

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF PROJECT MANAGEMENT

THE EFFECT OF PROJECT CLOSURE EFFECTIVENESS ON CLIENT SATISFACTION IN REAL ESTATE PROJECTS IN ADDIS ABABA

BY: SARON TESFAYE

ADVISOR: SOLOMON MARKOS (PhD)

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUREMENTS FOR MASTER OF ART IN PROJECT MANAGEMENT

JULY 2026

ADDIS ABABA, ETHIOPIA

THE EFFECT OF PROJECT CLOSURE EFFECTIVENESS ON CLIENT SATISFACTION IN REAL ESTATE PROJECTS IN ADDIS ABABA

Statement of Declaration

I declare that the research thesis entitled **"The Effect of Project Closure Effectiveness on Client Satisfaction: The Case of Real Estate Projects in Addis Ababa"** is my original work and it hasn't been published or submitted for any kind of qualification elsewhere. All sources of material used for the work have been duly acknowledged.

Saron Tesfaye Nano

Signature:_____

Date: _____

Statement of Certification

This is to certify that, this project work **"The Effect of Project Closure Effectiveness on Client Satisfaction In Real Estate Projects in Addis Ababa**" undertaken by **Saron Tesfaye Nano** is partial fulfillment of the requirements for Master of Arts in Project Management at Addis Ababa University school of commerce, is an original work and not submitted earlier for any Degree either at this university or any other university.

_____

Solomon Markos (PhD)

Research Advisor

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSSINESS AND ECONOMICS

SCHOOL OF COMMERCE

PROJECT MANAGEMENT PROGRAM

The Effect of Project Closure Effectiveness on Client Satisfaction

In Real Estate Projects in Addis Ababa

BY: Saron Tesfaye Nano

Solomon Markos (PhD)	_____	_____
Advisor	Signature	Date
Dereje Abi (PhD)	_____	_____
Internal Examiner	Signature	Date
Mulatu Takele (PhD)	_____	_____
External Examiner	Signature	Date

Acknowledgements

This project would not have been completed successfully without the help, encouragement and cooperation from many individuals from the beginning to the end.

First I would like to thank the Lord almighty for helping me not only do this research but continuously showing me his mercy and grace until I reach at this point in my life. Everything I accomplished is by the help of God.

Second I would like to thank my families in supporting me throughout my live and help me reach here in every way they can. I would also like to express my gratitude for my friends.

I would to express my sincere gratitude for my advisor Dr. Solomon Markos in guiding me through the research process and produce this paper. The knowledge, insights and guidance you provided was invaluable throughout this research project.

Lastly, I would like to express my appreciation and thanks to those who participated in the survey for willingly sharing their time during the survey process.

Table of Contents

List of Table VIII
List of Figures IX
Abstract X
CHAPTER ONE 1
INTRODUCTION 1
1.1 Background of study 1
1.2 Statement of the Problem 2
1.3 Research Questions 3
1.4 Research Objectives 4
1.5 Significance of the Study 4
1.6 Scope of the Study 5
1.7 Limitations of the study 6
1.8 Organization of the study 6
1.9 Definition of key terms 6
CHAPTER TWO 8
LITERATURE REVIEW 8
2.1 Theoretical Concept 8
2.1.1 Project Closure 8
2.1.2 Dimension of Project Closure 9
2.1.3 Client Satisfaction in Construction Projects 11
2.1.4 Private Real Estate Development 12
2.1.5 Theoretical Framework 13
2.2 Empirical Review 15
2.2.1 Effect of Project Closure Effectiveness on Client Satisfaction 16
2.2.2 Gaps in Existing Literature 19
2.3 Conceptual Framework of the Study 20
2.3.1 Conceptual Model 20
2.3.2 Research Hypotheses 21
CHAPTER THREE 22
RESEARCH METHODOLOGY 22
3.1 Study Area 22
3.2 Research design 22
3.3 Research Approach 22
3.4 Target population, Sample size and Sampling techniques 23

3.5 Data source and Collection instruments 24
3.6 Validity and Reliability of Instruments 25
3.7 Data analysis 25
3.8 Ethical Considerations 26
CHAPTER FOUR 28
ANAYSIS AND DISCUSION 28
4.1 Introduction 28
4.2 Response rate 28
4.3 Demographic profile of Respondents 28
4.4 Descriptive Statistics 30
4.5 The relationship between Project Closure Effectiveness and Client Satisfaction 34
4.6 The Effect of Project Closure Effectiveness on Client Satisfaction 35
4.6.1 Assumptions and Tests 35
4.6.2 Regression Analysis 37
4.6.3 Regression Coefficient/ Coefficient Matrix 39
4.6.3 Summary of Hypothesis 43
CHAPTER FIVE 44
SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION 44
5.1 Introduction 44
5.2 Summary of findings 44
5.3 Conclusion 45
5.4 Implication of the study 46
5.5 Recommendation 48
Reference 49
Appendix 53

List of Table

Table 3.1 Cronbach's alpha values ……. 25

Table 4.1 Demographic Profile ...…… 29

Table 4.2 Descriptive Statistics for Technical Closure …….. 30

Table 4.3 Descriptive Statistics for Contract and Financial Closure ……..... 31

Table 4.4 Descriptive Statistics for Communication and Handover Management ……..... 32

Table 4.5 Descriptive Statistics for Post-handover Support ……..…….. 32

Table 4.6 Descriptive Statistics for Client satisfaction …..…….. 33

Table 4.7 Analysis of Relationships (Correlation analysis) result …….. 34

Table 4.8 Normality test ……...…36

Table 4.9 Multi collinearity test …….…….... 37

Table 4.10 Model Summary …… 37

Table 4.11 ANOVA table …… 38

Table 4.12 Regression Result showing the Effect of Project Closure Practices on Client Satisfaction ……. 39

Table 4.13 Summary of Hypothesis …….. 43

List of Figures

Figure 2.1 Conceptual Framework for the study …… 20

Figure 4.1 Histogram …….. 35

Figure 4.2 Normal P-P plot ……. 36

Abstract

The purpose of this study is to investigate the relationship between project closure effectiveness and client satisfaction in private real estate in Addis Ababa. While projects are often evaluated by time, cost and quality, client dissatisfaction frequently arises during closure, particularly at handover and post completion. The study was conducted among buyers and owners from nine real estate companies who received their property between 2020 and 2025. The study adopts an explanatory research design with a cross sectional quantitative approach. A sample size of study was ranged between 84 and 104 using Green's formula; however, data were collected from 122 real estate buyers using a systematic random sampling technique. The study focused on the effectiveness of project closure practices, including technical closure, contract and financial closure, communication and handover management, and post-handover Support. Data were collected using a structured closed-ended questionnaires and analyzed using descriptive and inferential statistics in SPSS version 26.The findings revealed a statistically significant and positive relationship between project closure effectiveness and client satisfaction.. The model explained 77.4% (R2 = 0.774) of the variance in client satisfaction. These findings indicate that effective project closure practices play a critical role in improving client satisfaction in the private real estate sector. Based on these findings, the study recommends that real estate developers strengthen post-handover support systems by establishing efficient defect reporting and resolution mechanisms, improve technical closure through comprehensive inspections before handover, and ensure transparent communication and contract closure processes to enhance client satisfaction.

Keywords: ***Effective project closure, customer satisfaction, private real estate in Addis Ababa, Ethiopia***

CHAPTER ONE

INTRODUCTION

This chapter introduces the research and gives a thorough description of the research setting, the research problem, the research question and goals and the importance and scope as well as the possible limitations of the research. This chapter starts by giving the background of the research and explaining the importance of project closure practices and client satisfaction in real estate projects. Lastly, this chapter gives a description of the organization of the research work and definitions.

1.1 Background of study

The construction industry plays a significant role in economic development through infrastructure provision, employment generation and urban expansion. In rapidly urbanizing cities such as Addis Ababa, private real estate development has expanded significantly due to increasing housing demand and population growth. Private real estate developers deliver residential and mixed use developments that directly influence the living conditions and investment satisfaction of property owners.

The iron triangle of cost, time and quality performance has been traditional way of evaluating construction project success. However, stakeholder satisfaction is emphasized in contemporary project management literature (Atkinson, 1999; Shenhar & Dvir, 2007). Thus, the attention has increased toward project closure, which represent the final stage of the project lifecycle where deliverables are completed, documented and formally transferred to clients (PMI, 2021).

Effective closure ensures that project objectives are formally achieved and that stakeholders accept project outcomes. The activities involved in project closure are technical completion verification, financial settlement, documentation finalization, and communication during handover, and post-delivery support (Kerzner, 2017). Research indicate that the perceptions of project success viewed by clients are often formed during final delivery and handover stages than during construction execution (Lim & Mohamed, 1999).

Even though construction project execute successfully, real estate clients experience dissatisfaction during or after handover process. Common issues raised by clients includes

unresolved defects, incomplete documentation, lack of transparency in financial settlement, and inadequate communication during the transfer process (Forcada et al., 2016; Zidane & Andersen, 2018). These challenges indicate that client satisfaction with the outcome is mainly shaped by project closure practices.

Client satisfaction, particularly in private real estate development is important because property buyers are direct end users of the project. That means their perception influence reputation of developer, repeat business and word of mouth referrals and long term business relationships (Shenhar & Dvir, 2007; Davis, 2014). In theory of Expectancy Disconfirmation, the satisfaction of clients occurs when the delivered performance meets or exceeds client expectations (Oliver, 1980). Therefore, to ensure positive client experiences at project completion, structured project closure practices are essential.

Although project management frameworks provide guidance on closure procedures, empirical research that examine how specific closure practices influence client satisfaction remains limited. Particularly, empirical research on private real estate projects in developing countries is inadequate. This study therefore investigates how project closure practices affect client satisfaction in residential and mixed use real estate projects in Addis Ababa.

1.2 Statement of the Problem

Project success evaluation has evolved shifting its focus from efficiency measurement to stakeholder oriented outcome, which includes client satisfaction (Shenhar & Dvir, 2007). Satisfaction level in real estate is largely shaped during project handover and closure stages, when ownership is transferred from developer to clients and clients begin to live in and directly interact with the delivered facility (Kerzner, 2017).

The dissatisfaction raised by many real estate clients concerns project handover despite physical completion. The issues are regarding to unresolved defects, incomplete documentation and communication gap during closure process (Forcada et al., 2016; Zidane & Andersen, 2018). Research on housing delivery and construction performance in Ethiopian indicate the existence of defects, coordination gaps and dissatisfaction of client during project closure (Alemayehu, 2021; MOU, 2017). Moreover, the lack of skills, poor documentation, and poor practices of project evaluation result in poor closeout of projects, unresolved defects, incomplete documentation, and ineffective measures of obtaining client feedback (Zewdu &

Aregaw, 2015; Gebrehiwet & Luo, 2017). These suggest that there are weaknesses in project close out practices.

Existing construction management research predominantly focuses on planning, execution and performance monitoring and evaluation but comparatively limited empirical attention regarding project closure. In addition to that, many studies treat project closure as a single aggregated concept rather than examining its individual dimensions and their specific effect on satisfaction outcomes (Zidane & Andersen, 2018).

Within the Ethiopian context, empirical studies addressing client satisfaction in private real estate developments remain scarce. The quantitative studies that link structured closure practices to satisfaction outcomes are limited. So, real estate developers lack evidence based guidance to identify which closure practices most strongly influence client satisfaction at project completion.

This creates both practical and academic gaps. Practically, developers face challenges improving handover experiences without empirical insight into effective closure practices. Academically, there is limited understanding of how different dimensions of project closure contribute to satisfaction outcomes in private real estate projects.

