Analysing Determinants of Effective Supplier Relationship Management in Construction Projects: The case of Ayat S.C.

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A Thesis Submitted to the Graduate Studies of the Addis Ababa University School of Commerce in Partial Fulfilment for the Requirements of the Degree of Masters of Arts in Logistics and Supply Chain Management

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June, 2026

Addis Ababa, Ethiopia

Statement of Declaration

I, the undersigned, declare that this study entitled **“**Analyzing Determinants of Effective Supplier Relationship Management in Construction Projects: The case of Ayat Share Company**”** is my own work. I have undertaken the research work independently with the guidance and support of my advisor. This study has not been submitted for any degree or postgraduate program in this or any other institutions and that all sources of materials used for this work have been duly acknowledged.

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Statement of Certification

This is to certify that the thesis prepared by Henos Desyibelh, entitled: **"**Analyzing Determinants of Effective Supplier Relationship Management in Construction Projects: The case of Ayat Share Company**"** and submitted in partial fulfillment of the requirements for the Degree of Master of Arts in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Acknowledgement

First and foremost, I am grateful to the Almighty God for granting me the divine wisdom, health, strength and perseverance to bring this rigorous academic endeavor to a successful fruition.

Second am strongly indebted to my beloved country Ethiopia, the main inspiration behind this work and the driving force behind my desire to make a meaningful contribution to the structural modernization and sustainable development of its construction and real estate sector.

I would like to express my sincere gratitude and professional respect to my honorable research advisor, Professor Matiwos Ensermu, for his tremendous intellectual guidance, constructive critiques and constant academic mentorship that guided this thesis through each and every complicated empirical and analytical phase.

And the other my deep appreciation goes to my wonderful family, for their unconditional love, constant prayers and great personal sacrifices that gave me the emotional stability and quiet haven I needed to study with focus.

Finally, am intensely pleased to my dedicated friends and corporate colleagues, whose intellectual company, technical advice during the data collection exercise, and perpetual words of encouragement made a naturally arduous academic journey a thoroughly rewarding and collaborative milestone.

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Abbreviations and Acronyms

- **CSRM:** Contractor Supplier Relationship Management
- **SRM:** Supplier Relationship Management
- **SCM:** Supply Chain Management
- **SCP:** Supply Chain Performance
- **PPPP:** Public Private Partnership Project
- **PPP:** Procurement and Property Proclamation
- **PP:** Project Performance/Public Procurement
- **PPA:** Public Procurement Agency
- **GCC:** General Condition of Contract
- **SCC:** Special Condition of Contract
- **SBD:** Standard Bid Document
- **CM:** Construction/Contract Management
- **CSCM:** Construction Supply Chain Management

- **CSCI:** Construction Supply Chain Integration
- **LSCM:** Logistics and Supply Chain Management
- **CLSCM:** Construction Logistics and Supply Chain Management
- **CPM:** Construction Project Management
- **BIM:** Building Information Modeling
- **IPD:** Integrated Project Delivery
- **OLS:** Ordinary Least Squares
- **VIF:** Variance Inflation Factors
- **EPSS:** Ethiopian Pharmaceuticals Supply Service
- **PBF:** Project Based Firms
- **SET:** Social Exchange Theory

Abstract

The study explores the structural and behavioral determinants of effective Supplier Relationship Management (SRM) in the context of large-scale real estate construction project in Ethiopia. Based on the Relational View and Social Exchange Theory, the research assesses the causal effects of four key dimensions: Contract Management, Supplier Selection, Collaboration and Trust, and Conflict Management on Effective SRM. Construction projects are facing several challenges, including delays, cost overruns, and quality issues which creates unsatisfied end user and that can be attributed to poor relationships in the middle of clients, consultants, contractors and suppliers. Among this suppliers and contractor's relationship faces several challenges in construction projects. To provide an empirically rigorous investigation into the relationship dynamics this study adopts quantitative, descriptive, and explanatory research design to empirically validate the hypotheses of the study. Primary data was collected through a 5-point Likert scale survey administered via purposive sampling to a technically diverse cohort of construction professionals, and suppliers at Ayat S.C. The analysis confirms a robust and highly predictive research model and the diagnostic tests verify that the selected variables are appropriate for regression with a predictive accuracy of 97%. Empirical findings suggest that the optimization of contractor-supplier relations requires a balanced integration of hard institutional governance structures and soft relational capacities. The result of the standardized coefficients proves that one-standard-deviation upgrade in Collaboration and Trust execution generates a 0.27, Conflict Management 0.346, Contract Management 0.443, and Supplier Selection 0.065 standard deviation increase in SRM effectiveness respectively. In conclusion the study offers dynamic strategic routes to procurement managers and project administrators facing volatile emerging real estate markets, and selecting a capable supplier establishes a vital operational baseline that capability remains dormant and is only realized through active daily contract enforcement, conflict mitigation and resolution mechanisms and trusted collaboration through the project lifecycle. The recommendations are transition from reactive dispute resolution to proactive contract governance, establish integrated supplier selection protocols, and Optimize the project performance by self-reinforcing feedback loop.

