end goals that people have been working toward together at the end.
- You want everyone to use the same success factors, adhere to the same project plan, and travel the same path to the goal's successful completion. The project crew shouldn't be scattering off in all directions.
- Even minor variations in how the success criteria are interpreted, such as whether to prioritize cost, time, or quality, can have a significant impact on the final product.

Pinto, 1988 List 10 Success Factors as:

- . Project mission which includes clearly defined goals and direction
- . Top management support which includes resources, authority, and power for implementation
- . Schedule and plans which focuses on detailed specification of implementation process
- . Client consultation includes communication with and consultation of all stakeholders
- . Personnel includes recruitment, selection, and training of competent personnel
- . Technical tasks include ability of the required technology and expertise

- . Client acceptance of selling of the final product to the end users
- . Monitoring and feedback basically focus on timely and comprehensive control
- . Communication includes provision of timely data to key players
- . Troubleshooting means ability to handle unexpected problems

Project success and failure factors were highlighted in terms of time, quality, cost, and the non-dispute criterion by Kumar Neeraj Jha in his book "Determinants of Construction Project Success in India" published in 2013.

Six elements in total were taken out, including:

1. Project Manager's Competence

Competence of the project manager is thought to be essential for project success. A capable manager has both the technical and monitoring talents. By giving his team power over certain tasks, he demonstrates his confidence in them. He mobilizes resources by persistently persuading his superiors, participating actively in construction control meetings held at the site level, acting as a catalyst for training his human resources in the skills required by the project, and mobilizing his workforce for the project through strong leadership and nonpartisan behaviour. The competency of the project manager might be viewed of as the source of all these qualities, therefore the term.

2. Top Management Support

When the project encounters operational challenges, top management supports the project by taking the right measures. By appointing a project manager with a solid track record early on and maintaining a short, informal line of communication, top management shows support for the project. The project plan created by the site management team is also supported by an understanding top management. Participating in construction control meetings and making the resources accessible for the anticipated time frame are other signs of project support.

3. Monitoring, Feedback and Coordination

Giving a common name to this aspect is challenging when considering the features. However, this factor's characteristics mostly center on project participant coordination, monitoring, and feedback. Most studies place a high priority on monitoring, feedback, and coordination and identify these three areas as being crucial to the success of many projects.

4. Favourable Working Condition

This element includes characteristics like the scope and type of the job being done being clearly described in the tender, a pleasant social environment, a favourable climate on site, and customer monitoring and feedback.

5. Commitment of All Project Participants

Participants in the project can be internal or external. In addition to internal variables, the project also needs external influences from the political and economic context to succeed. It also demonstrates the dedication of the team when senior management transfers authority to the project manager, who then transfers it to other team members.

Cost and schedule overrun of projects

Whether a building project is basic or complex, delays almost always occur. Delay in construction is the amount of time that is spent beyond the agreed-upon completion date or beyond the extended completion date. Delays in a construction project have a crippling effect on the parties to a contract, leading to a rise in antagonistic relationships, mistrust, litigation, arbitration, cash flow issues, and an overall feeling of unease towards one another. Employer delays including late release of drawings and specifications, numerous modification orders, and inaccurate or inadequate site information lead to claims from the primary contractor and subcontractors that can result in protracted legal fights with significant financial ramifications. Contractor delays are typically the result of weak managerial abilities, a lack of planning, and a poor understanding of financial concepts, all of which have contributed to the demise of numerous contractors. Due to its paramount significance for both the employer's performance and the contractor's financial well-being, time is a frequent source of disagreements and claims that result in arbitration and court proceedings. A contract is created to specify and fix obligations to prevent such controversies, anticipate potential delay problems in advance, and govern this scenario (Gibson & Roger, 2015).

Every stage of a construction project has construction delays, which are a typical issue in Ethiopian construction projects. Furthermore, it is common knowledge that construction project delays are one of the main reasons projects fail. A project may incur additional costs and extend its timeline if the delay is not identified and the corrective project management decision is not made in a timely manner, as discussed by (Koshe, 2016). This result in

dissatisfaction from all parties involved and is currently a significant barrier to the development of developing nations like Ethiopia.

According to (Koshe, 2016) research, the following are the primary critical factors that contribute to construction delays in Ethiopian cases:

- i Contractor financing challenges;
- ii Material price increases;
- iii Ineffective project planning;
- iv Scheduling or resource management;
- v Delayed progress payments for completed work;
- vi A lack of qualified professionals in the organization who specialize in construction management; and
- vii Fluctuating labour costs.

The five most frequent, serious, and significant causes of delays and cost overruns during construction phases, as identified by (Le-Hoai, 2008) are poor site management and supervision, poor project management assistance, financial difficulties on the part of the owner, financial difficulties on the part of the contractor, and design changes.

2.2 Empirical Review

Ogwueleka defined the success factors in 2011 as system inputs that may directly or indirectly contribute to project success it makes an effort to look into the crucial success elements affecting project performance in Nigeria. The goal was to identify project success characteristics that already existed and to look at how important an impact these factors had on project performance in Nigeria. Frequency and severity are used to analyze the questionnaire's findings. Cronbach's alpha reliability analysis of the data shows that sixteen success elements were required for the Nigerian construction industry to be truly satisfied with a successful project implementation. Based on the findings, the most important success variables in project performance were determined to be objective management, management of design, technical considerations, top management support, and risk management. The findings are intended to help practitioners increase performance in project delivery by helping them better grasp the important areas based on prioritized success factors. (Ogwueleka, 2011)

Enshassi Conducted a research on related topic and investigated that average construction time suspension because of termination and unavailability of supplies, accessibility of construction materials and availability of professionals. But Enshassi investigated that the main factors that lead to good project performance are participation of professionals“ from out of the country in the project, management administrators inspecting the project and involvement of fitted management when construction methods that are not applied before are engaged. (Enshassi et al, 2009)

Kivrak Assert that obtaining success is a crucial factor in determining whether a company can survive in a cutthroat industry. Due to the high number of building contractors, the business also experiences intense competition. Qualified personnel, top-notch work, and sound financial management are just a few of the numerous variables that can contribute to a company's success in the construction sector. They wanted to look into the key elements that contribute to the success of building companies. In this regard, a survey of 40 Turkish construction businesses operating in the country's northwest was conducted. (Kivrak, 2008)

Debele conducted an assessment on the performance challenges of Government Housing projects in Addis Ababa city and he found that rise in construction material prices, deprived financial management, and weak schedule analysis has an important impact on the success or failure of a project. (Debele, 2020)

Deneke studied in projects of Ethiopian construction Works Corporation and the factors found are absence of appropriate project management practices which results to poor execution of the integration management and poor arrangement of different function. (Deneke, 2020)

Another study in this field looked at factors influencing project performance in underdeveloped nations. Construction has been halted in the United Arab Emirates due to a lack of skilled labour, a lackluster control system, poor site supervision procedures, improper management, and equipment damage (Faridi & El-Sayegh, 2006).

According to (Ajayi, 2010) choosing a contractor is a crucial matter that frequently affects a project's success or failure. A contractor's performance can unquestionably be linked to the agreement's performance. Furthermore, the construction has struggled for years with performance evaluation. Investigators proposed a variety of methods for evaluating project performance. On the other hand, practically all methods citing (Ajayi, 2010) limit their investigation to predetermined acts in terms of efficiency. In South Africa, good construction

performance ensures owner satisfaction, adherence to the schedule and budget, as well as features and justifiable progress (Mbachu, 2007).

2.3 Conceptual Framework

According to (Cooke-Davies, 2002) performance predicts success and success factors affect performance. In order to identify the ‘real’ success factors of construction projects, Cooke-Davies highlighted the importance of the stakeholders in relation to the construction project performance. This corroborates (Pinto et al, 1988) argument that a project is only successful to the extent that it satisfies the needs of its intended user. They identify the fact that the element of success in a project refers to efficiency and effectiveness measures. Efficiency measures correspond to the strong management and internal organisational structures (adhere to schedule, budget and specification) and effectiveness measures refer to user satisfaction and the use of the project. In addition, efficiency would only be achieved through having standard, systems and methodology.

The evaluation of elements that affect how well building projects perform is the main goal of this study project. The entire conceptual framework is shown in the accompanying image, along with how success or failure will be determined and the link between dependent and independent factors.

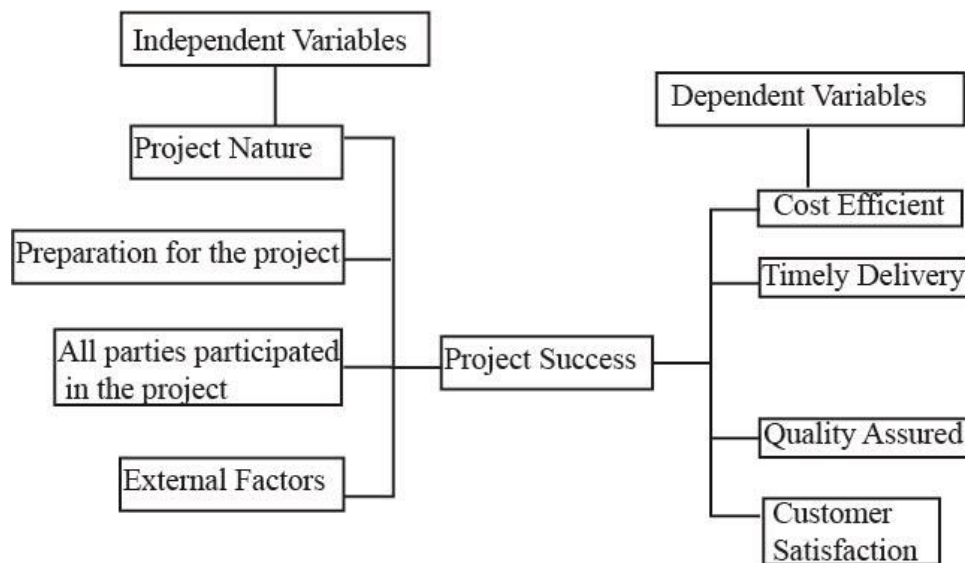


Figure 1: Conceptual Framework

There are two sorts of variables: dependent and independent, as seen in the figure above. The independent variables (Nature of the project consists of the projects goals and responsibilities being clear, did the project get enough attention that it deserved, the project time frame, flexibility of the project, inflation. The second independent variable consist employee motivation, training employees, task sequences, experience of team leaders, and communication. The third independent variable is the relation between all the parties who participated in the project and it consists of the projects claims, material delivery, specification, role and responsibilities of every stakeholders, quality assessment, and progress report. The final independent variable is external factors like exchange rate, inflation and labour market insufficiency.) The mentioned variables influence and have an impact on the dependent variable and the four constraints of projects (on-time delivery, cost-effectiveness, quality, and customer satisfaction) can be used to assess whether a project is successful or unsuccessful.