Therefore, this study examines the effect of project closure practices, which are technical closure, contract and financial closure, communication and handover management, and post-handover support on client satisfaction in private real estate projects in Addis Ababa.

1.3 Research Questions

General Research Question

- What is the effect of project closure effectiveness on client satisfaction in real estate projects in Addis Ababa?

Specific Research Questions

1. What is the effect technical closure practices on client satisfaction?
2. What is the effect of contract and financial closure on client satisfaction?
3. What is the effect of communication and handover management on client satisfaction?

4. What is the effect post-handover support on client satisfaction?

1.4 Research Objectives

General Objective

- To examine the effect of project closure effectiveness on client satisfaction in real estate projects in Addis Ababa.

Specific Objectives

1. To test the effect of technical closure practices on client satisfaction
2. To determine the effect of contract and financial closure process on client satisfaction.
3. To examine the effect of communication and handover management on client satisfaction.
4. To test the effect of post-handover support on client satisfaction
5. To assess the level of project closure practices in the case of real estate organization in Addis Ababa
6. To assess the level of client satisfaction in the case of real estate organization in Addis Ababa

1.5 Significance of the Study

The study holds academic value while delivering practical benefits to its field. The research examines an important theoretical, empirical, methodological and contextual gaps that has yet underexplored aspect of construction project closure practices and their influence on client satisfaction within the scope of real estate developments.

The study creates an academic contribution to project management literature through its combination of established theoretical frameworks that include stakeholder theory and expectancy disconfirmation theory. The research study creates a unified framework which shows how various aspects of project closure affect client satisfaction according to existing theories. Previous studies have largely examined project success using performance indicators as a whole, while limited empirical research has analyzed closure practices as multidimensional concepts. This research empirically test technical closure, contract and financial closure, communication and handover management and post-handover support as separate predictors

to strengthen theoretical understanding of client centered project success during the final phase of the project lifecycle.

The study examines project closure outcomes through quantitative multivariate analysis which has not been used extensively in research studies. The study employs regression analysis to demonstrate empirically how each closure dimension affects client satisfaction which enables decision makers to make evidence based project management decisions.

The research delivers direct evidence from local studies about private real estate projects in Addis Ababa. Structured research about project closure methods remain scarce in this fast developing city like Addis Ababa. The research results extend existing knowledge beyond public infrastructure and economic development.

The study creates practical value for real estate developers, project managers and industry stakeholders by offering them practical information about which closure methods most effectively achieve client satisfaction. The assistance improves handover processes which leads to fewer post completion conflicts and builds client confidence while enhancing the organization's public image and developing its long term business viability

1.6 Scope of the Study

This study examines the effect of project closure practices on client satisfaction in private real estate in Addis Ababa. The scope is defined in terms of content, geography, project type, respondents and methodology.

Conceptually, the study focuses on project closure activities during the final phase of the project lifecycle. Specifically, it address technical closure, contract and financial closure, communication and handover management, and post-handover support.

Geographically, the research is limited to 9 private real estate developments buyers located in Addis Ababa. The study targets completed projects that have undergone formal handover processes between the year 2020 and 2025.

The unit of analysis were real estate buyers or owners who received completed project and had direct experienced of project handover and closure processes. Contractors, consultants and internal project staff are excluded to maintain a client centered evaluation perspective.

Methodologically, the study adopts a quantitative cross sectional design using structured questionnaires to analyze relationships between project closure practices and client satisfaction.

1.7 Limitations of the study

Some limitations should be taken into accounts in the study. Limitations exist because the research focuses only on private real estate projects. So, the findings may not be fully generalizable to all construction projects. The study is limited to Addis Ababa, Ethiopia, which limit the generation of the findings to other areas. And also, the nature of cross sectional research design limits the ability to fully assess long term satisfaction outcomes after extended building occupancy.

Finally, the variations among real estate developers in terms of organizational capacity, management practices and project scale were not into consideration. Despite these limitations, the study provides valuable empirical insight into project closure practices and their influence on client satisfaction within the private real estate context of Addis Ababa.

1.8 Organization of the study

This paper is organized into five chapters, In Chapter One, the introduction of the study takes place, providing the background of the study, the statement of the problem, research questions, objectives, significance, scope, limitations and structure of study. Chapter Two is a literature review on the topic of the study. Chapter Three cover the research methodology, which states research design, approach, sampling procedures, data collection tools used and data analysis. Chapter Four presents findings of the study and interpret them based on the research objectives. Lastly, Chapter Five gives conclusions and recommendations for next steps and further studies.

1.9 Definition of key terms

Project Closure: The final phase of the project life cycle involving all project work has been completed and contractual obligations have been fulfilled and all project deliverables have been delivered and defects have been fixed and all project documentation has been transferred and clients have accepted the completed work and all project lessons have been learned (PMI, 2021).

Project Closure Practices: The structured activities which conduct final inspections and transfer documentation and resolve defects and complete financial matters and work with

clients and finish administrative tasks to achieve successful project closing and operational startup (Aziz, 2015).

Client Satisfaction: The degree to which project outcomes meet or exceed client expectations, encompassing both technical performance and the strength of relationships between project stakeholders through their communication and responsiveness, transparency and trust (Alshihre et al., 2020).

Project Handover: The handover process involves developers and contractors transferring all project responsibilities and ownership and control rights of the finished facility to the client after they verify all project deliverables through the acceptance process.

Technical Closure: The completion of all construction work, inspections and testing, commissioning activities and regulatory approvals reach completion. These elements verify that the project meets its design specifications and performance standards before final acceptance.

Financial Closure: The completion of a project involves its financial responsibilities including final payments, claim settlements, account reconciliations and confirmation of contract based financial compliance.

Post-handover support: The extent to which developers or project teams continue to address client concerns, defects, or operational issues after project handover within agreed warranty or liability periods.

Private Real Estate Development: Construction projects financed and delivered by private developers for residential, commercial, or mixed-use purposes, where property buyers act as direct clients and long-term users of the completed asset.

CHAPTER TWO

LITERATURE REVIEW

This chapter deals conceptual, theoretical and empirical literature related to project closure practices and client satisfaction in construction projects, particular focus on private real estate developments.

2.1 Theoretical Concept

2.1.1 Project Closure

Project closure represents the formal completion of all project activities and the structured transition from project execution to operational use. In project management literature, project closure is as a final stage of the project life cycle which includes deliverables are verified, contractual obligations are fulfilled, documentation is finalized, and formal acceptance is obtained from the client (PMI, 2021).Project closure compared to other project cycle such as planning and execution phases, project closure takes relatively short period but has significant association with stake holder perception and project long term success.

Although construction project management literature extensively discusses planning, execution and monitoring phases, relatively less emphasis has been placed on the closure phase as a strategic determinant of client satisfaction. Project closure is often treated as an administrative process which requiring completion, rather than recognize it as a client oriented method that evaluates technical results, contract requirements, communication effectiveness and post-handover service ability. However, emerging research suggests that clients frequently evaluate project success at the point of handover and during post occupancy interactions. The process of project closure represents a crucial period which determines how people will perceive their satisfaction. Aziz (2015) describes closure as a “high-impact” phase because unresolved issues at this stage such as incomplete documentation, delayed financial reconciliation, or poor communication can lead to disputes, dissatisfaction, and reputational damage. Similarly, Toor and Ogunlana (2010) demonstrated that project success should now be assessed through stakeholder satisfaction whereas previous evaluations depended solely on measurable performance metrics.

In construction projects, particularly in real estate development, closure involves the developer transferring ownership of the built assets to the property owner. The transfer process requires both technical execution and user experience management. Clients evaluate the physical facility's performance against their needs, assess the complete financial situation and the organization's communication effectiveness together with their confirmation of upcoming assistance after project completion. Therefore, the process of closing a project brings together all physical project results together with all the relationships developed during project work.

2.1.2 Dimension of Project Closure

The project life cycle reaches its final stage through project closure which establishes that the project has finished all work while its deliverables achieve both contractual and technical requirements as well as stakeholder expectations. According to the study's literature and its adopted conceptual framework project closure is operationalized through four dimensions which include technical closure, contract and financial closure, communication and handover management and post-handover support. These dimensions collectively capture the key practices that influence client satisfaction at the final stage of real estate projects.

2.1.2.1 Technical Closure

Technical closure refers to technical assessment to validate project outcomes through formal testing which ensures that the finished facility meets all approved design documents and specifications and operational requirements and performance standards. The process of the evaluation requires several steps which include inspections and testing and quality assurance checks together with the assessment of whether all construction work meets both contractual obligations and regulatory standards (PMI 2017).

Technical closure holds significance for private real estate projects because clients receive direct assessment of the property through its finish quality, building services and functional capabilities. Research has shown that technical deficiencies at handover such as poor workmanship, incomplete installations, or non-conformance to specifications negatively affect client satisfaction and increase the likelihood of disputes (Atkinson 1999; Love et al. 2012). Effective technical closure enhances clients' confidence in the developer's competence and contributes to positive post-handover perceptions.

2.1.2.2 Contract and Financial Closure

Contract and financial closure requires all contractual obligations to be completed which includes final payment settlement, claim resolution, variation documentation and completion certificate issuance. This dimension establishes that both parties have completed their contractual commitments and that no outstanding financial disputes remain after the project has reached its final stage (Kerzner, 2022).

Transparency and fairness during contract and financial closure significantly influence client trust and satisfaction, particularly in private real estate developments where financial investments are substantial. Studies indicate that delays in final account settlement, unclear contractual documentation or unresolved claims often lead to client dissatisfaction and strained relationships between developers and clients (Zidane & Andersen, 2018). Therefore, effective contractual and financial closure creates perceptions of professionalism and accountability, which contribute to positive overall client satisfaction.

2.1.2.3 Communication and Handover Management

Communication and handover management refers to how effectively information is exchanged between the two parties, maintain project coordination and interact with clients throughout the final project phase which concludes with the official facility handover to the client. The handover process requires the delivery of as-built drawings along with operation and maintenance manuals, warranties and user training as well as handling client inquiries during handover (PMI, 2017).

The construction industry considers effective and prompt communication during project closure to be the main element to determining client satisfaction with their completed projects (Turner, 2014; Meng, 2019). Real estate projects experience adverse effects from poor handover communication, leading to operational errors and customer dissatisfaction with the finished building. Handover systems that follow established protocols and maintain open communication channels improve client knowledge of project results and strengthen their overall satisfaction.

2.1.2.4 Post-handover support

Post-handover support involves assessing the project performance after the project is handed over and addressing any defects or issues identified during the defects liability period. This

dimension demonstrates the developer's commitment to long term quality, accountability and client relationship management.

Research has shown that prompt and effective defect rectification is an important factor in post occupancy client satisfaction and their willingness to recommend the developer for future projects (Davis, 2014, Forcada et al., 2016). In private real estate projects where clients keep a relationship with the facility after completion, responsiveness to post-handover issues is a key factor in creating lasting impressions. The developers who are able to anticipate and correct defects, and learn from past experience to improve future projects, are the ones who are more likely to keep clients happy and build a better reputation.

2.1.3 Client Satisfaction in Construction Projects

Client satisfaction is a recognized criterion for measuring the success of a project in the construction industry. While project success is traditionally measured in terms of cost, time, and scope, client satisfaction can be understood as the evaluation of the results of the project performed from the subjective perspective of its beneficiary. It captures not only whether the project met contractual requirements, but also whether it met the client's expectations, perceived value, and relational experience.