Keywords: *Supplier Relationship Management, Contract Management, Supplier Selection, Conflict Management, Collaboration and Trust, Construction Project.*

Analysing Determinants of Effective Supplier Relationship Management in Construction Projects: The case of Ayat S.C.

CHAPTER ONE

INTRODUCTION

1.1) Background of the study

Construction project are playing a vibrant role on economic growth, in addition to producing structures that add to productivity and quality of life. Since construction is labor intensive, when it is working at full capacity, large sections of the nation's work force will be active and favorable of economic and social benefits. The construction industry plays an important role in the global economy, and its activities are also vital to the achievement of national socio-economic development goals of providing shelter and infrastructures.

(Amanuel, 2022) Stated that, "Construction is an indispensable industry to improve the living standard of any society across the world and, from the context of world economic activities, its socio-economic significance is obvious." In Ethiopia construction is one of the biggest industries which contribute to significant socio economic development of the country and also it can be seen as a driver of economic growth of the country. "Construction is an important part of the economy and has a considerable impact on the efficiency and output of other industries so, it is not possible having extensive investment in manufacturing, agriculture or service sectors without construction of infrastructure facilities in place (Fireweyni, 2024)."

Construction projects involve several stakeholders including clients, consultants, contractors, suppliers, financiers, sub-contractors, and government authorities. Among these, the relationship between suppliers and contractors is crucial for a successful completion of construction projects. Supplier means a person under contract with a public body to supply good, to render non-consultancy service or consultancy service or to perform works and supplies means any tangible asset other than fixed asset but does not include special fixed asset (Ethiopian-Procurement-and-property-proclamation, 2024).

Accordingly, suppliers are responsible for providing high-quality materials and products in a timely manner by aligning with the schedule and insuring they meet specified standards and project requirements. This includes sourcing materials, maintaining inventory, and coordinating

deliveries to align with contractor and ensure compliance with safety regulations and standards. Suppliers are responsible to address any issues related to material defects, non-compliances, or shortages, and work collaboratively with construction project managers and contractors to ensure smooth operations throughout the construction process.

Contractors are responsible for executing the project on the ground according to the objectives, design, contract document and requirements of the project and oversees the entire construction process including planning, organizing, execution, and completion of the project according to the essential contracts, specifications, quality standards, and timelines. This involves managing the workforce, providing all the necessary materials, machinery, and equipment's by coordinating with suppliers and sub-contractors, ensuring compliance with safety and building regulations, and maintaining quality throughout the project. Contractors are also responsible for monitoring project budgets, addressing any issues that arise and communicating them with clients, suppliers, consultants and other stakeholders to provide updates and resolve concerns.

Due to the increasing effect of globalization in 21st century technology and sustainability issues the concept of construction supply chain management advanced significantly in constriction industry, these dynamics are even more projecting as the procurement and logistics of raw-materials, machinery, and labor often span numerous countries by planning their purchase strategically to ensure the availability of supplies with in the right time, cost, quality, and legal and contractual standards as stated by (Emovon et al, 2025).

Supply chain management in construction refers to the processes, systems, and practices used to manage the flow of material and information besides it involves managing the relationship between all stakeholders. Information's across the supply chain must be coordinated by establishing all conditions to function effectively and applying and developing new technologies (Osho, et al, 2024). Effective communication, mutual respect, and trust are essential for a healthy working relationship between suppliers and contractors. However, conflicts and disputes often arise due to a lack of understanding, miscommunication, and power struggles, so managing the relation between suppliers and contractors is vital to deliver projects with all stated requirements, scope, budget, quality and timeline.