Research found that customers will not be satisfied if the final product does not match their expectations for pricing, quality, timeliness, functionality, and delivery performance. In connection with that, unless the customer satisfies their required employment circumstances, the consultants will not put in the effort to create and manage processes or develop the necessary skill and knowledge. Contractors and suppliers are not permitted to keep providing customers or any other business with decent products or resources if they do not give them a chance to make an acceptable return on their time and investment. Therefore, if the finished product does not satisfy their needs in terms of functionality and service quality, end users won't be pleased. (Atkinson, 2007)

Chapter Three: Research Methodology and Design

3.0 Introduction

Methodology refers to all the steps that must be taken in order to collect, evaluate, and present the data in a way that yields the desired result. It also explains why this is seen to be appropriate, with the intention of making the reader aware of the motivation behind and appropriateness of the approaches chosen (Leedy, 2005).

The research methodologies used for the study are set forth and described in this chapter. It covers the study's research design, methodology, description of the study variables, description of the study area, target population, sampling tactics, sample size, data source, data collection method, data analysis strategies, reliability and validity analysis, and ethical considerations.

The approaches picked to answer the research question are discussed in this subtopic.

The following sections provide an overview of the approaches that will be used in this investigation.

3.1 Research Design

Saunders defines research design as the general plan of how the research questions would be answered (Saunders, 2007). According to (Kerlinger, 1986), a research design is the plan and structure of investigation conceived to obtain answers to research questions or test the research hypothesis. By assisting the researcher in obtaining proposed findings, research design aids in plotting and applying the study, improving the likelihood of obtaining data that may be related to the real one (Burns, 2001). A research design is the orientation and organization of a study that is thought to be used to answer research questions or test a research hypothesis. Research design falls into one of three kinds (Kowalczyk, 2019).

- A. Exploratory /Formative Research method exploratory research accompanied when the issue is innovative or researches have written little on it and the researcher's goal line is to formulate more precise questions that future research can reaction. This may need to know sufficient to scheme and execute a second, more methodical and extensive study (Kowalczyk, 2019).

- B. Explanatory Research clarifies the target to know “why,” and it builds on exploratory and descriptive research and tends to distinguish the intentions for something that occurs and looks for causes and reasons. (Kowalczyk, 2019)
- C. Descriptive Research presents an image of the definite facts of a circumstances, social setting, or relationship and the key persistence of descriptive research, as the term denotes, is to designate features of a population or phenomenon and pursues to express the replies to who, what, when, where, and how questions (Kowalczyk, 2019).

Descriptive design was used in terms of research purpose since it aims in finding relationships between different factors in their influence on project performance and implemented both qualitative and quantitative analysis. Explanatory studies deal with a causal relationship between the variables, whereas descriptive studies involve observing and describing the behaviour of a subject without influencing it in any way (Saunders, 2007). This is why a descriptive study was employed in this research paper.

3.2 Research Approach

The research approach used for the study was a mixed-method approach. This strategy incorporates features of both qualitative and quantitative strategies. It makes it possible for researchers to widen and deepen their studies. For instance, when a researcher wants to generalize the results to a population and develop a thorough understanding of what a phenomenon or concept means for specific people, it is advantageous to collect both closed-ended quantitative data and open-ended qualitative data (Dawadi & Shrestha, 2021). This strategy helps define the research problem clearly and precisely. Additionally, it ensures the triangulation of results and enriches and broadens understanding of the research problem.

Thus, a mixed-approach was adopted to examine the project performance success factors used on Alexander Pushkin – Gotera EPC Road Project. Through a questionnaire and in-person interviews, data from important stakeholders (Clients, Contractor, and Consultant) was acquired. The information gathered was examined to determine the success factor for effective project performance. The questionnaire broadens the scope of the study by helping the researcher gather information from various participants about project performance. The in-

depth interviews add to the study's depth since narratives help the researcher comprehend the research problem on a deeper level.

3.3 Data Collection

A combination of primary and secondary sources will be used to compile the data for this study. Best Consulting Engineers, China First Highway Engineering Company (CFHEC) Engineers, Foremen, and Surveyors were asked to complete structured questionnaires so that we can collect primary data and interview was taken from the client's side of the project.

The secondary information was taken from relevant books, magazines, publications, and websites, project documents of Alexander Pushkin- Gotera EPC road project like project charters, contract documents, project performance reports and other similar reports.

3.4.1 Research Population and Sampling Method

According to (Hair et al, 2009) a population is a broad group of people, institutions, objects, etc. that share characteristics that are important to a researcher.

The target populations are client, contractor consultant, sub-contractors, foremen, and surveyors of Alexander Pushkin - Gotera EPC Road Project. The study's sample was selected from the target population using purposeful sampling. The purposeful sampling strategy is a non-probability sampling technique that aims to select a sample that is representative of a certain community (McBurney, 2009). A sample that is representative of the target population was selected using the purposive sampling technique. A sample of 50 employees from sub-contractors, client and consultant or representatives will be used for this study as well as China First Highway Engineering Company (CFHEC) employees or representatives will be used, from a total population of 112 employees for this study.

3.4.2 Sample Frame

Sampling frame is the list of subjects or people under study and the list should be comprehensive as well as latest (Turner, 2004). The sample frame here comprises the stakeholders who were participating in Alexander Pushkin - Gotera EPC Road Project;

- ✓ Project Manager from contractors side
- ✓ Resident Engineer from consultant site

- ✓ 6 Site Engineers from Contractors Side
- ✓ 6 Site Engineers from Consultant Side
- ✓ 4 Office Engineers from Consultant Side
- ✓ 6 Site engineers from Sub-Contractor 1
- ✓ 6 Site engineers from Sub-Contractor 2
- ✓ 6 Site engineers from Sub-Contractor 3
- ✓ 5 Surveyors
- ✓ 9 foremen

So, there were 50 samples overall. Once the samples were drawn, the questionnaires were distributed to the respondents in person and through email at their respective project offices and collected in similar fashion.

3.4.3 Sampling Method

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3.4.4 Methods of Data Collection and Instruments

The data for this study were obtained from primary and secondary sources. Primary data was collected through structured questionnaires prepared for this study and conducted (presented) for each sample of respondents and through a one on one interview with important stakeholders. Secondary data were obtained from the documents of Alexander Pushkin - Gotera EPC Road Project, Clients & consultant office, different related organization, other educational, financial institution libraries and internet.

In order to reach the objectives of the study, the researcher used quantitative research methods and qualitative research methods using questionnaire to catch-up larger target groups. The questionnaires were organized using close-ended method questions; yes/no, multiple choices (i.e., from “strongly agree to strongly disagree”). The scale the respondents were requested to specify their agreement with the rankings of Strongly Agree (5), Agree (4), Neutral (3),

Disagree (2) and Strongly Disagree (1). PIE chart was also used to analyze the YES/NO part of the questioner. The questionnaires were planned in English.

The questionnaires had three sections: the first one is about overall information, the second one seeks to find out respondents answer to the technical issues and the third one comprises respondent's opinion on overall performance of the construction project.

3.4 Assessment Tools

Project success factors are the aspects of a project that can be changed to raise the success rate; they are independent variables that increase the likelihood of success. The metrics of a project's performance are known as its project success criteria; they are dependent variables that quantify project success. The management system's inputs that directly or indirectly contribute to a project's or business's success are known as success factors. (Sumesh, 2015)

The study technique includes both a literature search and the use of a structured questionnaire, which was thought to be the best method for reaching the study's population over the course of a limited amount of time and distance. The purpose of the questionnaire is to gauge how the project's management and personnel feel about discovering the variables that contribute to a project's success. Executives of consultants, contractors, and clients who are directly involved in the projects will be contacted for a conversation. There will be utilization of project-related documents. The questionnaires were written in English and filled out by hand.

The researcher conducted face-to-face, semi-structured interviews with clients and client's representatives for this study. The interview questions focus on how they managed cost and time overruns the relationship between the three parties on the construction site, how the consultant evaluates the project management practices of the contractor, and what the consultant can suggest to contractors to address the issue of performance of projects.

3.5 Methods of Data Analysis

SPSS will be used to examine the quantitative data supplied by the participant. Descriptive analysis of the data will be performed in order to look for trends in the responses. The data was also assessed using inferential statistics to examine population-related hypotheses. For

presenting the data different types of descriptive data analysis methods such as frequency, percentage, simple tabulation, mean and standard deviation were used.

3.6 Scale Reliability and Validity Test

Regarding the reliability and validity of the study, the researcher tried to triangulate the data from different sources. Besides, due care was given to wording and clarity of the question in the questionnaires. Furthermore, Cronbach's Alpha was used to evaluate the internal consistency by using SPSS Version 20.00. Accordingly, the Cronbach's Alpha for the 5 scales turned out to be greater than 0.7 which is deemed acceptable.

3.7 Ethical Consideration

The ethics of the study were considered during its conduct, and it was approved by the Addis Ababa University School of Commerce's Project Management Department. Employee consent was obtained since the researcher used data from the project management team and the employees of engineering experts that were gathered through questionnaire. The respondents were given instructions not to put their names on the questionnaire and to ensure that the replies were used solely for academic purposes and kept confidential in order to safeguard the confidentiality of the information provided by the respondents. In order to encourage respondents to participate in the study and provide pertinent information about the company under study, a brief description of the main goals or purposes of the study and the potential benefit of the research outcome to respondents are clearly given in the introduction section of the questionnaire. In addition, participants are chosen for the study based on their free choice.

Chapter Four: Data Presentation, Analysis and Interpretation

4.1 Introduction

In this chapter, results have been presented and discussed to address the research questions and objectives. The analysis of the information gathered through a survey and on-site observations for the Alexander Pushkin - Gotera EPC Road Project is the main topic of this chapter. This chapter of the study contains the findings of data gathered through structured questionnaires from the project's contractors and consultants, along with a discussion of the findings. This section's primary goals are to inform the reader about the general research procedure and evaluate the sample's quality in order to support the validity of the study. Both quantitative and qualitative data collected from the respondents served as the foundation for this investigation. The primary data collected through the questionnaire were analyzed using SPSS (version 20). The results are shown using tables and charts. The findings, analysis, and discussion of the research were then used to make a conclusion and recommendation of the research.