In the existing literature on construction management, client satisfaction is regarded as a multidimensional construct. Kärnä (2004) found that satisfaction in construction projects depended on both technical and relational elements, including performance, quality, and reliability of the results and communication, responsiveness, and trust in relationships with stakeholders. Meng (2019) focused on the influence of dimensions of service quality, including transparency, cooperation, and post-construction service.

The concept of project success, according to Turner and Zolin (2012), is multidimensional, as it is subjectively evaluated differently by various stakeholders at different stages of the lifecycle. Client satisfaction is a key element of project success in the long term since it depends on the fulfillment of functional, financial, and other expectations related to the final result. Hence, even if a project is completed successfully in terms of budget and time, dissatisfaction may arise due to issues such as poor communication, unresolved defects, and financial problems.

In the case of private real estate projects, client satisfaction is especially important. Owners act as both sponsors and end users of real estate construction and play a significant role in determining the reputation and future success of property developers. In addition to technical

quality of the constructed object, client assessments in real estate include the degree of transparency of documents, simplicity of handover process, responsiveness in addressing defects, and general professional attitude.

Thus, for the purposes of the present study, client satisfaction can be defined as an overall assessment made by a client of project results and closure. The main components of this assessment will include deliverable quality, financial and procedural transparency, communication efficiency in handover, and responsiveness to issues raised after project completion. Therefore, client satisfaction will be considered as the dependent variable.

2.1.4 Private Real Estate Development

In fast-growing urban areas, private real estate development plays a crucial role in the process of urban expansion, provision of new housing, and economic growth. In the case of Addis Ababa, private real estate developers have played an important role in addressing the lack of housing stock through residential real estate development projects and mixed-use developments, integrating residential, commercial, and other functional facilities. These projects place the client not only as sponsor but also investor and user of the real estate development project. According to the literature, private clients pay much attention to financial transparency, quality assurances during handover of projects, and responsiveness after the completion of the projects, especially in cases where there is no strict enforcement of laws and regulations (Zidane & Andersen, 2018).

Real estate residential projects are developed mainly for private use, either for ownership or renting, and are related to satisfaction of the end-user. Evaluations made by private clients of residential developments are focused not only on completion of the project itself but also on quality of finishes, performance, completeness of documentation, and post-handover services. Residential clients are very sensitive to defects, delayed handover, and poor services provided after completion of construction activities (Kärnä, 2004; Forcada et al., 2016).

Mixed-use developments involve the integration of residential units within commercial, retail, and other types of developments. They are highly complex because mixed-use projects have to meet needs of different stakeholders, have various functional facilities, and require increased levels of coordination at the project closure phase. Proper practices of project closure are necessary in order to ensure proper operation of mixed-use developments, adequate documentation, and distribution of responsibilities between different end-users (Turner, 2014).

Poor management of project closure process leads to operational disruptions, disputes, and loss of client trust.

Due to the emergence of residential and mixed-use real estate developments in Addis Ababa and increasing competition between developers, there is a growing awareness and expectation of clients regarding the project closure process. Clients are well-informed about project closure and require more professionalism in handling the process, especially timely handover, adequate documentation, and effective defect resolution. Empirical studies show, however, that in developing countries, practices of project closure remain informal and inadequately standardized leading to client dissatisfaction despite successful delivery of projects on time and in budget (Davis, 2014).

Furthermore, there are various constraints facing the construction and real estate sectors in Ethiopia such as lack of skills, poor documentation, and poor practices of project evaluation (Zewdu & Aregaw, 2015; Gebrehiwet & Luo, 2017). These constraints usually result in poor closeout of projects, unresolved defects, incomplete documentation, and ineffective measures of obtaining client feedback.

The existence of these constraints highlights the significance of having standardized processes of project closure to improve clients' satisfaction and protect developer reputation. Quality practices of project closure have an impact on future performance and clients' trust in the development of private real estate where repeat business and word-of-mouth referrals are critical (Davis, 2014; Turner & Zolin, 2012).

Given this situation, it is necessary and urgent to examine the process of project closure in the context of private residential and mixed-use real estate developments in Addis Ababa. It is essential to understand what impact technical closure, financial transparency, handover communications, and post project response have on client satisfaction.

2.1.5 Theoretical Framework

This research utilizes some well-known theoretical approaches, which explain the impact of project closure on the clients' satisfaction in private real estate developments. In this respect, Stakeholder Theory will serve as the main theoretical perspective under consideration, whereas the PMBOK framework of project closure and Expectancy Disconfirmation Theory (EDT) will also be applied as additional theoretical perspectives, providing procedural, relational, and psychological explanations of the studied phenomenon.

Stakeholder Theory

According to Freeman (1984), organizational success depends greatly upon proper management of stakeholders' interests and expectations. As far as construction projects are concerned, the client is the main stakeholder and their satisfaction with the project determines its success and serves as a basis for future cooperation. Thus, from the theoretical point of view, the project closure may be regarded as a crucial stage, at which clients evaluate the performance of the project and make the corresponding decisions regarding their satisfaction. The process of quality control, payment procedures, effective communications, and responsiveness to the post-handover inquiries have a direct impact on clients' perception of fairness and professionalism on the side of organizations involved in the project completion. Despite technical success, the process of closure might result in client dissatisfaction due to insufficient communication and unresponsiveness to their needs.

For this study, client satisfaction is conceptualized as a stakeholder based evaluation of project performance formed during the closure phase. Therefore this theory provides the primary theoretical foundation for examining how project closure practices influence client satisfaction in real estate projects.

Project Management Body of Knowledge (PMBOK) Framework

The Project Management Body of Knowledge (PMBOK) defines project closure as the formal completion of all project activities and the confirmation that deliverables have been accepted (PMI, 2021). The closing process group includes final verification of scope, administrative closure, contract closeout, documentation, lessons learned, and formal transfer of deliverables to the client.

For this study, PMBOK provides procedural completeness and governance foundations. It specifies what structure project closure entails. For this context of real estate projects, effective execution of these closure activities ensures that technical requirements are met, contractual obligations are fulfilled and documentation is properly transferred to client. These form the basis for the study’s independent variables particularly technical closure and contract and financial closure. While PMBOOK primary give emphasizes for procedural completeness, its structural approach support transparency, accountability and formal client acceptance. And these are essential for positive client evaluations at project closure.

Expectancy Disconfirmation Theory (EDT)

Expectancy Disconfirmation Theory (Oliver, 1980) explains the psychological mechanism through which satisfaction is formed. According to the theory, satisfaction results from comparing perceived performance with prior expectation. Satisfaction occurs when perceived performance meets or exceeds expectations and vice versa.

In real estate projects, clients develop expectations regarding the quality of deliverables, transparency of financial processes and effectiveness and professionalism of communication during handover. The closure phase is the critical moment where these expectations are evaluated. Final inspection, financial settlement, documentation handover, and post-delivery support. As clients directly experience the final completed facility and services provided by the developer.

Collectively, these theories support the proposition that structured execution of project closure practices (technical closure, contract and financial closure, communication and handover management and post-handover support) positively influences client satisfaction in real estate. Stakeholder theory explains why client satisfaction is a critical measure of project success, PMBOK explains what constitutes effective project closure practices and Expectancy disconfirmation theory explain how satisfaction is formed thought expectation performance comparison. This integrated theoretical framework creates the basis for examining the relationship between project closure dimensions (independent variables) and client satisfaction (dependent variable) in real estate projects.

2.2 Empirical Review

This section reviews empirical studies that have examined the relationship between project closure dimensions and client satisfaction in construction and real estate projects. The review is organized into project closure dimensions and client satisfaction relationship in global, African, and Ethiopian contexts to highlight patterns, contextual differences, and existing research gaps relevant to the study.

2.2.1 Effect of Project Closure Effectiveness on Client Satisfaction

Technical Closure and Client Satisfaction

Studies find technical closures at project completion as one of the main factors predicting client satisfaction. A quantitative study of Finnish construction projects finds technical quality as explaining 47% of the variance in client satisfaction ($R2 = 0.47$), making it the best predictor of the studied factors (Kärnä, 2004). Similarly, a cross-country construction project study identifies a positive relationship between the quality of completed deliverables and client satisfaction (Hussain et al., 2019). Their findings confirm that defect free delivery and compliance with technical specifications strongly influence satisfaction judgments at project closure.

Studies of client satisfaction in residential construction show that satisfaction at project closing stage depends mainly on the perceived quality of construction, functionality and usability of the final structure (Davis, 2014). Additionally, Toor and Ogunlana (2010) demonstrate that satisfaction is greatly influenced by meeting deliverable quality expectations; indeed, minor schedule slippages do not matter much when final deliverables meet the contractual specifications.

Collectively, all the above findings suggest that proper execution of the technical closure dimension of project management sets up the grounds for satisfaction. Nonetheless, available evidence linking technical closure to client satisfaction is mainly from developed countries, with only few quantitative studies conducted in Africa and specifically in Ethiopia. Furthermore, technical closure is often discussed within the broader quality management framework without explicitly considering it as a project closure dimension practice. This indicates a contextual and conceptual gap in understanding the role of technical closure in real estate developments in emerging economies.

Contract and Financial Closure and Client Satisfaction

There is considerable empirical evidence about contract and financial closure playing a crucial role in determining client satisfaction at the project closing stage. Williams et al. (2015), using structural equation modeling, identify procedural and financial transparency as having a very significant and positive influence on customer satisfaction during project completion ($\beta = 0.52$, $p < .01$). Additionally, timely and transparent financial settlement is considered a demonstration of professionalism and integrity that positively influence client satisfaction.

Turner and Zolin (2012) also report low satisfaction among stakeholders when the project was marked by delayed or non-resolution of outstanding claims.

In another study, Azhan et al. (2023) demonstrate that delay in certification and final payment negatively affects clients' judgment of contractor professionalism and reliability. Within the sub-Saharan context, Ayegun et al. (2018) identify contract and dispute resolution during closing as strongest predictors of client satisfaction in Nigerian construction projects. These findings show that contract and financial closure is more than administrative actions but a relational activity significantly influencing satisfaction outcomes.

In African and Ethiopian construction research focusing on contract and financial closure as variables explaining client satisfaction are scarce. Exiting studies in Ethiopia relate financial issues with cost overruns and claims disputes rather than their effect on client satisfaction during project closure. This revels a methodological gap in examining financial closure as a client centered outcome determinant.

Communication and Handover Management and Client Satisfaction

Communication and handover management is another factor found in the literature as significantly influencing client satisfaction during project closure. According to Diegmann et al. (2017), communication quality in the final project phases plays a very significant role in enhancing customer satisfaction ($\beta = 0.58$, $p < .001$), highlighting the important role of clarity and responsiveness. Similarly, Forsythe (2016) reports that service quality at handover accounts for more than 40% of satisfaction variation. These findings indicate that clients' perceptions are strongly shaped during the closure stage.

In construction projects across sub-Saharan Africa, Oke, et al (2016) identified poor communication, inadequate documentation, and limited client involvement during handover as major sources of dissatisfaction. Lee et al. (2021) proposed a structured communication and role clarity model and empirically demonstrated that improved handover communication significantly reduced disputes and increased client satisfaction levels. These findings support stakeholder theory by showing that satisfaction increases when clients are actively engaged, informed, and supported during project closure.

Global and regional studies validate the importance of communication and handover management and Ethiopian construction research has largely examined communication issues

descriptively but not empirically linking them to client satisfaction outcomes. So it need a contextual and empirical gap in understanding on how closure stage communication practices influence satisfaction in private real estate projects.