Construction projects in Ethiopia are parts of the country's development initiatives, sharing considerable amount of the country's scarce financial resources. It is the highest recipient of

government budget in terms of state development program, and also the growing number of foreign investors is another factor driving the growth of Ethiopian economy. The study by (Fireweyni, 2024) discussed that "Ethiopia saw $2.2 billion in foreign direct investment in 2020, according to the World Bank, a sizable portion goes towards the real estate development and its market share also expands through the favorable microeconomic and demographic trends in the nation."

The percentage of a total construction project cost that can be attributed to materials and machinery supplies can vary considerably depending on the type of the project, its location, and market conditions, and general standard estimates provide a useful benchmark for this assumptions. Construction material is one of the major component in the construction project cost. Depending on different project settings it is assumed that the material cost can represent from 30% to 70% of the total project cost for example in one specific study of state-owned construction enterprises, material costs occupied a dominant portion of approximately 60% of the total cost. For machinery or equipment supplies, the allocation is generally much smaller, typically estimated to be between 5% and 10% of the total cost. However, this figure can sometimes range up to 15%. Therefore, combining these two categories, materials and machinery supplies together often represent a substantial portion of the direct construction costs, potentially ranging from around 50% to 75% or more, depending on the specific project breakdown and whether the higher material cost estimates are used (Meron, 2021).

Managing material and machinery supplies is about managing the biggest portion and the core function of the project. In Ethiopia, limited researches has been conducted on this topic, and most studies have focused on quality, project delays, cost overruns issues and in the relationship between contractors and consultants, and contractors and sub-contractors. Thus, there is a gap in the literature regarding contractor’s and supplier’s relationship management practices in construction projects.

The study will provide valuable insights into the underlying causes of conflicts and identify strategies to manage and enhance the relationship between the two parties. The findings of this research will have practical implications in the construction projects and contribute to the development of best practices for effective contract and conflict management, supplier selection, collaboration, mutual trust and benefits, between suppliers and contractors.

1.2) Statement of the problem

In modern construction management, achieving project success measured by strict adherence to schedule, cost control, and quality compliance is no longer determined solely by a firm's internal capabilities, but by the strategic alignment and efficiency of its SRM framework (Afsheen et al, 2025). Construction projects are facing several challenges, including supply chain disruptions, delays, cost overruns, and quality issues which creates unsatisfied end user and that can be attributed to poor relationships in the middle of clients, consultants, contractors and suppliers, among this challenges suppliers and contractor's management practices in construction projects are the crucial one. The problem is that the relationship between suppliers and contractors in construction projects is not well understood, and there is a lack of best practices for effective supplier relationship management in construction projects.

Ethiopia's real estate market is rapidly growing and presents a number of opportunities for investors and home buyers with over 130 million people living in the nation and an urban population that is rising at a rapid pace there is an increasing demand for residential and commercial real estate. The execution of large-scale construction and real estate development projects is inherently complex, fragmented, and highly dependent on a dense network of suppliers and sub-contractors. For large-scale real estate developers operating in volatile emerging economies establishing a stable predictable and cooperative contractor-supplier ecosystem is an absolute operational prerequisite to surviving macroeconomic shocks, such as severe material price inflation, currency adjustments, peace and security, and supply chain disruptions at international, regional, and national level.

The severity of the problem is evident in a significant impact that poor relationships can have some serious influences on effective SRM in construction projects. Conflicts and disputes can lead to delays, cost overruns, and quality compromising, which can result in negative consequences for all stakeholders including clients, consultants, contractors, and suppliers. The extent of the problem can be seen in the numerous construction projects underway in Addis Ababa, where disputes between suppliers and contractors are prevalent. This highlights the need for a comprehensive understanding of determinants of effective SRM practices in construction projects in between this two parties. (Enawgaw, 2021) tried to examine the main challenges that determines the management practices in relationship between contractors and suppliers in

construction projects and try to highlight the overall supply chain related issues in this industry. In construction process, the supply chain begins from the production of each material then distributed by agents and finally delivered to projects, and during this process in Addis Ababa, Ethiopia, the time elapsed from the production of the material to the deliverability of those materials to the construction project is very high and unpredictable.