4.2 Response Rate

Data collection for this research was done by distributing questionnaires to those project managers, site engineers, office engineers, consultants, surveyors, and foremen on Alexander Pushkin - Gotera EPC Road Project. 50 questionnaires were printed and delivered, and 46 of these experts responded and followed up by repeatedly reminding. The response rate, which is equivalent to 92% based on the data, is regarded as satisfactory for this kind of research. The characteristics of the samples that were taken showed that the replies from the people may be very useful in addressing the study issues. 2 (4%) of the participants did not return the paper and 2 (4%) participant response was incomplete and thus rejected.

This section summarizes data on the Alexander Pushkin - Gotera EPC Road Project's project performance criteria. It seeks to define a ranking of criteria for the construction sector based on responses to a questionnaire filled out by project practitioners. Starting with a general explanation, it goes into detail about removing potential trends and relationships from several angles. This section's desired result is an indication of the dominant and auxiliary sets of components, which will serve as the foundation for the next stage.

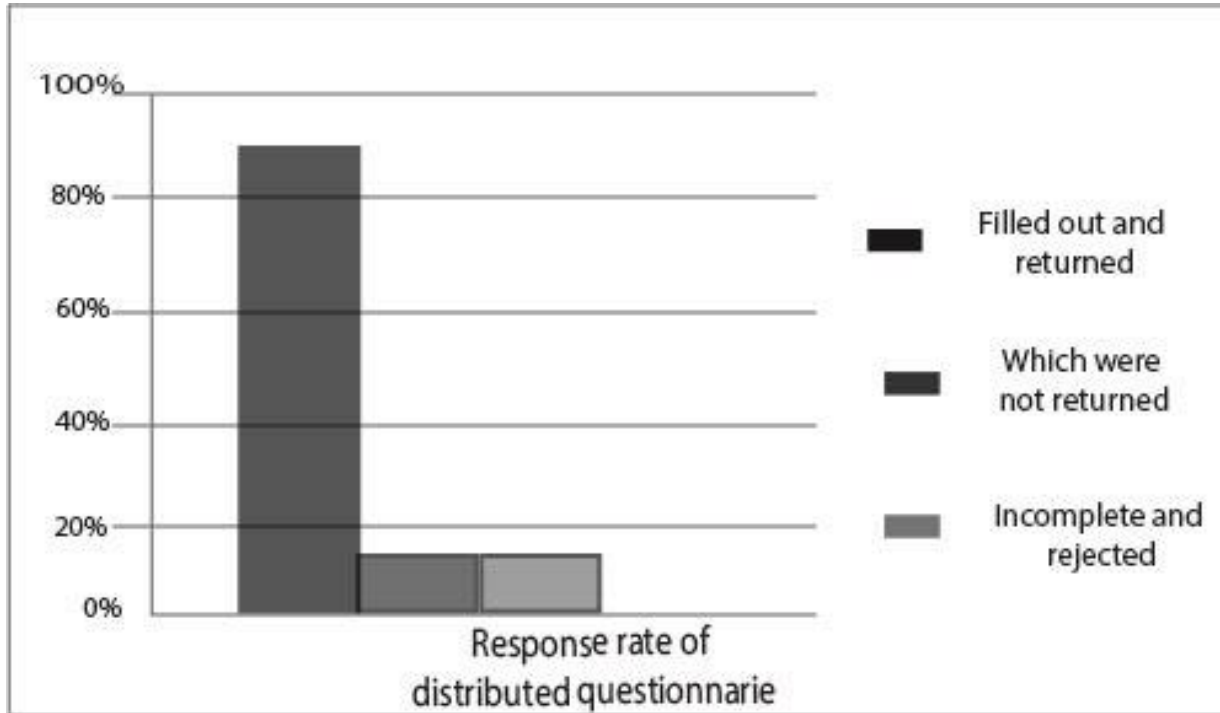


Figure 2: Response Rate, Own Survey

4.3 Background information of the respondents

Background information of the respondents discusses the current position of the respondents, their educational background, and years of experience in the construction company. The overall response rate was 92%, which is sufficient to establish the project performance metrics' relative importance. (Zikmund, 2000) Asserts that in the majority of cases, a survey response rate of 50% or greater should be regarded as excellent. High levels of incentive to finish the survey or a close personal bond between the researcher and the respondents are likely the causes of a high response rate. Table 4.1 summarizes the background of the respondents computed using frequency and percentage.

Gender	Male	Female			Total
	38	8			46
Age	20-29	30-39	40-49	50<	
	16	20	6	4	46
	Diploma	Degree	Masters	PHD	
	12	23	11	0	46
Work Experience	1-5	6-10	11-15	15<	
	25	11	8	4	46

Table 4.1 Background of Respondents

As depicted in the table above out of 46 respondents, 38 (82.6%) were male respondents and 8 (17.39%) were female. This suggests that more men than women took part in the study, based on the number of respondents. The primary reason for this is that there aren't nearly as many women working in engineering as professionals or leading project management teams as there are men.

Regarding the age of respondents out of the total 46 respondents, 20 (43.47%) are within the 20-29 years of age category, whereas 16 (34.7%) are in the range of 30-39 years of age, the rest 6 (13.04%) are within of the age greater than 40 years category and 4 (8.96%) are above the age of 50. The majority of the respondents 35 (76.08%) were in the range of 20 - 39 years of age and can easily understand their respective project's failure and success.

With respect to educational level, respondents who have acquired a degree are 23 (50%), at master's level are 11 (23.9%), and Diploma holder are 12 (26%). This shows that the majority of the respondents 74% have a degree and master's level of education. The respondents are well qualified to comprehend and respond to the elements and topics under this research, according to their academic background. Additionally, this shows that the company hires professionals. As a result, the project will have a strong chance to make use of the staff's qualifications in order to achieve its goals.

In terms of work experience of respondents, the majority of them 24 (52.17%) have below 5 years of experience. 11 (23.9%) have work experience of more than 6 years. 8 (17.3%) have work experience of more than 11 years and 4 (8.69%) of the respondents have more than 15 years of experience. As a result, it can be inferred that the projects have experienced staff that easily mention the problems of project performance and suggest possible solutions to overcome the problems.

4.4 Descriptive Analysis

The descriptive analysis was carried out by looking at the sample respondents' responses to the pertinent questions based on the project success variables. To highlight the survey's key findings, this analysis and the appendix part include summaries and brief descriptions of the survey's data. Thus, the elements influencing project success in the research region are thoroughly analyzed and discussed in the sections that follow.

The Project

Items	SD		D		N		A		SA		Mean	Std. D.
	N	%	n	%	n	%	N	%	N	%		
Overall Project goals and Responsibilities are clear.	42	91.3%	3	6.5%	1	2.2%	0	0	0	0	1.11	0.379
Low attention has been given to quality.	28	60.9%	17	37.0%	1	2.2%	0	0	0	0	1.41	0.541
Project time frame is not appropriate to complete the project as per the schedule, budget and specification.	28	60.9%	18	39.1%	0	0	0	0	0	0	1.39	0.493
The project is inflexible to change with the economic environment.	26	56.5%	15	32.6%	0	0	5	10.9%	0	0	1.65	2.96
Inflation had a big impact on the project.	0	0	2	4.3%	44	95.7%	0	0	0	0	2.96	0.206
Average											1.704	0.9158

Table 4. 2 Own survey data analyzed using SPSS (version 20), 2021

- n=Frequency, %=percent, Std. D.=Standard deviation

Overall Project Goals and Responsibilities are clear - In any project, it is important to clearly define the roles and responsibilities of each team member, and also of each contractor. Defining project roles can help you meet deadlines, create accountability and delegate tasks. It also allows you to assign responsibilities to each member of a team and create accountability. Defining roles and assigning tasks can give a project structure, which makes it easier to collaborate or address problems. If someone has a question regarding an aspect of the project, they know who's responsible for it. Also, each person who has an assigned task can organize their portion of the project. 97.8% of the respondents strongly agreed and agreed that all team

members are aware of their responsibilities and work together to achieve the desired goal of the project which indeed helped the project to perform well.

Low attention has been given to quality- Beyond the financial repercussions of quality issues, poor quality can also waste time, resources, and materials. Higher quality construction improves project efficiency, meaning that the better your processes and workflows, the easier it is for a job to move forward on schedule and without rework requirements. In the Alexander Pushkin-Gotera Road Project quality has been given great attention, 60.9% of the respondents strongly disagreed and 37% of the respondents disagreed with the questioner that asked low attention has been given to the quality of the project. Perhaps most critically, construction quality affects the bottom line. Conversely, low-quality construction projects can damage the performance of the project.

Project time frame is not appropriate to complete the project as per the schedule, budget, and specification- A project timeframe key benefit is that it aids in determining when the project must be finished including the total budget with the specified specifications. CFHEC provided an accurate time estimate for each task, to achieve it. They decide on significant dates or milestones that signal the conclusion of one project phase and the start of the next. The completion of task sequences and deliverables can help attain milestones, which are significant project components. 99.9% of the respondents strongly agreed that the time frame was very important to complete the project as per the schedule, budget, and specifications. All parties were aware of the overall project schedule because every task, milestone, and deadline was displayed on the project timeline. That enabled them to keep tabs on what is occurring and when. As a result, they can instantly identify any delays in a process and make the required adjustments. Additionally, because everything was laid out, it made it easy to determine which operations may be impacted by the delay and instantly notify the concerned parties.

Inflation had a big impact on the project- One of the main problems facing the construction sector is inflation. It causes an increase in the cost of building materials, consultation fees, machinery rental rates, and other project inputs. The result could be an extension of the project's completion, higher construction expenses, and lower profit margins. On projects,

many building contractors experience inflation because it affects the clients and employees of the construction industry. Unlike other construction projects Alexander Pushkin – Gotera EPC Road Project did face such a problem, 95.7% of the respondents disagreed with the questioner, that is because the project was a China-aided project and all the budget was provided in advance.