Post-Handover Support and Client Satisfaction

Post-handover emerges as a crucial factor in determining sustained client satisfaction through empirical research. Meng (2019) showed that post-project service quality, comprising defect correction and feedback responsiveness, positively affects client satisfaction ($\beta = 0.63$, $p < .001$). Similarly, Williams et al. (2015) highlighted the ongoing nature of satisfaction even after project completion and underscored its dependence on the handling of post-handover concerns. Egemen (2022) stated that the systematic post-occupancy evaluation serves as an evaluation tool for performance and a management tool for relationships, resulting in improved satisfaction and trust.

In Africa context, Kissi et al. (2019) found that the lack of post-project evaluation processes considerably reduced client satisfaction and learning in construction projects in Ghana. Further studies in Ethiopia by Damtew et al. (2023) revealed that unaddressed defects and poor post-construction follow-ups are major sources of client dissatisfaction in building projects. Collectively, these studies support the idea that post project engagement and defect rectification are pivotal factors in maintaining client satisfaction and developer reputation in privately owned real estate development projects. In the context of Ethiopia, it recognize the significance of defect rectification and post-project engagement but lacks empirical studies to quantify their connection to client satisfaction using regression analysis or structural modeling. This indicates a significant methodological gap in closure phase research within Ethiopia's private real estate sector

Overall, empirical studies across global and regional contexts consistently demonstrate that technical closure, contract and financial closure, communication and handover management, and post-project evaluation and defect rectification each have a significant positive relationship with client satisfaction. However, these relationships have rarely been examined collectively within a single empirical model, and remain largely untested in Ethiopian private real estate developments. This empirical gap provides the foundation for the present study and directly informs the formulation of hypotheses in the subsequent section.

2.2.2 Gaps in Existing Literature

The empirical literature reviewed showed that project closure practices significantly influence client satisfaction across various construction contexts. Studies report positive relationships between technical closure quality, financial transparency, communication effectiveness, post-project responsiveness, and client satisfaction. But there are gaps that should be addressed in existing body of knowledge in the area of private real estate projects in emerging economies.

Theoretical Gap- While there is existing literature on the application of such theories as stakeholder theory and expectancy disconfirmation theory, which offer significant understanding on issues related to stakeholder satisfaction and expectations' performance appraisal, there is no adequate research concerning the joint application of the two theories in explaining client satisfaction in relation to the project closure stage in the construction industry. Moreover, although frameworks for project management like the PMBOK guide practitioners on the project closure process, previous research lacks theoretical consideration of the various dimensions of project closure as related to the creation of client satisfaction.

Empirical Gap - Though there is no dearth of empirical literature linking project closure and client satisfaction, most of these studies do so using project closure as an aggregated variable. Few studies disaggregate the concept of project closure into its different dimensions namely technical closure, contract and financial closure, communication and handover management, and post-project evaluation and link them individually with client satisfaction. Such efforts will make it possible to discern the impact of different dimensions of project closure on client satisfaction within a single model

Methodological Gap - The current literature mainly uses qualitative evaluations or descriptive approaches especially within an African or even Ethiopian environment. In addition, there have been limited use of multivariate methods like multiple regression analysis in determining the causal effect of the aspects of projects closing and clients' satisfaction in a quantitative manner. Additionally, many studies fail to report the results for effect size, regression coefficient and explained variance.

Contextual Gap - The available empirical data comes primarily from developed countries and the public infrastructure sector. Few attempts have been made to analyze project closure and client satisfaction in real estate development. In Ethiopia, there are only few attempts to study

the problems associated with defects, documentation, and performance individually, but not systematically examining closure as a client centered process in the real estate sector of Addis Ababa.

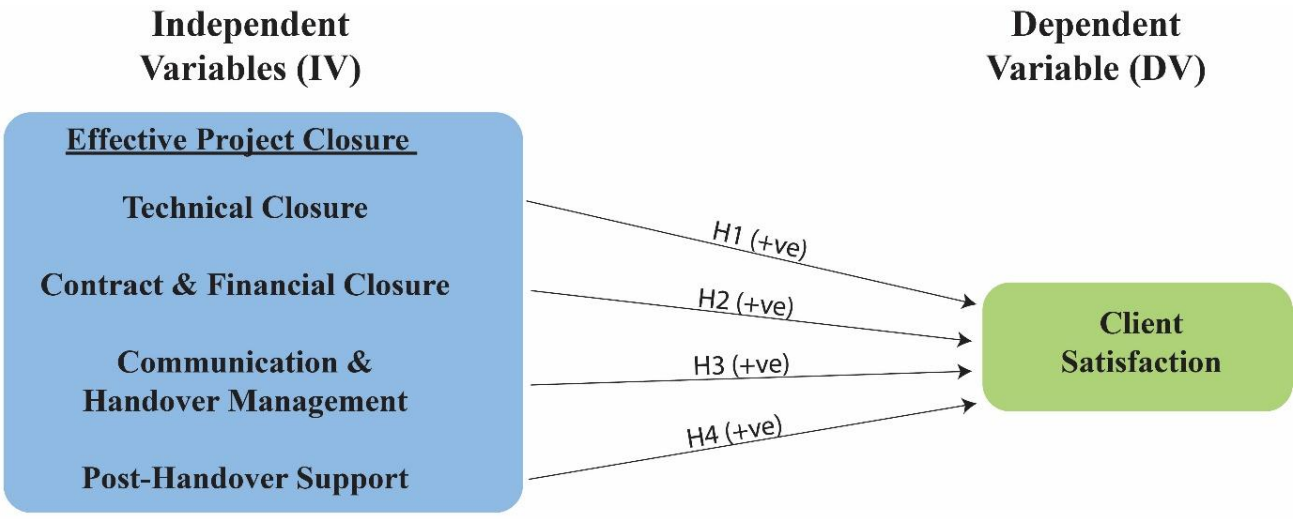
Causal Gap - While previous researches have shown a connection between the closure activities and client satisfaction, very few of them have been able to conduct causality tests by relating a specific dimension of closure to client satisfaction as a dependent variable. Such limitation makes it impossible for one to conclude that certain closure activities predictably contribute to the clients' satisfaction.

In order to bridge such gaps, this study uses empirical data in evaluating the relationship between four dimensions of project closure (i.e., technical closure, contract and financial closure, communication and handover management, and post-project evaluation and defect rectification), on the one hand, and client satisfaction in private real estate projects in Addis Ababa, on the other hand. Quantitative research design will be employed in conducting causal tests between each independent and dependent variable.

2.3 Conceptual Framework of the Study

2.3.1 Conceptual Model

Figure 2.1 Conceptual Framework for the study



Source: literature review

2.3.2 Research Hypotheses

H1: The Effect of Technical Closure on Client Satisfaction is statistically significant and positive.

H2: The Effect of Contract and Financial Closure on Client Satisfaction is statistically significant and positive.

H3: The Effect of Communication and Handover Management on Client Satisfaction is statistically significant and positive.

H4: The Effect of Post-Handover Support on Client Satisfaction is statistically significant and positive.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Study Area

The study area for this research was in Addis Ababa, Ethiopia, where the real estate sector is rapidly expanding. The city's growing construction activity and project complexity make it an appropriate context for examining project closure practices and client satisfaction. The focus was on client/ property owner/ who experienced project closure of their residential real estate projects. The researcher investigated real estate clients to discover insights that improve current satisfaction regarding project closure practices.

3.2 Research design

The research design employed a combination of descriptive and explanatory research design. The design used in this study allows for an empirical analysis of research objectives.

Descriptive design seeks to explore and articulate the current state of project closure practices and client satisfaction within the real estate. Detailed background information is obtained from the descriptive research which helps to understand existing situation (Bryman, 2016).

Explanatory design investigates the causal relationships between project closure effectiveness and client satisfaction. It is suitable for hypothesis testing and determining the directing and strength of effect of certain variables. The study is cross sectional because data are collected at a single point in time from the respondents after project completion (Crewell, 2014).

3.3 Research Approach

The study employed a quantitative research approach. Utilization of this approach becomes ideal for variables measurement, running statistical data analysis and testing proposed hypothesis (Cohen et al., 2018). Quantitative research approach is selected for this study because it enables making conclusion on objectives numerical data and enhancing the generalizations of the findings. This research only used quantitative data to establish the extent of the relationships between variables, which is applicable for explanatory research design according to Creswell (2014).

3.4 Target population, Sample size and Sampling techniques

Target Population

The target population of the study were real estate buyers or owners. Those clients were selected based on two criteria; first, clients who received completed real estate in Addis Ababa between 2020 and 2025 and second, clients who underwent project handover. These respondents were directly involved in project acceptance, participation in project closure activities and evaluation of project outcomes. They are considered appropriate respondents because their very recent experience of project handover position them to examine project closure practices and their level of satisfaction at project completion from the perspective of individual property owners.

Sample size

This study uses Green's formula (1991) or Green's rule of thumb method for the sample size determination used in regression analysis based on the number of independent variables. A minimum sample size was adopted to ensure sufficient statistical power for testing individual predictors.

To test the overall model, $n \geq 50+8m$

To test individual predictors, $n \geq 104+m$

Where m = number of predictor variables and n= minimum sample size

For this research, for one dependent variables, client satisfaction, there is four independent variables, technical closure, contract and financial closure, communication and handover management and post-handover support.

Then

To test the overall model,

$n \geq 50+8m$

$n \geq 50+8(4) = 82$

To test individual predictors,

$n \geq 104+m$

$n \geq 104+4 = 108$

Since the study includes four independent variables, the minimum sample size requirement range between 82 and 108 respondents.

Sampling Technique

The study employs two stage sampling approach. First, clients were examined in depth using the criteria presented in the target population section to find those suitable for this study. In the second stage, a systematic random sampling technique was used to select from the clients who fulfilled the criteria.

3.5 Data source and Collection instruments

A primary data source is employed for this study because they are collected for the first time and thus happens to be original in character, which directly gives answer to the research questions (Bryman, 2016). Structured questionnaires were used to collect data and also to get standardized answer from all participants systematically. The emphasis on primary data corresponds to the research design goal of studying causal relationships since the analysis of the relation between project closure practices and client satisfaction require first hand data from property owners of real estates.

The questionnaire consists of three main sections:

- Section A: Demographic information of respondents
- Section B: Project closure practices, measured across four dimensions: technical closure, contract and financial closure, communication and handover management, and post-project evaluation and defect rectification.
- Section C: Client satisfaction,

Each item will be measured using a 5-point Likert scale, ranging from 1 (“Strongly Disagree”/ “Never”/ “Not Effective”) to 5 (“Strongly Agree”/“Always”/“Very Effective”), depending on the nature of the question. This scaling allows participants to indicate the degree to which they perceive the practices implemented or the impact on their satisfaction.

3.6 Validity and Reliability of Instruments

To ensure the quality of the data collected, the study assessed both reliability and validity of the questionnaire.

Validity Test

Validity means that we are measuring what we really intend to measure. The measurement instruments used in the current study must be valid. The study adopted tested instrument from previous studies. Then instrument reviewed by the research advisor and subject matter experts to ensure that all relevant dimension of project closure and client satisfaction are adequately represented.

Reliability Test

The reliability of the items used for the study was verified by means of a pilot test by calculating Cronbach's alpha value for each questionnaire item to measure the internal consistency of items related to project closure practices and client satisfaction. If the alpha value greater than or equal to 0.7, the scale is reliable, so it is proper to use it (Travakol & Dennick, 2017). The alpha values of the constructs are presented in Table 3.1.