Studies are hardly available on the determinants of effective SRM in construction projects in Ethiopia, but (Alemu, 2017) carried out a research to analyze the factors affecting supply chain management efficiency at Ethiopian Construction Works Corporation by aiming to find out the extent to which the corporation gives focus on such issue in order to enhance its employees' skills to reach its goals and visions as one national organization working on huge and giant projects. Besides, the major problems that hinder the achievement on supply chain management in the company were explored in this study. The regression results showed that it was found that the first and the most influencing variables were distribution channel, the second supplier selection, the third procurement process, the fourth information sharing, the fifth inventory management, the sixth information technology and finally staff training.

And (Betelehem, 2017) research assesses the perception of the construction project stakeholders on "the need and importance of supply chain management on selected public building construction projects to identify and analyze the current practices and challenges in the supply chain management process. The findings show that the construction project stakeholders perceive that supply chain management collaboration has helped in the construction project as it improves the quality assurance and increases profitability. The study also indicates that the potential factors that are important for supply chain collaboration are improved customer service, increased profitability and improved quality insurance. On the other hand, late and incorrect payments and inaccurate data and engineering drawings not fitting the use are indicated as the major challenges for a successful supply chain network. Furthermore, it was found that most of the stakeholders do not apply the integrated approach to supply chain management in construction project." Also (Enawgaw, 2021) stated that the construction project supply chain of main construction materials is the major significant point to complete the construction of the project within the specified time, quality and cost, but there is a big problem to get those major building materials within specified time, cost, quality and quantity as required in Ethiopia.

Several studies have examined the determinants of effective SRM in construction projects worldwide and these studies have identified factors such as contract management, supplier selection, conflict management, and collaboration and trust as critical determinants of effective SRM in construction projects. The gap analysis shows that limited researches has been conducted on this topic in Ethiopia, and most of the studies have focused on the factors affecting project performance, quality, delay and cost overruns. Thus, there is a need to explore, identify, measure, and analyze the determinants of effective SRM in construction project.

1.3) Research Questions

Based on the research problem of determinants of effective SRM in construction project the following research questions are proposed:

1. In what extent do formal contract management practice determine the effectiveness of SRM in construction project, specifically in Ayat S.C.?
2. How significantly supplier selection system impacts the effectiveness of SRM in construction project, specifically in Ayat S.C.?
3. How much does conflict management practice regulate the effectiveness of SRM in construction project, specifically in Ayat S.C.?
4. How intensely does collaboration and trust system decide the effectiveness of SRM in construction project, specifically in Ayat S.C.?

These research questions are designed to provide a clear focus for the research and to guide the investigation into the determinants of SRM in construction project in Ayat share company. This research questions are specific, relevant, and aligned with the research problem, and contribute to the understanding of the effective contractor supplier relationship management determinants.

1.4) Research Objectives

1.4.1) General objectives

The main aim of this research is to investigate and analyze the structural and behavioral determinants of effective supplier relationship management in construction project specifically contract management, supplier selection, collaboration and trust, and conflict management, in the overall effectiveness of SRM within construction project at Ayat S.C.

1.4.2) Specific objectives

1. To evaluate the effect of contract management system on effective SRM in construction projects of Ayat S.C.
2. To examine the influence of supplier selection process on effective SRM in construction projects of Ayat S.C.
3. To quantify the relational influence of collaboration and trust on effective SRM in construction projects of Ayat S.C.
4. To analyze the systematic impact of conflict management on effective SRM in construction projects of Ayat S.C.

1.5) Significance of the study

This study is significant to identify and analyze determinant factors that lead to enhanced collaboration as well as integration, mutual trust and clear communication, and willingness to share benefits and risks in contractor and supplier relationship management in construction projects. The study will also suggest perceptions of the root causes of conflicts and discrepancies related to compromising quality, cost overrun, and failing to meet schedules in construction projects. Contractor and supplier relationship management system and practice must have to rely on formal and contractual correlation between all contracting parties who have a stake in the supply chain process, and this research has its own significance in quantifying and discussing the impact of this formal and contract based relation in improving the effectiveness and efficiency of SRM in construction projects. The other significance of this paper is contributing to the academic literature in supplier relationship management, construction supply chain management, construction project management, and real estate investments in Ethiopia.