This summarizes that the project nature had an average mean of 1.704 which indicates that majority of the respondents agreed that the project nature contributed to performance of the project by delivering the project on time and by assuring quality and by satisfying the customers.

Before commencement of the construction

Items	SD		D		N		A		SA		Mean	Std. D.
	n	%	n	%	N	%	n	%	N	%		
Employees are demotivated due to lower payment.	2	4.3%	0	0	44	95.7%	0	0	0	0	3.00	0.412
Trainings are provided to the employees.	0	0	0	0	0	0	44	95.7%	2	4.3	4.00	0.206
Tasks are not sequenced according to the schedule of the project.	28	60.9%	18	39.1%	0	0	0	0	0	0	1.00	0.493
Project team leaders have low experiences and technical skills.	28	60.9%	18	39.1%	0	0	0	0	0	0	1.00	0.493
There is lack of communication in the project between all parties due to language	0	0	0	0	46	100%	0	0	0	0	3.00	0.0

differences.												
Average										2.40	0.3208	

Table 4.3 Own survey data analyzed using SPSS (version 20), 2021, (Before the commencement)

- n=Frequency, %=percent, Std. D.=Standard deviation

Employees are demotivated due to lower payment- Of course paying workers a fair wage boosts their likelihood of having a solid financial situation in addition to making them feel valued. Financial stability helps employees feel engaged and at ease in their jobs; if they are struggling to make ends meet or don't feel their work is valued; they are more inclined to hunt for better income elsewhere which affects the performance of the project one way or the other. Alexander Pushkin – Gotera EPC road project employees are neither satisfied nor dissatisfied with their payments. 95.7% of the respondents have a neutral response and only 4.3% of the respondents strongly disagreed with this question.

Training is provided to the employees- Employees contribute to the success of any project when they are trained to perform their jobs. Training, which is essential for management as well as staff, typically consists of several classes onsite or at a different location during orientation. In Alexander Pushkin – Gotera EPC Road Project employees are provided with proper training which is indeed provided for the performance of the project. 95.7% of the respondents strongly agreed that the contractor provides training to the employees so that they can perform better.

Tasks are not sequenced according to the schedule of the project- A project manager is liable for the complete development of the project. By incorporating planning and aligning the objectives of the project, the process functions smoothly. Consequently, the reason for a project failure is when the project managers can create the work analysis structure, yet can't execute it. In Alexander Pushkin – Gotera EPC Road project activity sequencing is very important because identifying and scheduling activities makes up a project, 60.9% of the respondents strongly disagreed while 39.1% of the respondents disagreed. Sequencing activities logically ensures that all the necessary steps happen correctly and helps you optimize resources efficiently and can be considered as one of the main factors for projects to perform well.

Project team leaders have low experience and technical skills- Project team leaders require technical skills because they need to navigate all aspects of the projects they oversee. Technical skill takes up a large portion of the work project managers do, based on the questioner’s data in the Alexander Pushkin – Gotera EPC Road project 60.9% of the respondents strongly agreed and 39.1% of the respondents agreed that experience and technical skill is a major factor for successful project performance because the specialized knowledge and expertise required to perform specific tasks and use specific tools and programs in real-world situations.

There is a lack of communication in the project between all parties due to language- Lack of communication between parties will of course have an impact on the performance of the project. Chinese contractors have been working in Ethiopia for the past 2 decades and CFHEC has been working on several projects in Ethiopia most of the Chinese employees can speak broken Amharic which helped in communicating with labours and employees that don’t speak English. 100% of the respondent stated that lack of communication in the project between all parties due to language has not affected the project nor helped the project performance.

Preparation for the project had an average mean of 2.40 which indicates that majority of the respondents agreed that the planning of the project before the commencement contributed to the well performance of the project.

All the Parties

Items	SD		D		N		A		SA		Mean	Std. D.
	N	%	N	%	N	%	N	%	n	%		
CFHEC faces delay in claim approval & payment.	23	50%	23	50%	0	0	0	0	0	0	1.5	0.506
Important project materials are delivered late by the CFHEC.	32	69.6%	14	30.4%	0	0	0	0	0	0	1.30	0.465

Best consulting does not confirm the specification on time.	42	91.3%	8.7%	0	0	0	0	0	0	0	1.09	0.285
Roles and Responsibilities of stakeholders are clearly defined.	0	0	0	0	0	0	5	10.9%	41	89.1%	4.89	1.28
There is weak quality assessment system in the project.	33	71.7%	13	28.3%	0	0	0	0	0	0	1.28	0.455
There is a regular and careful progress (time, scope, and cost) monitoring and review throughout the project	38	82.6%	8	17.4%	0	0	0	0	0	0	1.17	0.383
There is insufficient control mechanism throughout the project.	38	82.6%	8	17.4	0	0	0	0	0	0	1.17	0.383
There is a necessary report on the project performance relative to established objectives (e.g., budgets, cost, and quality)	0	0	0	0	0	0	5	10.9%	41	89.1%	1.17	0.383

Project goals were attainable within the time frame.	0	0	0	0	0	46	100%	0	0	4.00	0.00
Corporation gives periodic feedback on project performance & takes corrective action.	19	41.3%	27	58.7%	0	0	0	0	0	1.59	0.498
Average										1.916	0.469

Table 4.4 Own survey data analyzed using SPSS (version 20), 2021 (All Parties)

- n=Frequency, %=percent, Std. D.=Standard deviation

CFHEC faces delay in claim approval & payment- Based on the data collected from Alexander Pushkin – Gotera Road Project 50% of the respondents strongly disagreed and 50% of the respondents disagreed, in total 100% of the respondents disagreed that the contractor doesn't face any delays in claim approval and payment because the project was a China Aided project and funds were available as soon as they were needed which is a success factor for the performance.

Important project materials are delivered late by the CFHEC- According to the data collected from the Alexander Pushkin – Gotera Road Project 69.6% of the respondents strongly disagreed and 30.4% of the respondents disagreed with it. Delays in the material of construction result in overrunning of time and cost (Khatri, 2016) agreed that disputes, cost overrun, time overrun, abandonment, negotiation, lawsuits, litigation, and total desertion are the effects of a delay.

Best consulting does not confirm the specification on time- Based on the data collected from the Alexander Pushkin – Gotera Road Project 91.3% of the respondents strongly disagreed and 8.7% of the respondents disagreed with it. This means the consultant confirms the specifications on time which helped the project with its performance.

Roles and Responsibilities of stakeholders are clearly defined- In any project, it is important to clearly define the roles and responsibilities of each team member, and also of each contractor. Defining project roles can help you meet deadlines, create accountability and delegate tasks. From the data collected from the Alexander Pushkin –Gotera Road Project 89.1% of respondents strongly agreed and 10.9% of the respondents agreed that all stakeholders are aware of their roles and responsibilities which make it easier to collaborate or address problems. If someone has a question regarding an aspect of the project, they know who's responsible for it.

There is a weak quality assessment system in the project- According to the data collected from the Alexander Pushkin – Gotera Road Project 71.7% of the respondents strongly disagreed and 28.3% of the respondents disagreed that there was a weak quality assessment system in the project. CFHEC accomplishes quality assurance through a combination of design reviews, inspections, testing, and other activities performed during a project's design and construction phases. Meanwhile, quality control inspections, testing, and other activities are performed during and after the project's construction to ensure that the finished product meets the project's specifications and requirements.

There is regular and careful progress (time, scope, and cost) monitoring and review throughout the project- Based on the data collected from the Alexander Pushkin – Gotera Road Project 82.6 of the respondents strongly disagreed and 17.4% of the respondent disagreed which means that the client and consultant make a regular and careful progress report to monitor and review the project.

There is insufficient control mechanism throughout the project- The table above also shows the result of the frequency computed regarding control mechanism throughout the project. When respondents were asked if there is an insufficient control mechanism throughout the project, 100% of the respondents either strongly disagreed or disagreed. According to (Faridi & El-Sayegh, 2006) poor supervision and poor site management were among the ones that contribute to construction delays. In this project control mechanism was 100% and it surely helped with the performance of the project.

There is a necessary report on the project performance relative to established objectives (e.g., budgets, cost, and quality) – Performance reporting addresses the outcome of a project or activity. This outcome is compared with the budgeted or standard outcome, and the variance is praised or dealt with. According to the data collected from Alexander Pushkin – Gotera EPC Road Project 89.1% of the respondents have strongly agreed and 10.9% of the respondents have agreed that necessary report on project performance relative to the objective is done regularly because it helps the different stakeholders understand the current status of the project, the future plans, and the past work done. It gives the blueprint for the entire project and its life cycle. With performance reporting in project management, stakeholders can protect the company from various financial, operational, and performance shocks. They can drop the projects and activities that are not working, ensure financial returns, and understand the trend for taking on other projects.

Project goals were attainable within the time frame - According to the data collected from Alexander Pushkin – Gotera EPC Road Project 100% of the respondents have strongly agreed and 10.9% of the respondents have agreed that the project goals were attainable within the time frame which is why the project ended on time.

The consultant gives periodic feedback on project performance & takes corrective action – Based on the data collected Alexander Pushkin – Gotera EPC Road Project 41.3% of respondents Strongly disagree and 58.7 of the respondents disagreed which analyzes that project feedback was not given to all parties which had a negative impact on project performance. Project feedback is an important process, that helps team member grow, Lead to stronger results, help build trust amongst teams, and helps with not repeating mistakes.

All the parties that participated in this project had an average mean of 1.916 which indicates that majority of the respondents agreed that relationship and the connection of all stakeholders contributed to the well performance of the project by delivering the project on time and by assuring quality and by satisfying the customers.

External Factors

Items	SD		D		N		A		SA		Mean	Std. D.
	N	%	N	%	N	%	n	%	n	%		
Exchange rate variations in the economy affect the project performance.	38	82.6%	8	17.4%	0	0	0	0	0	0	1.17	0.383
Overall inflation in the economy has negative impact on the project performance.	0	0	0	0	46	100%	0	0	0	0	3.00	0.00
Labour market inefficiency to supply qualified employees has negative impact on the project performance.	0	0	0	0	0	0	8	17.4%	38	82.6%	4.83	0.383
Availability of resources through projects duration has negative impact on the project performance.	38	82.6%	8	17.4%	0	0	0	0	0	0	1.17	0.383
Average											2.5425	0.2872

Table 4.5 Own survey data analyzed using SPSS (Version 20), 2021 (External Factor)

- n=Frequency, %=percent, Std. D.=Standard deviation

Exchange rate variations in the economy affect the project performance- The researcher asked the respondents their opinion regarding whether or not the exchange rate variations in the economy were affecting the project performance. From the table, it can be seen that the majority of the respondents either disagreed or strongly disagreed with the statement (100%), that because the project was aided by the Chinese Government, of course, the exchange rate would cause delays, which in turn create problems for contractors, namely cost overruns,

disputes, arbitration, total abandonment, and litigation. But in this case, even if there were rate fluctuations the total cost of the project would increase but it will not affect the project performance.