Table 3.1 Cronbach's alpha values

Variable	Cronbach's alpha
Technical Closure	.854
Contract and Financial Closure	.773
Communication and Handover Management	.875
Post-Handover support	.782
Client Satisfaction	.792
Overall	.815

Source: Survey data, 2026

3.7 Data analysis

All collected questionnaires responses were verified for completeness, accuracy and consistency before entering into SPSS (Statistical Package for the Social Sciences) for analysis. Data cleaning were employed to detect and correct the missing values, outliers, and entry errors. The data was analyzed with both descriptive statistics and regression analysis. Descriptive statistics gave a summary about the variables for the research. It presented using tables and

figures to summarize project closure practices and client satisfaction levels. This was carried out through means and standard deviations to provide an overview of the collected data (Field, 2018).

Pearson correlation analysis examined the relationships between the project closure dimensions (technical closure, contract and financial closure, communication and handover management, post- handover support) and client satisfaction. This will be followed by multiple linear regression analysis to determine the effect of these closure practices on client satisfaction.

Power analysis

It was found through Daniel Scoper's online power analysis that a test of $f^2 = 0.15$ in regression with 4 predictors (technical closure, contract and financial closure, communication and handover management, post- handover support) should include at 85 participants, at $\alpha = 0.05$ and power = 0.80. Therefore, the available sample size is considered adequate for this model.

The regression model is specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \boldsymbol{\varepsilon}$$

Where

Y= Client Satisfaction

X_1 = Technical Closure

X_2 = Contract & Financial Closure

X_3 = Communication & Handover

X_4 = Post-handover support

β_0 = Constant of the model, where β_1, β_2, β_3, β_4 are coefficient of independent variables

$\boldsymbol{\varepsilon}$ = error or other unknown factors

3.8 Ethical Considerations

The study conducted in full compliance with ethical standards. Ethical Guidelines that were followed in the research were covered by Bryman (2016) and Cohen et al (2018). Ethical approval were obtained from the School of Commerce Research Ethics Committee and the

College of Business Administration IRB, Addis Ababa University prior to data collection. Participants were given full information sheet explaining the purpose of the study. Participation was entirely voluntary and individuals could withdraw at any time without consequence. Consent was obtained from all participants before they were involved in the study. Every participant information was protected by adding data anonymity using secure storage. The study replaced certain data in order to identify participants with coded data, all in an effort to keep participant confidentiality. The study will adhere to the ethical principles outlined in the Declaration of Helsinki and the ethical guidelines of Addis Ababa University, ensuring the protection, dignity, and rights of all participants. Truthfulness of the data was maintained by preventing fabrication or misrepresenting the facts, Academic integrity of research was kept with originality of content and source attribution.

CHAPTER FOUR

ANAYSIS AND DISCUSION

4.1 Introduction

The chapter present data gathered for the study of the effect of project closure in client satisfaction in Addis Ababa real estate. Questionnaire was employed to gather primary data. IBM SPSS version 26 is conducted for statistical analysis. The questionnaire data, finding and result presented in tables. The relationship between variables was tested using correlation, inferential statics methods and multiple regression.

4.2 Response rate

The structured questionnaires were distributed to 150 respondents, out which 122 responded and returned the questionnaires on time. The number is more than the study targeted sample size by 14 respondents. The research believed that the completed questionnaires were adequate to address the study objective.

4.3 Demographic profile of Respondents

The researcher attempted to study the personal data of demographic information to characterize the sample and to provide reader with better understanding of the results. The demographic study looks at the background data of the respondent which includes their gender, age group, educational level, the type of property, type of handover and year of handover.

Table 4.1 Demographic profile

No	Factors (Variables)	Categories/ Characteristics	f	%
1	Gender	Male	88	72.1
		Female	34	27.9
2	Age of Respondents	25 - 35	26	21.3
		36 - 45	70	57.4
		46 - 55	19	15.6
		Above 56 year	7	5.7
3	Education level	Diploma	4	3.3
		Bachelor's Degree	77	63.1
		Master's Degree	41	33.6
4	Type of Property	Residential	111	91.0
		Commercial	11	9.0
5	Year of Handover	Less than 2 years ago	13	10.7
		2 to 3 years ago	60	49.2
		3 to 4 year ago	39	32.0
		4 to 5 year ago	10	8.2

Source: Survey data, 2026

As shown in table 4.1 above, concerning gender distribution of respondents, 72.1% of total respondents were male and 27.9% were female, which means male respondent is higher than Female respondent by 54 respondents or 44.2 percentage point's difference. This data indicate predominance of male participation in property ownership and real estate investment within the study.

According to the age of respondents, as shown in the table 4.1 above, the majority of respondent fell under the age group of 36 up to 45 which is 57.4%, followed by the 25 up to 35 age group at 21.3%. The respondent age group of 46 up to 55 was 15.6% while above 56 year age accounted for 5.7%. The most respondent were within economically active age group, reflecting that they are likely involved with property acquisition and decision making process.

Concerning educational level, as shown in table 4.1 above, 63.1% of total respondents hold a Bachelor's degree and 33.6% hold a Master's Degree while only 3.3 % hold a diploma qualification. This high level of educational qualification indicate that respondents are capable

of understanding the contractual, technical and financial aspects of project closure and handover process of their property.

According to the type of property owned by respondents as shown in the table 4.1 above, the majority of respondents owned residential properties (91%) while 9 % owned commercial properties. This indicate that the study finding primarily reflect client satisfaction in residential real estate owners, as residential properties predominate from of property delivery in the study area.

As shown in table 4.1 above, concerning the type of property handover received by respondents, 78.7% of the total respondent received a fully finished properties while 21.3% received semi-finished units. This indicates that the study predominately on fully finished handover properties.

Concerning the period in which respondents received their properties as shown in table 4.1 above, a higher number of respondent (49.2%) received their property from 2 to 3 years prior to the survey whereas 32 % of respondent received their property 3 to 4 years ago. A smaller number of respondents received their property less than 2 years ago (10.7%) or between four and five years ago (8.2%). This shows that most of the respondents have recent handover experience to evaluate project closure practices and overall satisfaction.

4.4 Descriptive Statistics

The descriptive statistics for the variables studied are presented below. The variables explained in this section are technical closure, contract and financial closure, communication and handover management, post-handover support and client satisfaction. Mean and standard deviation is used, with different scale to interpret the value. A mean value between 1.00 to 1.80 is interpreted as Strongly Disagree, 1.81 to 2.60 as Disagree. 2.61 to 3.40 as neutral. 3.41 to 4.20 as Agree and 4.20 to 5.00 as strongly Agree (Sözen & Güven, 2019).

Technical Closure

Table 4.2 Descriptive Statistics for Technical Closure

	N	Mean	SD
The completed property meets the design specifications promised at the time of purchase agreement	122	3.30	.987
The functional aspects of the property (utilities, finishes, and layout) meet my expectations	122	3.16	1.004

Final inspections were conducted before the property was handed over to me.	122	2.94	1.145
The quality of the completed work is consistent with what was agreed in the contract.	122	3.16	1.055
Technical Closure Grand mean	122	3.14	.89650

Source: Survey data, 2026

Table 4.2 shows the response for technical closure practices (Grand Mean=3.14, SD=0.8965) is average. This reflect that, the respondents were neither in agreement nor disagreement with the technical closure practices of the real estate. This suggest that clients experience are mixed and inconsistency in implementation of inspection procedures, quality confirmation and handover procedures across projects.

Contract and Financial Closure

Table 4.3 Descriptive Statistics for Contract and Financial Closure

	N	Mean	SD
Final payments and financial matters were clearly explained during project completion	122	3.30	1.010
I received all necessary contractual and ownership documents upon handover	122	3.17	1.089
Any financial claims or variations were resolved transparently	122	3.16	.991
The developer fulfilled all contractual obligations before final handover	122	3.01	1.087
Contract and Financial Closure Grand mean	122	3.16	.84920

Source: Survey data, 2026

According to table 4.3, the response for contract and financial closure practices (Grand Mean=3.16, SD=0.84920) is neutral. Generally, the respondent perceived it as moderate. This suggest that, the respondent's experiences regarding payment clarification, documentation handover, resolution of financial variations and fulfillment of contractual obligations are mixed.

Communication and Handover Management

Table 4.4 Descriptive Statistics for Communication and Handover Management

	N	Mean	SD
The handover process was clearly communicated to me in advance.	122	2.93	1.126
My questions and concerns were addressed promptly during project completion.	122	2.92	1.057
The handover process was well organized and easy to understand.	122	3.00	1.044
I received adequate guidance on using and maintaining the property	122	3.03	1.052
Communication and Handover Management Grand mean	122	2.97	.96648

Source: Survey data, 2026

Table 4.4 illustrate the response for communication and handover management practices (Grand Mean=2.97, SD=0.97) is neutral. These findings indicate that communication and handover management processes were perceived as average. Since the mean value is at the lower end of neutral range, it indicates that clients were uncertain about the clarity, organization, effectiveness of communication during the handover process.

Post-Handover Support

Table 4.5 Descriptive Statistics for Post-handover Support

	N	Mean	SD
The developer responded promptly to defects reported after handover	122	2.91	.945
Identified defects were rectified within a reasonable timeframe.	122	2.70	.970
The developer showed willingness to address post-handover issues	122	2.78	.949
I feel supported by the developer even after the project was completed.	122	2.66	.976
Post-handover support Grand mean	122	2.76	.84419

Source: Survey data, 2026

As shown on table 4.5, the response to post-handover support practices (Grand Mean=2.76, SD=0.84) falls within the neutral category. However the relatively lower position within the neutral range suggest that post-handover support is one of the weaker aspects of project completion. Mean score for responsiveness to defects, timeliness of rectification, willingness

to address issues and ongoing support is close to disagree boundary. The respondents expressed limited confidence in the developer's post-handover responsiveness and support.

Client satisfaction

Table 4.6 Descriptive Statistics for Client satisfaction

	N	Mean	SD
Overall, I am satisfied with the real estate project delivered to me	122	3.12	1.049
The project outcome met my overall expectations	122	3.08	1.057
I feel positive about my experience with this real estate project	122	3.09	1.076
I am satisfied with the quality of workmanship of the completed property.	122	3.16	1.078
The materials and finishes used meet my expectations.	122	3.11	.969
The completed building performs well in terms of functionality and comfort.	122	3.10	1.056
I am satisfied with the time taken to complete and hand over the project	122	2.73	1.143
The project was delivered within the timeframe promised by the developer	122	2.70	1.126
I believe the property provides good value for the money paid	122	3.22	1.110
The final cost of the property was reasonable in relation to its quality	122	3.27	.971
I would recommend this real estate developer to others.	122	3.06	1.055
I would consider purchasing another property from this developer in the future	122	2.84	1.045
I trust this developer based on my overall experience with the project	122	2.85	1.001
Client satisfaction Grand mean	122	3.03	.86582

Source: Survey data, 2026

As shown in Table 4.6, the response to client satisfaction (Grand Mean=3.03, SD=0.86582) falls within the neutral category. This suggest that client neither clearly express agreement nor disagreement with the completed projects. Items that are workmanship quality, value for money and final cost shows higher neutral ratings, indicating moderate approval for tangible project outcomes. In contrary, project completion time, adherence to promised schedules,

future purchase intention and trust in the developer shows lower score, reflecting uncertainty and weaker confidence in relational and time related aspects of project delivery.