1.6) Scope of the study

The scope of this study is focused on evaluating determinants of effective SRM in construction projects in the case of Ayat S.C, Addis Ababa Ethiopia. The study will be limited to construction projects only, and will not include NGO or public construction project settings. The study will focus on determinants of effective SRM in construction projects in establishing effective coordination, collaboration, and minimizing conflicts during the project lifecycle. The study will also explore the factors that can impact effective SRM between suppliers and contractors in construction projects in Ayat S.C.

However, this study will not investigate the impact of socio-cultural or economic factors on the relationship between suppliers and contractors, as this is beyond the scope of this study. The study will also not evaluate the impact of external factors such as political instability, changes in government policy, or economic conditions on the relationship between suppliers and contractors. Therefore, the scope of this study is limited to identifying and analyzing determinants of effective management practices and challenges in the relationship between suppliers and contractors in Ayat share company construction projects in Addis Ababa, Ethiopia, and proposing solutions to improve coordination, collaboration and reduce conflicts during the project lifecycle.

1.7) Organization of the Thesis

The thesis is organized in a systematic manner into five interrelated chapters to provide a logical progression from conceptual formulation to empirical validation and recommendation. Chapter one provides the foundation of the study by providing background, statement of the problem, research questions, research objectives, significance, scope, and organization of the study. Chapter Two presents a full literature review and bases the research variables in the relational view and social exchange theory to develop the conceptual framework. Chapter Three describes the quantitative methodology, including the descriptive and explanatory research designs, purposive sampling of respondents from Ayat S.C, and the statistical analytical procedures. Chapter Four presents the empirical core of the study, carrying out reliability, normality, correlation and multiple linear regression analyses to test the structural hypotheses and discuss the findings. Finally, Chapter Five synthesizes the core insights, offering definitive conclusions and actionable strategic recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1) Theoretical Review of Related Literature

A literature review must be grounded in existing academic paradigms that would provide a structured way to interpret the field data. SRM came into life in 1983 when McKinsey Peter Kraljic called for corporate buyers to grow more proactive in supply chain management. He claimed that purchasers should attempt to understand how their categories affect a company's risk and profitability and then create supplier management tactics to satisfy that need. Because of the inherent volatility in the global supply chain environment, SRM has become critical in the buyer-supplier correlation (Walta, 2022).

SRM is a collection of tactics and approaches for establishing connections with suppliers of goods and services that are essential to a business's success (Gartner, 2021). SRM is a process of building and sustaining profitable relationships with suppliers, and it is essential to a business's ability to remain competitive in the market especially in unpredictable situations like those found in developing nations (Prajogo et al, 2022). The SRM approach was created to help businesses communicate with their suppliers and helps to determine the value that each supplier offers and which are most crucial to the company's survival and growth, (Hong et al., 2025).

According to (Bourne and Walker 2018), relationship management is a strategy used by project managers and their teams to establish and preserve the appropriate connections with stakeholders at the appropriate times. (Reinhart 2019) asserts that in order to have a strong relationship the contractor needs to be certain and express his preferences in the contract through the contractor's budget, raw material plan, product, time, and scope of work. Working together both within and between project organizations a relationship-based management approach should be able to control typical difficulties in construction projects (Hedley, 2015).

A company's ability to remain competitive in the market now depends on creating and sustaining mutually beneficial collaborations with suppliers, especially in unpredictable situations like those found in developing nations (Zhang and Cao, 2018). Due to the intense rivalry in the global market, companies are urged to build strategic long-term partnerships with their suppliers in

order to achieve more effective and efficient performance as well as a stronger competitive advantage (Tseng, 2014). To attain greater levels of innovation and competitive advantage SRM is focused on forming two-way, mutually beneficial collaborations with the most strategic suppliers (Ayelign, 2023).

2.1.1 The Relationship View (RV)

The main theoretical basis of this study is the Relational View (Dyer & Singh, 1998). Traditional strategic management theories (such as the Resource-Based View) argue that a firm's competitive advantage stems solely from its internal assets. The Relational View, on the other hand, posits that a firm's critical resources may span organizational boundaries and be embedded in inter-firm routines and network relationships (Dyer & Singh, 1998).