Overall inflation in the economy has negative impact on the project performance – The research also asked the respondents their opinion regarding whether or not the overall inflation in the economy had negative impact on the project performance, all of the respondents were neutral that inflation was affecting performance of the projects which includes 100%. Inflation increases cost of materials used for the project.

In a project where the client pays for all of the cost of the project of course inflation would reduce performance of the contractors that results on time delay in project and cost overrun but in Alexander Pushkin – Gotera Road Project inflation did not affect the performance of the project.

Labour market inefficiency to supply qualified employees has a negative impact on the project performance- One of the elements found to be impeding the success of the performance was the labour market's inability to supply qualified workers. The researcher asked respondents if it has a negative impact and as we can see from the above table, 17% of the respondents agreed and 82.6% strongly agreed.

Availability of resources as planned through project duration has a negative impact on the project performance- The research also asked the respondents their opinion regarding whether or not the availability of resources as planned through project duration has a negative impact on the project performance. The majority of the respondents disagreed or strongly disagreed with that which totals 100%. In (Enshassi et al, 2009) it was suggested that most of the project delays were occurring by a scarcity of resources which can suspend the project construction time duration. In Alexander Pushkin – Gotera Road Project resources are available as planned throughout the project. That had a positive impact on the project's performance.

Generally, as indicated in the table above, replies of respondents have the majority of the respondents agreed that inflations and exchange rates did not have any negative impact on the project. Further, it can be seen that availability of resources as planned through project duration

and the labour market to supply qualified employees was a major factor for the success of the project's performance.

The external factor had an average mean of 2.5425 which indicates that majority of the respondents agreed that external factors did not have an impact on the performance of the project by delivering the project on time and by assuring quality and by satisfying the customers.

Part Three of the Questionary Ananlysis

Did language affect the projects performance by any means due to the contractor is Chinese company?

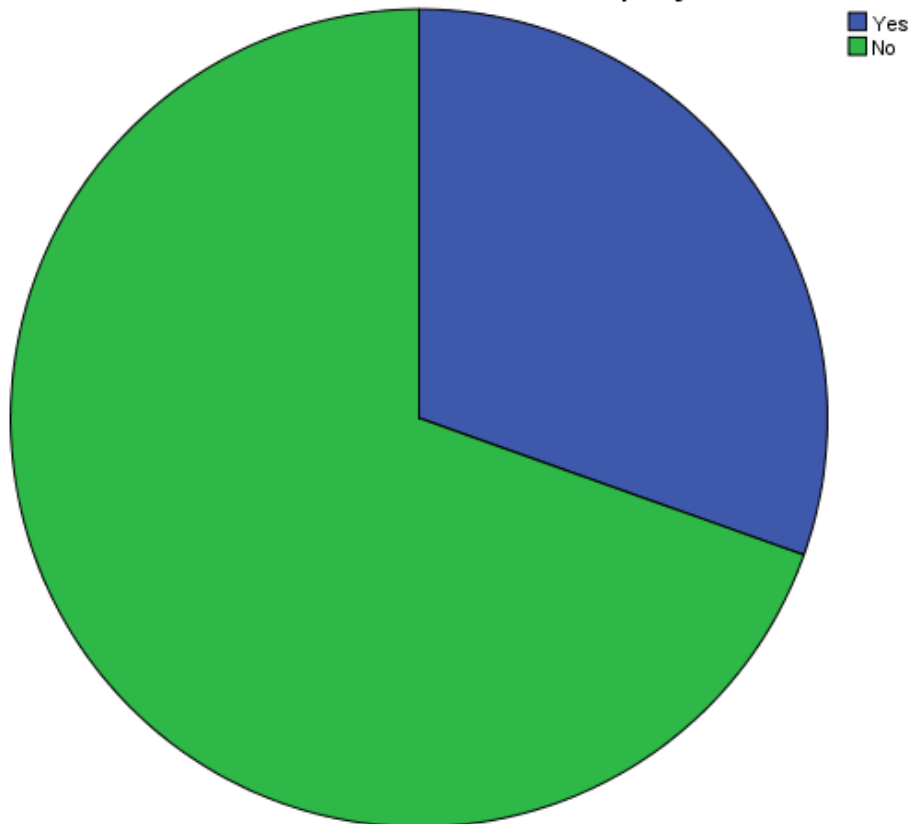


Figure 3 Own survey, SPSS Version 20 (Languages effect on performance)

Naturally, a project's performance will suffer from a lack of communication between the partners. Chinese contractors have been working in Ethiopia for the past 20 years, and CFHEC has been involved in a number of projects here. The majority of Chinese employees can communicate with labours and employees who don't speak English because they have limited knowledge of Amharic. 69.65 of the respondents agreed that the project's performance was not

affected by the parties' inability to communicate due to language barriers. And 30.4% of the respondents agreed that the project was indeed affected by language barriers between parties.

Performance has increased due to the contractor being a Chinese company?

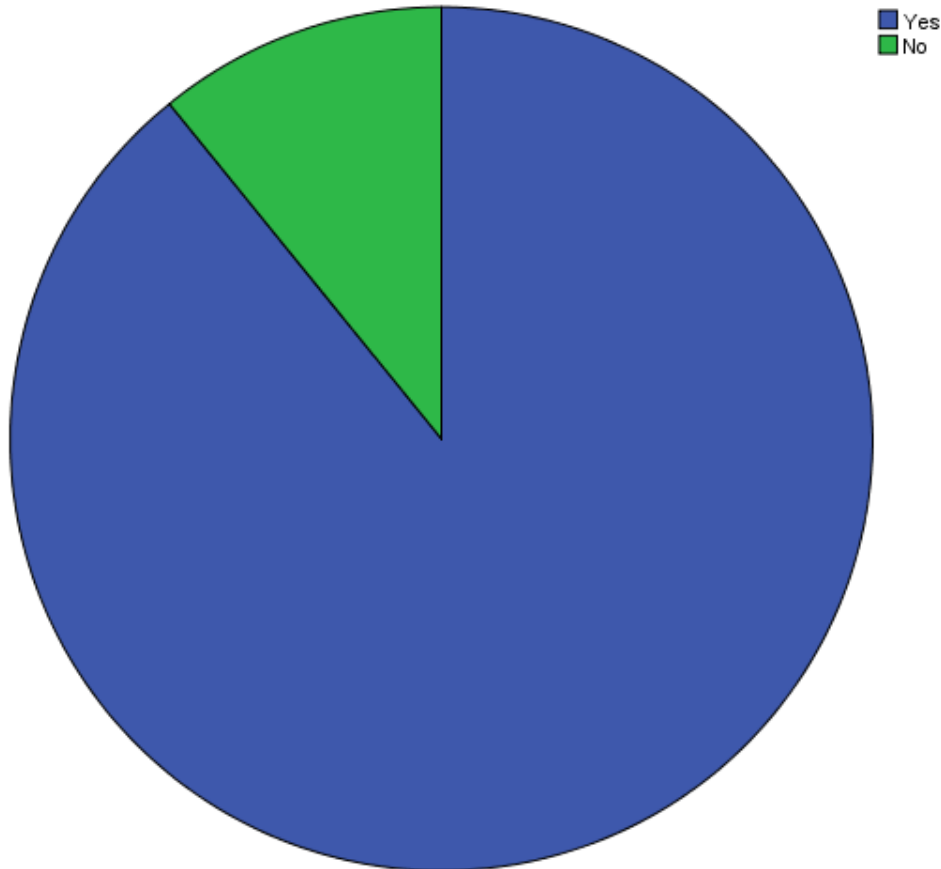


Figure 4 Own Survey, SPSS Version 20 (Performance scale)

The research also asked the respondents their opinion regarding whether or not performance has increased due to the contractor being a Chinese company. 89.1% of the respondents agreed with this and 10.9% of the respondent disagreed with it.

Over the past decades, Chinese foreign builders have rapidly grown, becoming substantial and formidable competitors in the Ethiopian construction sector. The enormous demand for development around the globe, particularly in emerging nations like Ethiopia, attracts Chinese foreign contractors to the market. Similarly to this, the strong assistance provided by the Chinese government is essential for the local and global expansion of Chinese contractors. Some well-known Chinese multinational contractors prosper in specific industries and nations. The competitiveness of Chinese foreign contractors is brought to the attention of the global community by this. Chinese construction companies are preferable because they have a Scale

of lending, Competitive pricing, Speed of construction, and Quality of construction which indeed is the main factor for successful project performance.