4.5 The relationship between Project Closure Effectiveness and Client Satisfaction

For this research correlation was performed to examine the existence of relationship between project closure dimensions (technical closure, contract and financial closure, communication and handover management & post-handover support) and client satisfaction. The relationship is expressed in the figure as a range from -1.00 to +1.00. The Pearson correlation coefficients interpret a positive sign as positive correlation while negative sign to as negative correlation.

Table 4.7 Analysis of Relationships (Correlation analysis) result

Correlations					
	TC	CFC	CHM	PHS	CS
CFC	.773**	--			
CHM	.665**	.682**	--		
PHS	.587**	.565**	.687**	--	
CS	.769**	.745**	.762**	.754**	--
**. Correlation is significant at the 0.01 level (2-tailed)					

Source: Survey data, 2026

Table 4.7 shows that the correlation (r = 0.769, p=0.000) between technical closure and client satisfaction statistically significant and positive relationship. There is statistically significant and positive correlations between contract and financial closure and client satisfaction (r = 0.745, p=0.000). The relationship between communication and handover management and client satisfaction is statistically significant and positive (r = 0.762, p=0.000). There is statistically significant and positive correlations between post-handover support and client satisfaction (r = 0.754 and p=0.000).

Overall, all the project closure practices have statistically significant and positive relationships with client satisfaction. All p-values are 0.000, meaning the relationship are highly statistically significant and effective project closure practices is vital. Given these result, the effect project closure practices and client satisfaction is to be tested in the following section using regression analysis.

4.6 The Effect of Project Closure Effectiveness on Client Satisfaction

A multiple regression analysis was used to determine the effect the variables that was identified by correlation analysis. To examine the cause and effect relationship between project closure practices and client satisfaction a multiple regression model was used. The regression analysis tested for the existence of significant effect of project closures practices on client satisfaction using SPSS version 26.

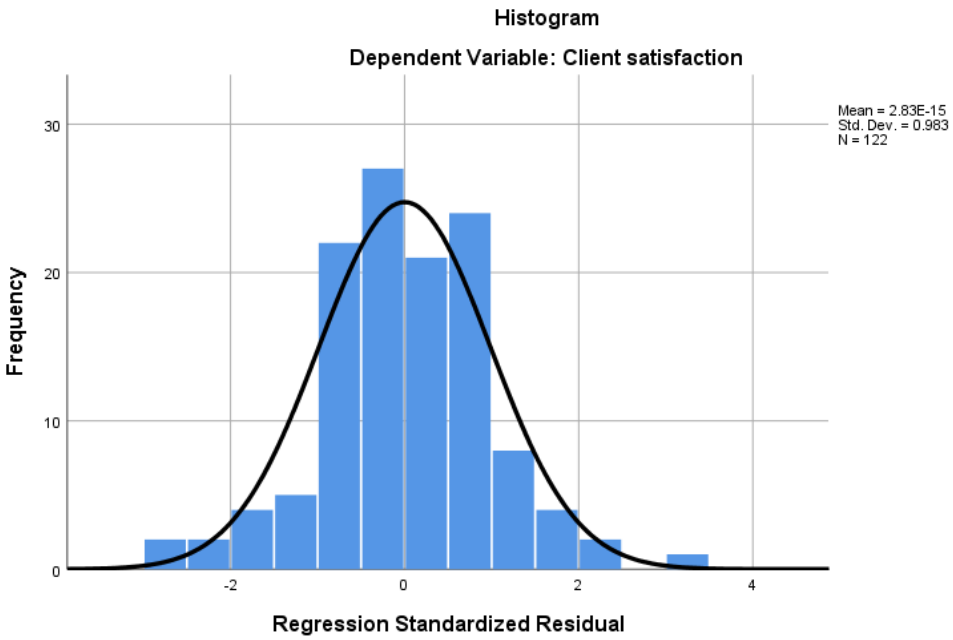
4.6.1 Assumptions and Tests

For regression analysis to be valid, normality and linear assumptions must be properly established during analysis. This section discussed these assumptions in detail.

Normality Test

The normality assumption in regression tell that the error term or residual (ε) in the model follows a normal distribution. Satisfying this normality assumption is important for performing a valid hypothesis testing and accurate estimation of coefficients. The histogram and Shapiro-Wilk test method were used in the study.

Figure 4.1 Histogram



Source: Survey data, 2026

In figure 4.1, the histogram of the regression standardized residuals shows a bell- shaped distribution that centered around zero. Most of the data are distributed between -2 and 2. Therefore, the histogram provides visual evidence that the normality assumption is validated.

Table 4.8 Normality test

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Client Satisfaction	.071	122	.197	.984	122	.171
a. Lilliefors Significance Correction						

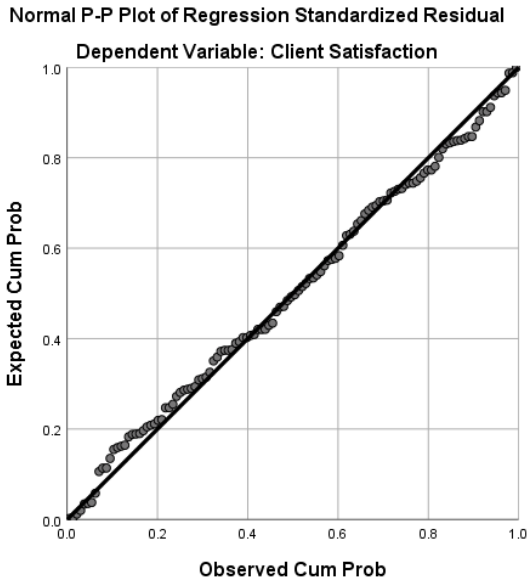
Source: Survey data, 2026

As Table 4.8 indicate that Shapiro- Wilk p-value equals to 0.171 which is above 0.05. This indicates that sample residuals are normally distributed. The assumption for the regression test has been fulfilled. The dependent variable (client satisfaction) shows a normal distribution for each value of independent variable that is project closure practices.

Linearity Test

The linearity assumption shows that the predictor variables (project closure) and the outcome variable (client satisfaction) share a linear relationship between them. This linearity is explained by through visual inspection of the Normal P-P plot of regression standard residual.

Figure 4.2 Normal P-P plot



Source: Survey data, 2026

In figure 4.2 observed that the absence of curve or clustered pattern in the residual suggests a linear relationship between project closure practice dimensions and client satisfaction. The

residuals are randomly distributed and closely aligned with the expected normal line, therefore the assumption of linearity is considered to be satisfied.

The linearity test is used to determine how consistently client satisfaction (dependent variable) varies with change in the project closure dimensions (technical closure, contract and financial closure, communication and handover management & post-handover support). Regression residuals were plotted with SPSS software by the researcher to check whether client satisfaction and the independent variables follow linear relationship.

Multi Collinearity Test

Table 4.9 Multi collinearity test

		Tolerance	VIF
	Technical Closure	.357	2.802
	Contract and Financial Closure	.352	2.844
	Communication and Handover Management	.387	2.582
	Post-Handover support	.496	2.016
a. Dependent Variable: Client Satisfaction			

Source: Survey data, 2026

A collinearity diagnostic test was carried out to determine the level of multi collinearity of the independent variables. As table 4.9 illustrate the tolerance value for all the variables are between 0.352 and 0.496, which is higher than 0.2, The VIF values of the variables are less than 10. The findings demonstrate that the absence of multi collinearity issues among variables.

4.6.2 Regression Analysis

Model Summary

Table 4.10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880a	.774	.766	0.41845
a. Predictors: (Constant), TC, CFC, CHM, PHS, CS				
b. Dependent Variable: Client Satisfaction				

Source: Survey data, 2026

The model summary result shows a strong and positive relationship between project closure practices and client satisfaction with an R value of 0.880. The R square value 0.774 indicate that the cumulative effect of these variables accounted for around 77.4% of the difference in client satisfaction. This means that client satisfaction in project is determined by the practices of project closure.

Adjusted R square account for the number of predictor in the model providing a better measurement of goodness of fit for models with multiple predictors. The adjusted R-squared value indicate that after adjusting for a number of various predictor variables used 76.6% of the variance in client satisfaction is explained. This small difference between R square and adjusted R square values shows that the model is stable and does not include unnecessary variable.

Overall, the model demonstrate a strong explanatory power and is considered statistically reliable. This indicate that effective implementation of technical closure, contract and financial closure, communication and handover management and post-handover support is significantly contribute for improving client satisfaction.

ANOVA summary interpretation

Table 4.11 ANOVA table

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	70.221	4	17.555	100.258	.000b
	Residual	20.487	117	175		
	Total	90.707	121			
a. Dependent Variable: CS						
b. Predictors: (Constant), TC, CFC, CHM, PHS						

Source: Survey data, 2026

The finding in the ANOVA table represents that the model which uses technical closure, contract and financial closure, communication and handover management and post-handover support as predictor variables is statistically significant for explaining client satisfaction. The p – value 0.000 is less than 0.05, indicate the model is statically significant. Therefore the regression model provides a good fit for the study.

Regression sum of square 70.221 represents the variation explained by the model and residual sum of squares 20.487 represent the unexplained variation. This suggest that a large portion of the total variation 90.707 in client satisfaction is explained by the model. This indicate the model has strong explanatory and is appropriate for predicting client satisfaction based on project closure.

4.6.3 Regression Coefficient/ Coefficient Matrix

Parameter estimation and interpretation

After conduction assumption test, parameter estimation and interpretation was done to test the direct effect of project closures dimensions on client satisfaction. The results, interpretation and discussion are presented below.

Table 4.12 Regression Result showing the Effect of Project Closure Practices on Client Satisfaction

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
	(Constant)	.037	.158		.236	.814	-.275	.350
	Technical Closure	.273	.071	.283	3.844	.000	.132	.414
	Contract and Financial Closure	.197	.076	.193	2.611	.010	.048	.347
	Communication and Handover Management	.192	.063	.214	3.028	.003	.066	.317
	Post-Handover support	.340	.064	.332	5.315	.000	.213	.467

a. Dependent Variable: Client satisfaction

Source: Survey data, 2026

The Effect of Technical Closure on Client Satisfaction

As table 4.12 show, the effect of technical closure on client satisfaction is statistically significant ($p<0.05$ and there is no zero value between the lower confidence interval and upper

confidence interval), and positive (β= .283). This reflect that the more technical closure is implemented in the real estate project, the better the client satisfaction will be. Therefore, the hypothesis 1 that was proposed as "*The Effect of Technical Closure on Client Satisfaction is statistically significant and positive*" is supported.

This finding is consistent with the literature review, in private real estate, where client have direct experience with the quality of finish, building service and functional performance, technical closure that ensure the specifications and quality standards increase client satisfaction (Atkinson, 1999: Love et al., 2012. The study in Finland shows that technical quality explained 47% of the variance in client satisfaction (Kärnä, 2004). Similarly the study conducted across multiple countries reported a significant positive relationship between technical quality of completed delivery and client satisfaction (β= 0.283, p=0.000) (Hussain et al., 2019). The result also confirms the claims of Toor and Ogunlana (2010) who demonstrated that when final deliverables meet or exceed agreed standards, client report significantly higher satisfaction level even when minor schedule change occur. Overall, the result empirically validates that technical closure is not just a theoretical construct but a practical driver of client satisfaction in real estate.

The Effect of Contract and Financial Closure on Client Satisfaction

As table 4.12 illustrates, the effect of contract and financial closure on client satisfaction is statistically significant (p<0.010 and there is no zero value between the lower confidence interval and upper confidence interval), and positive (β= .193). This indicate that the more contract and financial closure is implemented in the real estate project, the better the client satisfaction will be. Therefore, the hypothesis 2 that was proposed as "*The Effect of Contract and Financial Closure on Client Satisfaction is statistically significant and positive*" is supported.