Dyer and Singh (1998) point to four distinct pillars of relational advantage that directly correspond to the core variables of this study:

- Relation-Specific Investments: Committing physical, human, or site-specific resources to a partnership (e.g., specific procurement systems or specialized equipment).
- Inter-firm Knowledge-Sharing Routines: Create regular, structured information exchange routines that enable partners to learn, innovate and coordinate operational schedules.
- Complementary Strategic Resources: Choosing partners with technical, financial and logistical capabilities that complement the firm’s strengths.
- Effective Governance Mechanisms: The employment of formal contracts and informal relational safeguards (e.g. trust) that minimize transaction costs and prevent opportunism.

2.1.2 Social Exchange Theory (SET)

Social exchange theory has been one of the major theoretical perspectives in the field of social psychology, this theoretical orientation has based on earlier philosophical and psychological orientations deriving from utilitarianism on the one hand and behaviorism on the other. The vestiges of both of these theoretical foundations remain evident in the versions of exchange theory that are current today. Theoretical contributions of exchange theory to the analysis of social psychological and sociological phenomena of importance in understanding the micro-level processes of exchange and the macro-structures they create in society (Balu, 1964). And also this study joins the relational view’s strategic focus with SET to expand the behavioral dynamics of SRM. SET argues that interactions in organizations are transacted as a chain of reciprocal

obligations. Positive actions by one party (e.g., a contractor providing fair payment terms or open communication) create a felt obligation in the other party (the supplier) to reciprocate with high quality and reliability. In this context, soft relational safeguards such as mutual trust, commitment and constructive conflict management are behavioral elements that facilitate contract compliance and mitigate project friction.

The contractor-supplier relationships in the fields of Construction Project Management (CPM) and Logistics and Supply Chain Management (LSCM) cannot be evaluated as isolated transaction actions. Instead, they are best understood by the organizational management theories that explain why firms collaborate, how they govern their interactions and how they secure competitive advantage through inter-firm partnerships. In construction development projects such as Ayat S.C. in Ethiopia, the developer is required to handle a huge network of external suppliers and sub-contractors. The Relational View explains how collaborative, long-term relationships as opposed to short-term, price-driven transactional exchanges can directly reduce the degree of operational waste, improve delivery times, and increase overall project success.

2.1.3) Variables Used from Previous Literatures

Managing the relationships between the various parties involved in construction projects is becoming more crucial as it is moving away from fragmented and adversarial ways of working. Under less-adversarial procurement routes and contractual arrangements such as partnering, it is essential that the parties develop mutually beneficial objectives and a high level of commitment, cooperation, and trust. When disputes do occur without good relationships between the parties they are likely to refer back to the clauses of the contract to resolve contracts, but may start a return to adversarial ways of working (Faisol et al., 2023). Because construction services entail relationships between stakeholders, they are not lighthearted services. Building and sustaining a positive relationship between suppliers and contractors will be able to manage issues within the project according to (Musah et al. 2017).

1) Contract Management: Contract management is defined as the practice that guarantees both interested groups to a contract that completely satisfies their separate duties competently and effectively in order to provide the operational goals necessary from the contract and specifically to offer value for money. The management of construction contract includes the establishment, fulfillment, claim, breach and termination of the contract. The contract involves huge investment,

wide technical requirements, complex construction activities, large impact on society and long life cycle. Correspondingly, the rights and obligations of the parties to the contract will also become relatively complex (Haile, 2022). Contract management is a critical component in construction project management because it sets the foundation for defining roles, managing risk, establishing payment structures, and ensuring that expectations are clear between the supplier and contractor, and significantly influences project outcomes, affecting collaboration, risk allocation, and performance incentives (Rahmani et al., 2025). (Bonde 2022) asserts that a robust partnership that transcends the terms of the contract yields innovation and outcomes that significantly surpass the requirements and content of the contract.

According to (Toschi, 2023), readiness and flexibility are the most important factors outside of the contract management practice. Similarly, (Chalke, 2021) contends that businesses have to provide proactive services that go beyond contracts in order to assist contractors in finding new opportunities. As stated by (Schooler, 2022), partnerships that go beyond contracts foster cooperative, adaptable, and trustworthy relationships that complement offering crucial feedback on service, products, and maximizing clients chances of success. Contract management represents core elements of SRM in mutual cooperation and team-working and has the potential to provide contractual flexibility, improve relationships, and build integration and failure to manage contracts may result in project-wide cost overruns as well as losses in project benefits for all stakeholders (Rahmani et al., 2025).