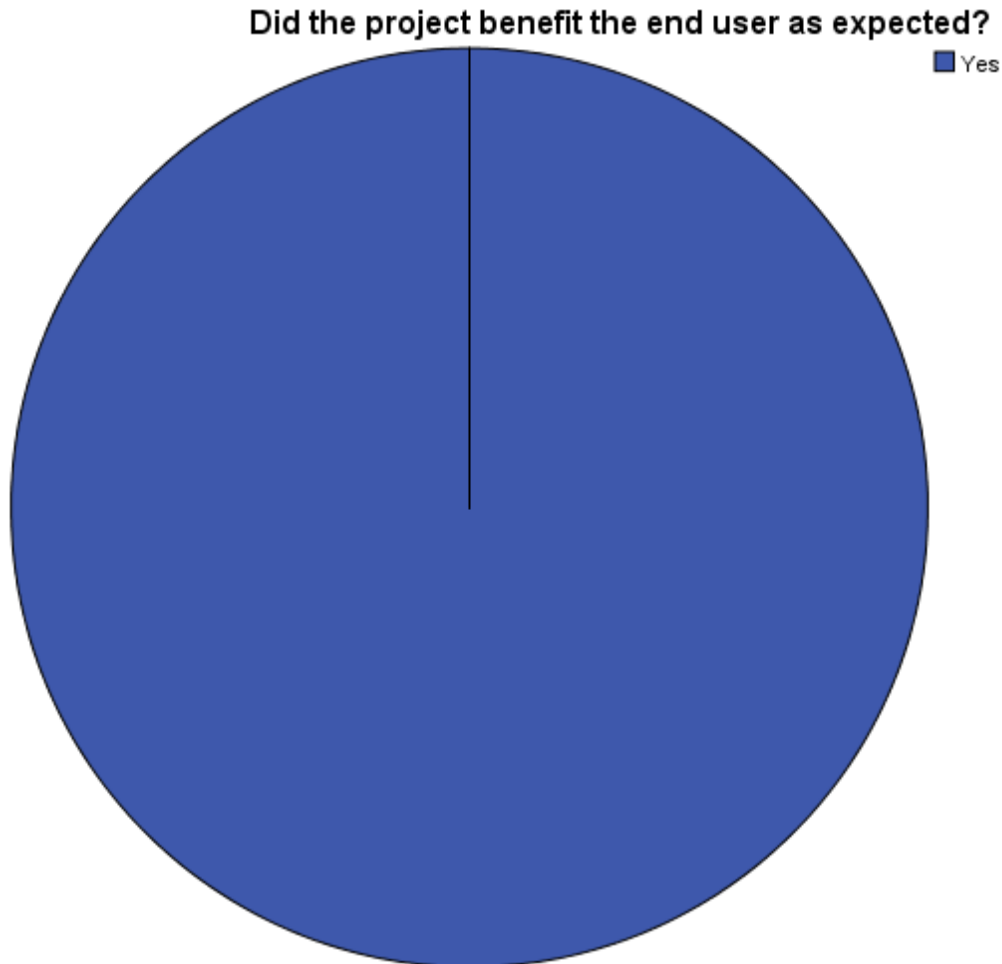


Figure 5 Own Survey, SPSS Version 20 (Benefit of the project)

The research also asked the respondents their opinion regarding whether or not the project benefits the end user as expected. 100% of the respondents agreed with this. By combining the functions of overpasses and underpasses, the Alexander Pushkin Square to Gotera Interchange Road Project balances the mobility of traffic from six directions in the central-west region of the city of Addis. It established an alternate route via Ethio-China Avenue from Bole International Airport to the African Union. Travel time will be significantly decreased because the interchange road improved and enabled mobility in the aforementioned directions. By lowering the complexities of travel caused by service provision and private mobility, the project road is even more classified as high-standard road by the interchange's combination

with BRT (Bus Rapid Transit). The urban region offers an effective and well-planned road network to ensure the anticipated smooth flow of traffic.

The project has successfully ended and is giving the services it was intended to give.

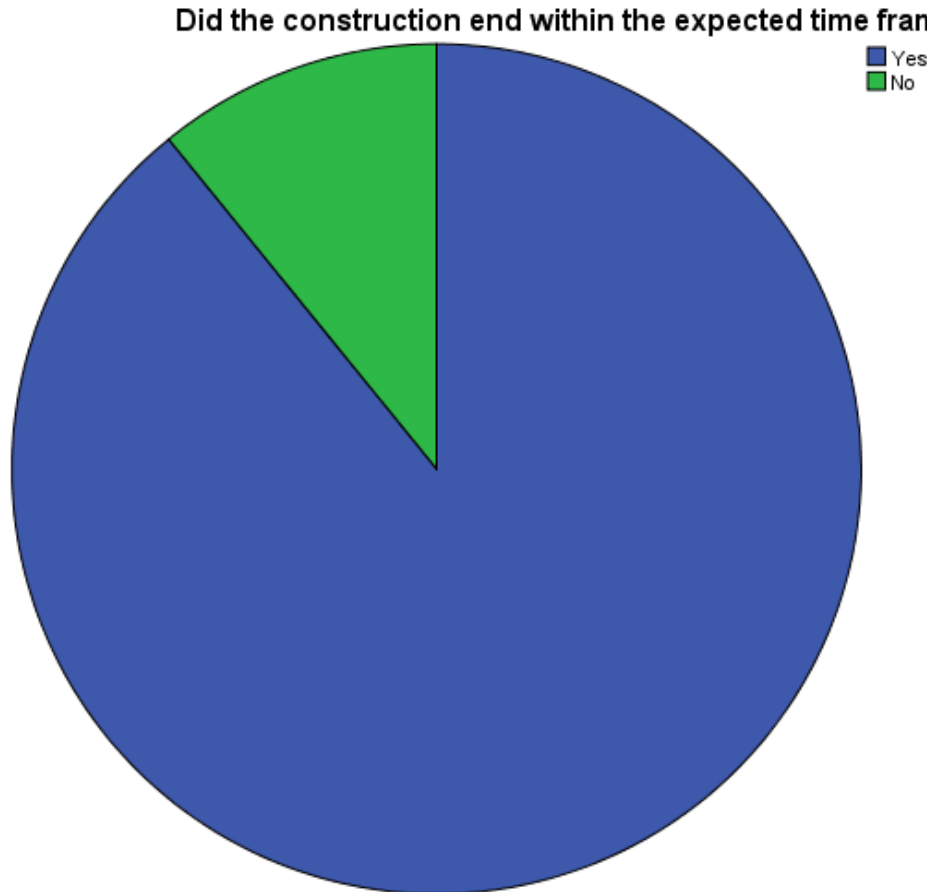


Figure 6 Own Survey, SPSS Version 20 (Time Frame of the Project)

The main advantage of a project time frame is that it helps determine when the project must be completed, along with the overall budget and the specified criteria. In order to complete each work, CFHEC gave an exact time estimate. They select important dates or benchmarks that mark the end of one project phase and the beginning of the next. To reach milestones, which are important project components, task sequences, and deliverables must be completed. The majority of the respondents agreed that the project ended within the specified time. CFHEC worked day and night shifts to make the time frame possible, there worked in summer so that winter weather wouldn't affect them and they made the time frame possible.

4.5 Key-Informant Interview Discussions and Data Analysis of Key Factors

4.5.1 Key-Informant Interview Discussions

With important stakeholders of the project in the study area, open-ended questions were examined and discussed as part of the explanatory research. Therefore, the comments collected from people's opinions about how they perceived the topics of interest were stated as a summary, simply and thoroughly studied in the following ways.

For this study, the researcher performed in-person, semi-structured interviews with clients and clients' representatives. The interview questions center on how the three parties on the construction site managed cost and time overruns, how the consultant assesses the contractor's project management methods, and what the consultant can recommend to contractors for project performance.

Question #1- How did AACRA (the client) manage cost and time overruns?

Based on the interview answer the researcher was able to find out that managing cost and time overruns in construction projects requires proactive measures and effective project management strategies. Here are some approaches that the client and client representatives thought helped mitigate these issues:

Comprehensive Planning: Thoroughly plan the project from the outset, including accurate cost estimation, realistic scheduling, and identification of potential risks and challenges,

Risk Assessment and Management: Conduct a detailed risk assessment to identify potential factors that could lead to cost and time overruns. Develop strategies to mitigate and manage these risks throughout the project lifecycle,

Effective Communication: Establish clear lines of communication among all stakeholders, including the client, contractor, consultants, and suppliers. Regularly communicate project updates, milestones, and any deviations from the original plan,

Regular Monitoring and Reporting: Implement robust project monitoring systems to track progress, costs, and schedules. Regularly analyze and report on project performance to identify any deviations and take corrective actions promptly,

Change Management: Establish a well-defined process for managing change requests, ensuring that any changes are properly assessed, approved, and documented. This helps prevent uncontrolled changes that can lead to cost and time overruns,

Collaborative Approach: Foster a collaborative and cooperative environment among all project participants. Encourage teamwork and open communication to address issues promptly and find effective solutions collectively, and

Skilled Project Management: Assign experienced project managers who possess strong leadership skills, technical expertise, and a thorough understanding of construction processes. They should be capable of overseeing and controlling the project effectively.

Question #2 how did you evaluate the project management practices of the contractor?

The summary of this interview question was how did AACRA evaluate the project management practices of the contractor, based on the answers to the interview given by the clients and client's representatives the researcher summarized the methods used by AACRA to evaluate the project management practices of CFHEC and they are summarized as follow:

When evaluating the project management practices of the contractor (CFHEC), AACRA followed the following aspects: ***Documentation Review:*** Assess the contractor's project documentation, including the project plan, schedule, cost estimates, change orders, and progress reports. Evaluate the accuracy, completeness, and adherence to industry standards. ***Communication and Coordination:*** Evaluate the contractor's communication and coordination processes with various stakeholders, including the client, subcontractors, and suppliers. Assess the effectiveness of their project reporting, meeting schedules, and documentation distribution. ***Risk Management:*** Review the contractor's approach to risk identification, assessment, and mitigation. Evaluate the effectiveness of their risk management strategies and their ability to adapt to changing project conditions. ***Quality Control and Assurance:*** Evaluate the contractor's quality control measures, including inspection processes, adherence to specifications, and compliance with relevant standards. Assess the contractor's commitment to delivering a quality end product. ***Change Management:*** Evaluate the contractor's ability to manage change requests effectively. Assess their processes for evaluating, documenting, and implementing changes, including any impacts on the project's cost, schedule, and scope. ***Resource Management:*** Assess the contractor's management of project resources, such as labour, equipment, and materials. Evaluate their ability to optimize resource allocation, avoid bottlenecks, and ensure timely availability of required resources. ***Schedule and Cost Performance:*** Evaluate the contractor's track record in meeting

project schedules and budget targets. Assess their ability to identify and address deviations promptly and effectively.

Problem-Solving and Decision-Making: Assess the contractor's problem-solving skills and ability to make informed decisions promptly. Evaluate their capacity to handle unexpected challenges and resolve issues efficiently.

The evaluation should be objective and comprehensive, considering both quantitative data and qualitative observations. The consultant should provide constructive feedback to the contractor, highlighting areas of improvement and suggesting potential strategies to enhance project management practices.

Question #3- How was the relationship between the Client, Consultant and the Contractor in the construction site? And did it affect the projects performance by any means?

The summary of this interview question was how the relationship between AACRA, Best Consulting Engineers, and CFHEC was on-site and off-site, the consultant (AACRA) and Client representative gave a clear answer to that question and the research summarized it to the following:

A good relationship between the client, contractor, and consultant is crucial for the successful execution of a construction project.