The finding goes in line with prior literature, procedural fairness and financial transparency during project completion had significant positive effect on customer satisfaction ((β= 0.52, p=0.010) (Williams, et al., 2015). Additionally, Turner and Zolin (2012) stated that regardless of technical performance, unresolved claims and delayed final payment experience lead to lower satisfaction. Similarly, the study in Nigerian construction projects found that transparent of contract closeout and dispute resolution were among the strongest predictors of client satisfaction (Ayegun, et al, 2018). And also the delay in final certification and pavement

process negatively influence client perception of reliability and trustworthiness (Azhan et al, 2023). The obtained outcome confirm the essential of effective closure contractual and financial enhance client satisfaction.

The Effect of Communication and Handover Management on Client Satisfaction

Table 4.12 indicates that the effect of communication and handover management practices on client satisfaction is statistically significant ($p<0.003$ and there is no zero value between the lower confidence interval and upper confidence interval), and positive ($\beta= .214$). This shows that the more communication and handover management is implemented in the real estate project, the better the client satisfaction will be. Therefore, the hypothesis 3 that was proposed as "*The Effect of Communication and Handover Management on Client Satisfaction is statistically significant and positive*" is supported.

Empirical review supports the result, Degmann et al (2017) reported that communication quality during handover significantly influenced customer satisfaction ($\beta= 0.58$, $p=0.010$). Additionally, Forsythe (2016) found that communication quality at handover explained over 40% of post occupancy satisfaction, it emphasized the client's perception are strongly shaped during the closure stage. Structured and improved handover communication significantly reduced disputes and increase client satisfaction level (Lee et al. 2021). Similarly, the study in construction projects across sub-Saharan Africa, illustrate that poor communication, inadequate documentation and limited client involvement during handover as a major sources of dissatisfaction (Oke, et al, 2016). Overall, the result empirically validates that communication and handover management is not just a theoretical construct but a practical driver of client satisfaction in real estate.

The Effect of Post-Handover Support on Client Satisfaction

Table 4.12 shows that the effect of post-handover support practices on client satisfaction is statistically significant ($p<0.000$ and there is no zero value between the lower confidence interval and upper confidence interval), and positive ($\beta= .332$). This indicate that the more post-handover support practice is implemented in the real estate project, the better the client satisfaction will be. Therefore, the hypothesis 4 that was proposed as "*The Effect of Post-Handover Support on Client Satisfaction is statistically significant and positive*" is supported.

This finding is consistent with the literature review, Meng (2019) reported that post project service quality had a statistically significant and positive effect on client satisfaction (β= 0.63, p=0.001). Williams et al. (2015) also found that satisfaction level continue to evolve after project completion and are significantly influenced by how post-handover issues are managed. Another study by Egemen (2022) underlined that structured post-occupancy evaluation serves as both a performance assessment and a relationship management tool that improve satisfaction and trust. Similarly, the study in Ghanaian construction project reported that lack of formal post project evaluation mechanisms significantly reduced client satisfaction (Kissi et al., 2019). In Ethiopia building project context study revealed that unresolved defects and weak post construction follow-up are key contributors to dissatisfaction (Damtew et al., 2023). The obtained outcome confirm the essential of effective post-handover support enhance client satisfaction

Regression Model

Based on the regression analysis the revised regression model equation has been adjusted as follows:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \boldsymbol{\varepsilon}$

Where

Y= Client Satisfaction

X_1 = Technical Closure

X_2 = Contract & Financial Closure

X_3 = Communication & Handover

X_4 = Post-Handover support

β_0 = Constant of the model, where β_1, β_2, β_3, β_4 are coefficient of independent variables

$\boldsymbol{\varepsilon}$ = error or other unknown factors

$$\mathbf{Y = .037 + .283\ X_1 + .193\ X_2 + 0.214\ X_3 + .332 + X_4 + \varepsilon}$$

4.6.3 Summary of Hypothesis

Table 4.13 Summary of Hypothesis

Hypothesis	**Result**	**Decision**
H1: The Effect of Technical Closure on Client Satisfaction is statistically significant and positive.	Significant (p= .000), Positive (β= .283)	Hypothesis supported
H2: The Effect of Contract and Financial Closure on Client Satisfaction is statistically significant and positive.	Significant (p= .010), Positive (β= .193)	Hypothesis supported
H3: The Effect of Communication and Handover Management on Client Satisfaction is statistically significant and positive.	Significant (p= .003), Positive (β= .214)	Hypothesis supported
H4: The Effect of Post-Handover Support on Client Satisfaction is statistically significant and positive.	Significant (p= .000), Positive (β= .332)	Hypothesis supported

Source: Survey data, 2026

CHAPTER FIVE

SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents a summary of the findings, conclusions, and some relevant suggestions to practice, with the research's major contributions, as well as for future researchers.

5.2 Summary of findings

The goal of this study was to investigate the effect of project closure practice on client satisfaction in real estate project. Questionnaires (Survey instrument) were chosen and structured from available literature to measure the research variables based on the study aims and assumptions. A total of 122 valid questionnaires were collected and analyzed. The raw data was analyzed using the Statistics Package for Social Science Version 26. The variables were tested using regression analysis. Reliability, Correlation analysis and Testing Assumption of linear Regression Model were performed before regression analysis. In terms of dependability, the findings revealed that all of the measures utilized in this study had an acceptable of reliability. Figures and tables were used to interpret the outcome. The findings drawn from the study are summarized and presented below.

The demographic result show that majority of the respondent were male (72.1%), implying that male participation in property ownership and real estate investment is higher than female. Among the total respondent more than half of the total responses are between the age of 36 and 45, followed by the age between 25 and 35 at 21.3%, reflecting most respondent were within economically active age group. And higher number of respondent (96.7%) possessed at least a bachelor’s degree which imply that they have the capacity to understand project handover process. Most respondents are residential buyers/ owners (91%), primarily fully finished properties (78.7%), with handover period of from two to four years ago (81.2%).

Descriptive analysis indicate that client perceptions of all project closure practices dimensions were generally lies on average, with grand mean value ranging from 2.76 to 3.16. Technical closure recorded (Grand Mean=3.14, SD=0.89), showing moderate agreeableness with compliance to design specification, functional performance and quality consistency. Contract

and financial closure recorded (Grand Mean=3.16, SD=0.85), reflecting neutral perceptions regarding transparency, documentation and fulfillment of contractual obligations. Communication and handover management scored (Grand Mean=2.97, SD=0.96), highlights weakness in advance communication, organization of handover and client guidance). Post-handover support scored (Grand Mean=2.76, SD=0.84), indicating weaker client perception comparing to other dimensions regarding with defect response, timeline to repair or correct and continued developer support after project completion.

The descriptive analysis for client satisfaction also recorded moderate (Grand Mean=3.03, SD=0.86), representing moderate agreement with workmanship quality, value for money and functional performance and lower agreement regarding on project delivery timelines, trust in developers and intention to repurchase again.

Inferential analysis of multiple regression finding show that project closure practices dimensions have a statistically significant and positive effect on client satisfaction. The model explained 77.4% ($R^2 = 0.774$) of the variance in client satisfaction. This indicate the high explanatory power of the model. The ANOVA result is also supported the regression model with statistically significant ($F=100.258$, $p < 0.001$).

All four hypotheses were supported. Technical closure ($\beta= .283$, $p<0.05$), contract and financial closure ($\beta= .193$, $p<0.010$), communication and handover management ($\beta= .214$, $p<0.003$) and post-handover support ($\beta= .332$, $p<0.001$) are statistically significant and have a positive effect on client satisfaction. Among the independent variables, post-handover support has the strongest contributor, followed by technical closure, communication and handover management and contract and financial closure.

5.3 Conclusion

From the finding of the study, it can be concluded that project closure practices play a crucial role in shaping client satisfaction in private real estate development. Although the overall satisfaction and closure performance were rated as neutral or average, the statistical result clearly demonstrate that improvement in implementation of project closure practices can significantly enhance satisfaction of clients.

The strong explanatory power of the regression model confirm that client satisfaction not only determined by the physical completion of project but also significantly influenced by how projects are formally closed, communicated , documented and support after handover. Among

project closure dimensions, post-handover support and technical closure were showed as the most influential factors, indicating the importance of defect management, quality verification and continued developer engagement beyond project completion.

The research also affirm that client satisfaction is a multidimensional outcome formed through expectation confirmation, transparency and trust building process during the final stage of project lifecycle. Therefore, developer need to treat project closure not merely as an administrative formality but also as a structured client centered process in order to achieve sustainable business and project success.

5.4 Implication of the study

Theoretical implications

This study provides theoretical contributions through an extension of Stakeholder Theory to cover the concept of project closure in the context of private real estate developments. The finding indicate that, client satisfaction appears to be highly dependent on the manner in which the interests of the clients are managed during the process of closure via technical completion, financial settlement, communication and handover, and post-handover support. These results suggest that closure should be seen as a key stage for stakeholders' evaluation of project success and not merely as a terminal administrative phase.

In addition, the findings provide empirical support to Expectancy Disconfirmation Theory by showing that the level of satisfaction during closure activities depends on whether there is agreement between clients' expectations and actual performance during closure. If the closure activities are conducted effectively, clients are satisfied otherwise neutral or lower levels of satisfaction are likely to arise. The study enhances theoretical clarity on how closure activities translate into satisfaction outcomes in construction projects by empirically linking structured project closure practices to client satisfaction,

Methodological implications

The study highlights the usefulness of utilizing quantitative multivariate tools for analyzing practices of project closure. With the help of multiple regression analysis, it is possible to gain knowledge about the specific effect that each domain of project closure practices has on the level of client satisfaction. Additionally, reporting information on standardized coefficients

(beta), confidence intervals, and explained variance enhances the potential of replicating the research in other settings in developing countries.

Practical implications

The results of this study have implications for real estate developers to prioritize and implement efficient strategies for providing structured post-handover support services in terms of defect correction, warranty management and client feedback channels. Furthermore, improving technical inspections, ensuring transparent financial settlement, and facilitating client-organization communication during handover activities can positively influence the clients' trust, satisfaction, and corporate image. In turn, such effective practices of project closure will be reflected positively in terms of minimizing disputes, generating referrals, and stimulating further purchase.

Managerial implications

The findings of this study provide several actionable implications for managers of private real estate development projects. First, project managers should recognize project closure as a strategic phase that directly influences client satisfaction, trust, and future business outcomes, rather than treating it as a routine administrative task. Managers should therefore allocate sufficient time, resources, and skilled personnel to manage closure activities effectively.

Secondly, it is evident that providing post-handover services helps improve client satisfaction levels. Therefore, managers must develop mechanisms for defect reporting and resolving as well as warranty processing following the handover of the project. Clearly defined accountability regarding post-handover services will help build client trust.

Thirdly, better communications and effective handover process require providing clients with detailed information about project, handing over relevant documents, explaining building systems, and communicating on regular basis after project handover. Effective communication ensures that expectations of clients coincide with project outcomes thus reducing the level of disappointment.

Finally, the importance of proper handling of financial issues cannot be ignored. Thus, managers must properly address payment and financial matters related to the project. Financial settlements must be provided timely and thoroughly discussed with the client.

Overall, implementation of efficient and properly organized project closure procedures allows managers increase client satisfaction, prevent post-project conflicts, and create a good image among clients.