2) Supplier Selection: The methodical process of evaluating suppliers who offer goods, materials, and various services to a business by determining how each supplier contributes to the enterprise and developing plans to enhance their performance is known as SRM. According to the literature and writers, the most common SRM procedures include supplier selection, supplier evaluation, supplier segmentation, supplier development, and supplier performance assessment and appraisal (Wong & Cheng, 2019). According to (Fogg 2019), SRM functions include things like supplier development, supplier appraisal, supplier segmentation, relationship building, performance measurement, risk management, contract management, conflict management, and supplier relationship performance measurement. The main goal of supplier selection processes is to get the best supplier for procurement in construction sector.

Which supplier is best depending on several factors, all of which must be assessed, checked and weighed (Rigel & Oei, 2025). The process of choosing the best provider from among numerous vendors who can provide the necessary supplies is known as supplier selection (Lambert et.al, 2021). In this case, the buyer's job is to choose the supplier who can offer the best functionality, value, and pricing (Cox, 2024). Companies must now take into account several selection factors (Handfield, et.al, 2023). (Johnson et.al, 2021) state that these factors include delivery performance, low-cost provider, location, quality, technological aptitude, and both domestic and foreign suppliers. Thus, businesses must take into account the previously mentioned factors while choosing the finest supplier.

3) Collaboration & Trust: SRM is the discipline of collaborating with suppliers that are essential to an organization's success in order to maximize the potential value of the relationship. The significance of collaboration is continuously increasing alongside the growing complexity and interdependency in construction projects. In this regard, collaboration is regarded as a crucial element for success in construction projects especially complex ones. Therefore, collaboration has become a significant research topic in recent years (Hazhir, 2025). Collaborative, cross-functional connections are necessary to co-create value with significant suppliers (Enz, 2021). By exchanging information with supplier's key indicators can be used to align attitudes and improve performance (So and Sun, 2020). According to (Ramsay and Wagner, 2023) buying firms that are proficient at comprehending and integrating supplier perspectives into development initiatives are generally better able to influence and motivate suppliers through development activities optimizing the relationship's performance and value potential.

Trust is the belief, willingness, and extent to which the partners rely on with whom one has confidence and will act in ways that will bring positive outcomes for the firms and does not want to take unexpected action that may bring a negative outcome (Moges, 2015). In construction projects, trust is an essential foundation for successful collaboration among team members and it enables team members to rely on each other's expertise, knowledge, and skills and to work effectively together towards a common goal. When team members trust each other and feel comfortable expressing their concerns and ideas it can create a more positive and collaborative atmosphere. Without trust, team members may be hesitant to share information or express their concerns, leading to misunderstandings and conflicts (Ali & Diana, 2023).

As a result, from prequalification to post-qualification, contractors must be open and honest with suppliers about their financial capacity. Successful trust-building in construction projects can enhance project outcomes, (Tan et al. 2017). Furthermore, (Choi et.al, 2018) state that high levels of transparency in between suppliers and contractors will assist all stakeholders in avoiding or overcoming losses brought on by the contractor's financial difficulties or suppliers incapability's during a project implementation phase. Collaboration and trust facilitate the mutual support of corporations, together with producer partnerships with suppliers and manufacturers to reduce risks, access sources, and improve productivity. Collaboration and trust influence the integration of knowledge and processes through the project teams with a diverse and interrelated relationship with success. Previous research confirms that trust and collaboration, are the most important indicators of team integration in the practices of SRM (Alemayehu & Mekonnen, 2024).

4) Conflict Management: Construction disputes arise from disagreements or conflicts among various stakeholders, including owners, contractors, subcontractors, and suppliers. These disputes can significantly impact the successful completion of a construction project. The causes of construction disputes are diverse and can include misunderstandings, contract violations, project delays, changes in the scope of work and design, payment problems, and breaches of contract. Such disputes can lead to substantial financial losses and may occur at any stage of the project, from initial planning to completion often involving multiple parties (Kifle, 2023). In construction projects conflicts lead to problems such as increase in project costs, project delays, reduced productivity, loss of profit or damage in business relationships and internal or external disputes. The complex and long-term design and construction process and involvement of different disciplines in the construction project makes it a process in which conflicts are effectively guaranteed (Mohammad & Mohiuddin, 2019). Conflict of constriction projects today are becoming more commonly occurring problem and complex in nature.