On-Site: Open Communication: Maintain open lines of communication on the construction site, enabling regular discussions, updates, and issue resolution in real time.

Collaboration: Foster a collaborative atmosphere where all parties work together towards a shared goal. Encourage teamwork, cooperation, and mutual respect to achieve project objectives.

Clarity in Roles and Responsibilities: Clearly define the roles and responsibilities of each party involved, ensuring that there is no ambiguity or overlap. This helps prevent conflicts and promotes efficient coordination.

Timely Decision-Making: Facilitate prompt decision-making processes to avoid delays and keep the project on track. Timely decisions enable swift resolution of issues and prevent potential disputes.

Problem-Solving: Encourage a problem-solving mindset among all stakeholders. Address challenges collectively and seek innovative solutions that benefit the project as a whole.

Off-Site: Effective Communication Channels: Establish effective communication channels outside of the construction site, such as regular meetings, email correspondence, or project management software. These channels facilitate information sharing and keep all parties informed.

Contractual Clarity: Ensure that the contractual agreements between the client, contractor, and consultant are clear, comprehensive, and aligned with the project requirements. This helps establish a foundation of trust and accountability.

Regular Reporting and Updates: Maintain regular reporting mechanisms to keep the client and consultant informed of project progress, challenges, and any deviations from the plan. Transparent reporting fosters trust and enables timely interventions if needed.

Adherence to Codes and Regulations: Ensure that all parties comply with applicable codes, regulations, and industry standards. This ensures the project's integrity, safety, and compliance with legal requirements.

Conflict Resolution: Establish procedures for resolving conflicts or disputes that may arise during the project. Encourage open dialogue, mediation, or arbitration to reach amicable solutions.

Question #4- Did the project performance increase from the contractor being a Chinese contractor?

The client (AACRA) and client representatives responded to this question as yes. Chinese contractors show higher levels of efficiency. They also responded that their efficiency and profitability are largely attributed to their strong work ethic, the wealth of experience, standardized construction techniques, technological integration, and access to a sizable labour pool which will directly increase the project performance.

Question #5- Would you prefer a Chinese contractor over a local contractor? Why?

The client (AACRA) and client representatives responded to this question as definitely yes. Another factor that raises performance is the Chinese contractors' determination on standardized construction methods. Prefabricated components and modular construction techniques can speed up and improve processes. By standardizing construction components in factories and assembling them on-site, Chinese contractors are able to drastically reduce construction time while maintaining quality. This method has been employed with success in a variety of projects, including the quick construction of high-rise buildings.

Chapter Five: Summary of Findings, Conclusion and Recommendation

5.1 Introduction

This chapter includes a thorough summary of the findings and conclusions drawn from them, as well as the researcher's recommendations for the construction industry and any future studies that are required to look into the factors for successful project performance in Alexander Pushkin – Gotera Road Project.

1.2 Summary of Findings

This study was thought to clarify the factor for successful project performance in Alexander Pushkin - Gotera EPC Road Project. As introduced in the first chapter construction companies are having performance challenges, and it was attempted to identify the contributing causes utilizing a quantitative research method that included questionnaires that included personal and technical issues.

Here, the proper questionnaires were created, distributed, and filled out by the construction professionals involved in the project, such as project managers, site managers, consultant managers, foremen, and managers of the subcontractors, before being gathered back.

And the result found from the questionnaires answered the objectives and it implies that:

- Most of the respondents had been found to be male and aged between the age of 31 and 39 with experience of 0 to 10 years and with an educational level of Degree.
- The study stated that all stakeholders are aware of their roles and responsibilities, clearly defining the roles and responsibilities of each team member it helped the project to meet deadlines, create accountability and delegate tasks. It also allows you to assign responsibilities to each member of a team and create accountability and it helped as a success factor for project performance.
- This research also declared that the project was given high attention to quality; Alexander Pushkin-Gotera Road Project was constructed with a high-quality construction that improved the project efficiency, made the project's construction process and workflow better, and made it easy for jobs to move forward on schedule

and without rework requirements. This directly improved the performance of the project.

- The researcher also proved that the time frame is appropriate to complete the project as per the schedule, budget, and specifications. CFHEC provided an accurate time estimate for each task, in order to achieve it. They decide on significant dates or milestones that signal the conclusion of one project phase and the start of the next. The completion of task sequences and deliverables can help attain milestones, which are significant project components. Because each task, milestone, and deadline is shown on the project timeline, all parties were aware of the overall project timetable. This made it possible to monitor what was happening and when. They are able to quickly spot any delays in a process and make the necessary improvements as a result. It was also simple to identify which operations would be impacted by the delay and immediately alert the relevant parties because everything was clearly spelled out. And this helped the project perform well.
- This research also stated that inflation did not affect the project and that is mainly because the project was aided by the Chinese government and it helped the project to have a successful performance
- The researcher also stated that CFHEC provides employee training and development programs because they are essential to the success of the project. Not only do these programs offer opportunities for staff to improve their skills, but also for CFHEC to enhance employee productivity and improve company culture. According to the employees of CFHEC, the company gives continuous efforts to strengthen work performance through approaches like coaching, training sessions, and leadership mentoring.
- CFHEC has a skilled workforce and experienced staff because it is essential for the success of the project. They are knowledgeable in their occupations and can complete jobs quickly; they are more productive and produce better results.
- According to the researcher CFHEC sequence tasks according to the schedule because it represents the plan to deliver the project scope over time. They also used scheduling to guide the work; the project schedule is used to communicate to all stakeholders when certain work elements and project events are expected to be accomplished

- The researcher also stated that CFHEC team members have high technical skills they navigate all aspects of the project. The specialized knowledge and expertise required to perform specific tasks and use specific tools and programs to achieve the goal of the project.
- Similarly, communication problems were also noticed due to language differences, and not all the Chinese employees spoke English but it did not affect the project's performance.
- Meeting the goal of the time frame was the most prioritized factor of the project due to the project being a crucial intersection in the city.
- The researcher also found out that necessary report on the project performance relative to established project objectives made the project perform well because they always compare the performance report to the planned one, they do this regularly and it helped different stakeholders understand the current status of the project, the future plans and the past work done.
- The project has met all the specifications stated in the contract.
- Insufficiency of the control mechanism was found to have more respondents disagree. Respondents agree that the performance of different parties in the project is adequate and all of the other indicators were found to be very influential.
- One question tried to assess the overall inflation, construction material availability, and exchange rate variation impacted the project's cost but did not actually affect the time frame of the project because the project was a China Aided project and the materials and funds were provided by the Chinese government so there was no shortage of money nor material so that actually had a positive impact on the project.
- The response of the majority shows that the project goals are not attainable within the time frame but the CFHEC works day and night to attain the goal which made it possible. According to the data collected from contractors' offices project contract schedules were not revised. The initial time allotted to attain the project goals was enough to accomplish the projects.
- The final technical question the researcher proved was whether the projects performance increased due to the contractor being a Chinese contractor, CFHEC,

Over the past decades, Chinese foreign builders have rapidly grown, becoming substantial and formidable competitors in the Ethiopian construction sector. The enormous demand for development around the globe, particularly in emerging nations like Ethiopia, attracts Chinese foreign contractors to the market. Similarly to this, the strong assistance provided by the Chinese government is essential for the local and global expansion of Chinese contractors. Some well-known Chinese multinational contractors prosper in specific industries and nations. The competitiveness of Chinese foreign contractors is brought to the attention of the global community by this.

- CFHEC has an effective project management system that made the project so productive, it made sure that the project moved forward without hitches, keeps to its schedule, and adheres to quality standards. Planning, managing, and controlling a variety of project operations were involved. To track progress, spot bottlenecks, and arrive at well-informed decisions, the project managers employed tools like Gantt charts, the critical path method (CPM), and project management software. For example, to properly track project milestones, distribute resources, and manage project risks, the project manager used project management software like Primavera P6.
- Efficient Resource Management: Good management and allocation of resources, such as supplies, tools, and labour, are essential to a project's success. Monitoring resource utilization ensures that resources are used effectively and efficiently and assists in identifying areas for improvement.
- According to the research the methods used by CFHEC for project evaluation, feedback, and monitoring were regular progress meetings, key performance indicators (KPIs), Milestone Tracking, and Feedback Mechanisms by implementing these components and techniques CFHEC improved the performance of the project, allowing them to successfully complete it on schedule and within the budget while also exceeding customer expectations for quality.
- Based on the findings of these research Chinese contractors are extremely productive for several factors. Their strong work ethic and commitment to finishing jobs quickly are the first contributing factor because of their dedication to long workdays and their readiness to put in extra effort to achieve deadlines. Alexander Pushkin – Gotera EPC

Road Project was more productive as a result of this cultural emphasis on discipline and hard effort.

- Chinese construction companies are preferable because they have a Scale of lending, Competitive pricing, Speed of construction, and Quality of construction which indeed is the main factor for successful project performance.

1.3 Conclusion

Depending on the findings of the study, the researcher was able to draw the following conclusion. Alexander Pushkin - Gotera EPC Road Project is one of the best projects that had a great performance report and a majority of Ethiopian contractors can learn from this project when it comes to performance. As a result of each team member's duties and responsibilities being clearly defined, the project was able to fulfill deadlines, establish responsibility, and assign tasks, according to the study's findings. Alexander Pushkin-Gotera Road Project was built with high-quality construction, which increased project efficiency, made the construction process and workflow better, and made it simple for jobs to move forward on schedule and without the need for rework. This directly enhanced the project's performance.

The researcher also concluded that the effectiveness of a construction project is influenced by a number of factors. After examining the primary elements that contribute to productive project outcomes in order to pinpoint components that enhance construction project performance it was concluded that having strong monitoring and assessment procedures, a competent team, clear communication, efficient resource allocation, and successful project management contribute to the performance of the project. It was discussed which methods are best to use when monitoring, evaluating, and receiving feedback on projects in order to make sure that project progress is monitored, performance is evaluated, and feedback is gathered from pertinent stakeholders. Regular progress meetings, the use of KPIs, tracking milestones, and feedback channels were a few techniques used.

Furthermore, it can be seen that for each task, CFHEC gave an exact time estimate that was used to complete it. In order to mark the end of one project phase and the beginning of the next, they choose remarkable dates or milestones. Every party was aware of the project's overall schedule because every job, milestone, and deadline was displayed on the timeline. It was then possible to keep track of what was occurring and when. Any delays in a process can be readily

identified by them, and they can then take the appropriate corrective action. The fact that everything was so obviously made it easy to determine which operations would be affected by the delay and to immediately inform the necessary parties.