5.5 Recommendation

Based on the finding of the study, the research proposed recommendation for the future as follows:

It will be necessary for the developers to establish effective systems for handling defects reported after the handover process to create trust among their clients. This means that there must be systems put in place for reporting and repairing any defect within the project. In addition, the developers need to improve the technical closure process by conducting detailed inspections and quality checks before handing over the property. This should be done to guarantee that what has been produced meets the clients' demands and expectations. Communication and handover processes during project closure should also be improved. The developers should put in place systems for enhancing effective communication between themselves and their clients during project closure. Furthermore, transparency in contract and financial closure is essential for improving client satisfaction. Developers should provide clear explanations of final payments, resolve financial claims in a timely and transparent manner, and ensure prompt delivery of ownership documents and other contractual records

Future studies may adopt longitudinal designs to examine how client satisfaction change over time after handovers and may use mixed approach to gain deeper understanding of client’s perceptions and experience beyond quantitative measurement. Including additional variables like project duration, cost overruns, suitability and client involvement may expand client satisfaction model. Furthermore, in order to increase generalizability, future studies in other construction sector are advisable.

Reference

Atkinson, R. (1999). Project management: Cost, time and quality, two best guesses and a phenomenon, it's time to accept other success criteria. International Journal of Project Management, 17(6), 337–342. https://doi.org/10.1016/S0263-7863 (98)00069-6

Ayegun, O. A., Abiola-Falemu, J. O., & Olawumi, T. O. (2018). Assessment of clients' perception and satisfaction with project quality delivery in Nigeria. *International Journal of Civil Engineering and Technology (IJCIET), 9*(9), 1393–1404. DOI:10.6084/m9.figshare.19726483

Azhan, N. A., Salleh M. F, & Mohamad, M. M, (2023). Implications of project delaying in community building construction towards client satisfaction. *Online Journal for TVET Practitioners, 8*(3), DOI:10.30880/ojtp.2023.08.03.013

Aziz, E. E. (2015). Project closing: The small process group with big impact. *PMI® Global Congress Proceedings*, London.

Bryman, A. (2016). Social research methods (International Edition.). Oxford University Press.

Cohen, L., Manion, L., & Morrison, K. (2013). Research methods in education (7th ed). Taylor and Francis

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4. ed). SAGE.

Davis, K. (2014). Different stakeholder groups and their perceptions of project success. *International Journal of Project Management, 32*(2), 189–201. https://doi.org/10.1016/j.ijproman.2013.02.006

Damtew, M., & Enday, D. (2019). Assessment of building construction defect causes: A case study in North Shoa Zone. *Ethiopian Journal of Civil Engineering, 5*(1), 1–11. DOI:10.5897/JCECT2019.0498

Egemen, M. (2022). Building construction clients' design consultant and contractor selection criteria versus post-occupancy satisfaction level. *Journal of Building Performance, 13*(1), 18–29. DOI:10.1177/21582440221089968

Field, A. (2018). Discovering Statistics Using IBM SPSS Statistics. SAGE Publications.

Forcada, N., Macarulla, M., Gangolells, M., & Casals, M. (2016). Assessment of construction defects in residential buildings in Spain. *Building Research & Information*, *42*(5), 629–640. https://doi.org/10.1080/09613218.2014.922266

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.

Gebrehiwet, T. and Luo, H. (2017) Analysis of Delay Impact on Construction Project Based on RII and Correlation Coefficient: Empirical Study. Procedia Engineering, 196, 366-374. https://doi.org/10.1016/j.proeng.2017.07.212

Hussain, S., Zhu, F., & Ali, Z. (2019). Examining Influence of Construction Projects' Quality Factors on Client Satisfaction Using Partial Least Squares Structural Equation Modeling. *Journal of Construction Engineering and Management, 145(5)*. https://doi.org/10.1061/(ASCE)CO.1943-7862.0001655

Kärnä, S. (2004). Analysing customer satisfaction and quality in construction – The case of public and private customers. *Nordic Journal of Surveying and Real Estate Research*

Kerzner, H. (2022). Project Managements: *A Systems Approach to Planning, Scheduling, and Controlling* (13th ed.). John Wiley & Sons Publication, Inc.

Kissi, E., Agyekum, K., Baiden, B., Tannor, R., Asamoah, G., & Andam, E. (2019). Impact of project monitoring and evaluation practices on construction project success criteria in Ghana. *Built Environment Project and Asset Management, 9*(1), 64–76. DOI: 10.1108/BEPAM-11-2018-0135

Lee, W.-Y., Hsiao, C.-T., & Chang, Y. (2021). *Development of the RACI model for process of closure phase in construction programs*

Lim, C. S., & Mohamed, M. Z. (1999). Criteria of project success: An exploratory re-examination. *International Journal of Project Management, 17*(4), 243–248. https://doi.org/10.1016/S0263-7863(98)00040-4

Love, P.E., Edwards, D.J. and Irani, Z. (2012) Moving beyond Optimism Bias and Strategic Misrepresentation: An Explanation for Social Infrastructure Project Cost Overruns. IEEE Transactions on Engineering Management, 59, 560-571. https://doi.org/10.1109/TEM.2011.2163628.

Meng, X. (2019). The effect of relationship management on project performance in construction. *International Journal of Project Management, 37*(2), 220–231. DOI:10.1016/j.ijproman.2011.04.002

MOU (Ministry of Urban Development and Construction, 2017).

Oke, A. E., Olatunji, S. O., & Ajulo, O. (2016). Factor affecting construction project handover and feedback mechanism. *Joint International Conference At: Federal University of Technology Akure, Nigeria*

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research, 17*(4), 460–469 https://doi.org/10.2307/3150499

Project Management Institute (PMI). (2021). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* (7th ed.).

Sözen, E., & Güven, U. (2019). The effect of online assessments on students' attitudes towards undergraduate-level geography courses. International Education Studies, 12(10),1. https://doi.org/10.5539/ies.v12n10p1

Shenhar, A. J., & Dvir, D. (2007). Reinventing project management: The diamond approach to successful growth and innovation. *Journal of product innovation management 25(6):635-637* DOI:10.1111/j.1540-5885.2008.00327_2.x

Tavakol, M., & Dennick, R. (2011). Making Sense of Cronbach's Alpha. International Journal of Medical Education, 2, 53-55

Toor, S.-U.-R. & Ogunlana, S.O. (2010) Beyond the "Iron Triangle": Stakeholder Perception of Key Performance Indicators (KPIs) for Large-Scale Public Sector Development Projects. International Journal of Project Management, 28, 228-236. http://dx.doi.org/10.1016/j.ijproman.2009.05.005

Turner, J. R. (2014). *The handbook of project-based management* (4th ed.). McGraw-Hill.

Turner, R. & Zolin, R. (2012) Forecasting Success on Large Projects Developing Reliable Scales to Predict Multiple Perspectives by Multiple Stakeholders over Multiple Time Frames. Project Management Journal, 43, 87-99

Williams, P., Ashill, N. J., Naumann, E., & Jackson, E. (2015). Relationship quality and satisfaction: Customer-perceived success factors for on-time projects. *International Journal of Project Management*, DOI:10.1016/j.ijproman.2015.07.009

World Bank. (2015). *Ethiopia urbanization review*. Washington, DC: World Bank Group.

Zewdu, Z. T., & Aregaw, G. T. (2015). Causes of Contractor Cost Overrun in Construction Projects: The Case of Ethiopian Construction. International Journal of Construction Management, 4(4), 180–191. https://doi.org/10.11648/j.ijber.20150404.11

Zidane, Y. J.-T., & Andersen, B. (2018). The top 10 universal delay factors in construction projects. *International Journal of Managing Projects in Business, 11*(3), 650–672. https://doi.org/10.1108/IJMPB-05-2017-0052

Appendix

Questionnaire

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

PROJECT MANAGEMENT PROGRAM

Dear Participants

This questionnaire is part of research thesis carried out for the partial fulfillment of requirements for MA in Project Management at Addis Ababa University, School of Commerce, and Department of Project Management. The main purpose of this questionnaire is to collect data that will be used for research work titled "**The Effect of Project Closure Effectiveness on Client Satisfaction in Real Estate Projects in Addis Ababa**". Your participation in this study will be valuable and greatly appreciated.

It should be noted that participation in this project is voluntary, and all responses will be treated with strict confidentiality and used solely for academic research purposes. This questionnaire will take approximately 10 to 15 minutes. Your honest and accurate as possible responses are highly valuable and will contribute significantly to improving knowledge and practices in construction project management. I value the time that you will spend filling this survey.

If you have any question or concerns, please feel free to contact me via the following Email address: saron4all@gmail.com

Thank you in advance for your cooperation

Yours Sincerely

Saron Tesfaye

Section A- Demographic and Background information

Please put "X" on the appropriate option

Real Estate Company (optional): _____

Personal Detail		Response
1. Gender		
	Male	
	Female	
2. Age		
	25-35 year	
	36-45 year	
	46-55 year	
	Above 56 year	
3. Highest Educational Qualification		
	Diploma	
	Bachelor's Degree	
	Master's degree	
	PhD or Doctoral Degree	
4. Type of Property		
	Residential	
	Commercial	
5. Type of Handover		
	Semi-finished	
	Fully finished	
	Fully furnished	
6. Year of Handover		
	Less than 2 years ago	
	2 - 3 years	
	3 - 4 years	
	4 - 5 years	

Section B: Project Closure Practices

The following items related to your experience with the Project Closure Practices in real estate projects. Please read through the lists in the table below and make "X" mark on your response to each statement according to the five point scale labeled. Please select only one response per item.

NB: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

	Section B	**1**	**2**	**3**	**4**	**5**
Technical Closure						
T1	The completed property meets the design specifications promised at the time of purchase agreement.					
T2	The functional aspects of the property (utilities, finishes, and layout) meet the technical requirements specified in contract					
T3	Final inspections were conducted before the property was handed over to me					
T4	The quality of the completed work is consistent with what was agreed in the contract.					
Contract and Financial Closure						
C1	Final payments and financial matters were clearly explained during project completion					
C2	I received all necessary contractual and ownership documents upon handover					
C3	Any financial claims or variations were resolved transparently					
C4	The developer fulfilled all contractual obligations before final handover					
Communication and Handover Management						
CH1	The handover process was clearly communicated to me in advance					
CH2	My questions and concerns were addressed promptly during project completion					

CH3	The handover process was well organized and easy to understand					
CH4	I received adequate guidance on operation and maintenance of the property					
Post-Project Evaluation and Defect Rectification						
P1	The developer responded promptly to defects reported after handover					
P2	Identified defects were rectified within a reasonable timeframe.					
P3	The developer showed willingness to address post-handover issues					
P4	I feel supported by the developer even after the project was completed.					

Section C: Client Satisfaction

The following items related to overall Satisfaction with the real estate project. Please read through the lists in the table below and make "X" mark on your response to each statement according to the five point scale labeled. Please select only one response per item

NB: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

	Section C	**1**	**2**	**3**	**4**	**5**
1	Overall, I am satisfied with the real estate project delivered to me					
2	The project outcome met my overall expectations as a client					
3	I feel positive about my experience with this real estate project.					
4	I am satisfied with the quality of workmanship of the completed property.					
5	The materials and finishes used meet my expectations.					

6	The completed building performs well in terms of functionality and comfort.					
7	I am satisfied with the time taken to complete and hand over the project.					
8	The project was delivered within the timeframe originally promised by the developer					
9	I believe the property provides good value for the money paid.					
10	The final cost of the property was reasonable in relation to its quality					
11	I would recommend this real estate developer to others.					
12	I would consider purchasing another property from this developer in the future.					
13	I trust this developer based on my overall experience with the project.					