Additionally, Chinese contractors' specifically CFHEC emphasize standardized construction techniques as another aspect that boosts production. Processes can be made faster and more efficient by using prefabricated parts and modular construction methods. CFHEC were able to dramatically save building time while preserving quality by standardizing construction components in factories and assembling them on-site. This strategy has been successfully used in a number of projects, including the rapid construction of the Alexander Pushkin – Gotera EPC Road Project.

Finally, as a result of a number of circumstances, Chinese contractors show higher levels of efficiency. Their efficiency and profitability are largely attributed to their strong work ethic, wealth of experience, standardized construction techniques, technological integration, and access to a sizable labour pool. Chinese contractors have been able to successfully and quickly complete projects by taking advantage of these advantages, leading the way for the rest of the world's construction industry.

1.4 Recommendation

This chapter indicates the recommendation provided by the researcher to the Client, Ethiopian Construction Companies, and future researchers who would want to study in similar areas.

To exist in this dynamic construction market and to compete with local and foreign contractors the corporation has to implement project management in its all construction sectors.

- The main success factor observed in this project is that the contractors have a strict and non-negotiable management system that allowed them to sustain their performance in this fluctuating market and the researcher recommends continuing with this management system.
- Financial costs of poor quality can squander time, resources, and materials. Construction of higher quality increases project efficiency, thus the easier it is for a job to precede on schedule and without the need for rework, the better your procedures and workflows.

- The researcher recommends Chinese contractors because they are generally thought of as being very productive for a number of reasons. The first contributing factor is their excellent work ethic and dedication to completing tasks swiftly. Chinese workers are well known for their commitment to long workdays and willingness to go above and beyond to meet deadlines. This cultural emphasis on hard work and discipline makes construction sites more productive.

Local contractors should learn a lot from Chinese contractors because all infrastructure projects are being given to Chinese contractors and that will make the local contractors run out of business.

Recommendation for Improving Project Performance

- . Clear Project Objectives: Ensure that project objectives are well-defined, measurable, and aligned with stakeholder expectations. This clarity helps focus efforts and provides a benchmark for measuring success.
- . Robust Planning: Invest time and resources in thorough project planning. Develop comprehensive project plans, including realistic schedules, cost estimates, and resource allocation. Identify potential risks and devise mitigation strategies in advance.
- . Effective Communication: Foster open and effective communication among all project stakeholders. Establish clear lines of communication, conduct regular meetings, and ensure information flows seamlessly between team members and stakeholders.
- . Strong Leadership: Assign experienced and skilled project managers who can provide effective leadership, motivate the team, and make informed decisions. Strong leadership sets the tone for the project and helps maintain focus and momentum.
- . Skilled Team: Assemble a competent and skilled project team with the required expertise and experience. Ensure team members are appropriately trained, understand their roles and responsibilities, and work collaboratively towards project objectives.
- . Risk Management: Implement a proactive risk management approach. Identify potential risks, assess their impact and likelihood, and develop mitigation strategies. Regularly monitor risks and adapt strategies as needed.

- . **Continuous Monitoring:** Implement robust project monitoring and reporting mechanisms. Regularly track progress, costs, and quality against the project plan. Identify deviations early and take corrective actions promptly.
- . **Stakeholder Engagement:** Engage stakeholders throughout the project lifecycle. Involve them in decision-making, seek their input, and address their concerns. Building strong relationships with stakeholders helps ensure their support and reduces potential conflicts.
- . **Effective Change Management:** Establish a structured change management process. Assess and document proposed changes, evaluate their impacts on schedule, cost, and scope, and communicate approved changes to the relevant parties.
- . **Lessons Learned:** Capture and document lessons learned throughout the project. Analyze successes and challenges, identify areas for improvement, and implement changes in future projects based on these insights.
- . **Continuous Improvement:** Encourage a culture of continuous improvement. Regularly evaluate project performance, solicit feedback from team members and stakeholders, and implement process enhancements to increase efficiency and effectiveness.

Recommendation for Local Ethiopian Contractors

- . **Improve Planning and Scheduling:** Emphasize the importance of comprehensive project planning and accurate scheduling. Encourage contractors to invest time and resources in developing realistic project plans, including detailed schedules, resource allocation, and contingency planning.
- . **Strengthen Risk Management:** Highlight the significance of proactive risk management. Assist contractors in identifying potential risks, conducting risk assessments, and developing risk mitigation strategies. Encourage them to regularly monitor and reassess risks throughout the project lifecycle.
- . **Enhance Communication and Collaboration:** Stress the importance of effective communication and collaboration among all project stakeholders. Encourage contractors to establish clear lines of communication, promote teamwork, and facilitate regular project updates to ensure alignment and prompt issue resolution.
- . **Implement Robust Change Management:** Emphasize the need for a structured change management process. Guide contractors in establishing clear change control procedures,

including thorough assessment, documentation, and impact analysis. Help them implement effective change management practices to minimize disruptions and control project scope.

- . **Strengthen Project Controls:** Advise contractors to implement robust project monitoring and controls. This includes regular progress tracking, cost control measures, and quality assurance processes. Encourage the use of project management tools and techniques to improve monitoring accuracy and timely decision-making.
- . **Invest in Skill Development:** Recommend that contractors invest in continuous skill development for their team members. Provide guidance on training programs, certifications, and workshops that can enhance their project management, technical, and leadership capabilities.
- . **Implement Lessons Learned:** Encourage contractors to capture and analyze project data to identify lessons learned. Guide them in developing a process to document project successes, challenges, and key takeaways. Facilitate the sharing of lessons learned within the organization to improve future project performance.

Future Researchers

Understanding project activities in-depth and in detail, as well as how they relate to project management, is necessary for project performance. However, due to the short time frame for this study, the researcher was only able to provide office data and was unable to cover other aspects of project performance. Since it contributed to the successful completion of projects, project performance in construction projects needs to be thoroughly investigated.

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Appendices

APPENDIX A: Questionnaire

Addis Ababa University
Collage of Business and Economics
School of Commerce
Masters of Arts in Project Management (MAPM)

Dear Respondents,

My name is Divina Tamiru I am a student of Addis Ababa University School of Commerce, I am currently working a research on Inspection of factors for Successful Project Performance for my MA in Project Management.

To successfully undertake this research, it is mandatory to look into the issues from different perspectives by involving professionals who have experience in the construction sector within the above stated construction project. In this respect, you are the one who can give the correct and necessary information. Hence, I kindly request you to complete the accompanying questionnaire.

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 vitally important in order to finalize the research timely and I would appreciate if you return the completed questionnaire within five days.

Thank you very much for your time and cooperation and looking forward to receiving your response.

Yours Sincerely,

Divina Tamiru

Post Graduate Candidate, MA in Project Management
School of Graduate Studies, Addis Ababa University

Part One: General Information

Please mark (X) in appropriate box.

1. Gender of Respondent:

Male

Female

2. Age in Years:

25-29

31-40

41-50

Above 50

3. Years of Work Experience:

0 to 5 Years

6 to 10 Years

11 to 15 Years

Above 15 Years

4. Level of Education

Diploma

Degree

Masters

Ph.D.

5. Respondent Designation in the organization

Project Manager

Site Engineer

Subcontractor

Consultant Manager

Office Engineer

Foremen

Other designation please state: _____

Part Two: Factors Affecting the Performance of Construction Projects

Below, there are numbers of factors affecting the performance of construction projects. From your experience, please express your opinion on the importance of the following factors as key performance indicators of construction projects within Alexander Pushkin square to Gotera Interchange Road Project.

Please tick (X) in the appropriate box.

5= Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree and 1= Strongly Disagree

The Project	1	2	3	4	5
Overall Project goals and Responsibilities are clear.					
Low attention has been given to quality.					
Project time frame is not appropriate to complete the project as per the schedule, budget and specification.					
The project is inflexible to change with the economic environment.					
Inflation had a big impact on the project.					
Before commencement of the construction	1	2	3	4	5
Employees are demotivated due to lower payment.					
Trainings are provided to the employees.					
Tasks are not sequenced according to the schedule					

of the project.					
Project team leaders have low experiences and technical skills.					
There is lack of communication in the project between all parties due to language differences.					
All the Parties	1	2	3	4	5
CFHEC faces delay in claim approval & payment.					
Important project materials are delivered late by the CFHEC.					
Best consulting does not confirm the specification on time.					
Roles and Responsibilities of stakeholders are clearly defined.					
There is weak quality assessment system in the project.					
There is a regular and careful progress (time, scope, and cost) monitoring and review throughout the project					
There is insufficient control mechanism throughout the project.					
There is a necessary report on the project performance relative to established objectives (e.g.,					

budgets, cost, and quality)					
Project goals were attainable within the time frame.					
Corporation gives periodic feedback on project performance & takes corrective action.					
External Factors	1	2	3	4	5
Exchange rate variations in the economy affect the project performance.					
Overall inflation in the economy has negative impact on the project performance.					
Labour market inefficiency to supply qualified employees has negative impact on the project performance.					
Availability of resources as planned through projects duration has negative impact on the project performance.					

Part Three: Please mark (X) in appropriate box

1. Did language affect the projects performance by any means due to the contractor is Chinese company?

Yes No

2. Performance has increased due to the contractor being a Chinese company?

Yes No

3. Did the project benefit the end user as expected?

Yes No

4. Did the construction end within the expected time frame?

Yes No

APPENDIX B: INTERVIEW

Addis Ababa University
Collage of Business and Economics
School of Commerce
Masters of Arts in Project Management (MAPM)

The interview's objective is to collect information about the project success factor and the challenges that occurred during the construction of Alexander Pushkin – Gotera EPC Road Project.

I would like to express my gratitude to you for agreeing to take part in this study.

I would like to hear your views on the following points:

1. How did the client manage cost and time overruns?
2. How did you evaluate the project management practices of the contractor?
3. How was the relationship between the Client, Consultant and the Contractor in the construction site? And did it affect the projects performance by any means?
4. Did the project performance increase from the contractor being a Chinese contractor?
5. Would you prefer a Chinese contractor over a local contractor? Why?

I want to thank you for taking the time out of your busy schedule to discuss your opinions on these matters with me.