2.1.4) Concepts and definitions of SRM in Construction Projects

Contractor and supplier relationship management is crucial in enhancing project performance within the construction project. Effective management practices promote collaboration, improve efficiency, and mitigate risks however, various challenges influence these relationship dynamics across different contexts and numerous uncertainties. The construction project is characterized

by its deep fragmentation, with various stakeholders and disciplines brought together as virtual teams in many instances for one-off projects. Therefore, the success of a construction project depends on a few conflicts and effective collaboration among multiple stakeholders during various project phases. Relationship management among different stakeholder groups plays an increasingly important role in construction innovation, which could explain the growing interest in stakeholder relationship studies of construction projects (Yingnan et al, 2023). Project success has been linked to the iron triangle of time, cost, and quality and it is critical for project managers to balance beyond the iron triangle of these triple constraints. Hence, there is a need to analyze the impact and negotiate other sides of the construction project constraints to deliver a service or product as required, (Mwakamui & Ntshwene, 2024).

A project has unique characteristics and, the primary characteristic of project is one-time-activity which the core objective is to solve problem or to grasp an opportunity. The success of a project is highly affected by the involvement of a stakeholders and project need to be managed carefully throughout its life cycle. It is the roll and responsibility of a project manager to manage the project accordingly (PMBOK 2000). A study by (Haddis & Asrat, 2023) discussed that "Project is said to be completed successfully when the project stakeholders' needs are fulfilled and when the project is completed on its timetable, within budget, and in accordance with the project's requirements. In addition, successful project delivery/project success can be related to the effective and continuous management of all the project stakeholders and, most of the construction project failures happen to either absence or insufficient stakeholder management."

Relationships in construction projects are formulated and regulated by contracts. Usually, contracts are prepared to assign obligations, responsibilities, and liabilities to the project parties. Therefore, the concept of relational contracting was first introduced by (Macneil 1974), where the notion was to apply mutual planning and better working relationship development. Traditional procurement approaches and standard forms of contracts do not typically promote working relationships since their primary goals are to blame where there is a liability. As a solution, collaborative procurement approaches were introduced with contracts that have a greater capacity for collaboration to promote better relationships between project participants and, these approaches are known as relational contracting methods (Daboun, et al, 2023).

Rivalry competitiveness, significant capital investments, and cultural diversity are defining the construction project's evolving nature. Therefore, construction organizations have to manage their construction projects' relationships carefully. Construction management researchers have progressively recognized the intelligible link between relationship management and construction project performance. Construction project management is often more concentrated on typical approaches such as planning, implementing, monitoring, and controlling rather than relationship management, focusing on managing people in construction projects so, concentrating on these typical approaches is neglecting relationship management's significance (Md Yusof, et al, 2023).

SRM is recognized as a tactical function in construction project where effective development delivery needs a seamless integration of numerous supplier and contractor throughout the system." The Construction Supply Chain Integration (CSCI) is considered as one of the key factors in improving construction supply chain efficiency mainly for projects involving Building Information Modelling (BIM) and prefabrication of precast elements and modular. As stated by (Lu et al, 2019), "CSCI has been studied extensively, there is still no consensus on its definition, scope, and benchmark. With the rapid growth of IT and AI applications in the construction project, researchers have pointed out that the application degree, effectiveness, and trends of CSCI need to be studied more systematically and in depth." The relationship between suppliers and contractors in real estate construction projects is essential for successful project completion. This relationship involves the integration, collaboration, communication, coordination, and cooperation of two separate entities that often have different interests and goals. Understanding practices and challenges of management of this relationship is crucial for project completion and success. This paper presents a theoretical framework for identifying and understanding practices and challenges that influence the relationship between suppliers and contractors positively or negatively in real estate construction projects in Addis Ababa Ethiopia.

2.1.5) Actors Involved in Construction Projects

The relationship between contractors and suppliers plays a crucial role in the success of construction projects. Effective Contractor-Supplier Relationship Management (CSRM) practices can enhance integration & collaboration, improve efficiency & effectiveness, and mitigate incompetency and risks. Failing to meet the required quality standards and requirements with in the scheduled time and cost is the main challenge of real estate construction projects. In

the construction projects supply chain, various actors play essential roles, each with specific duties and responsibilities that contribute to the project's success.

1. Clients

Clients/Employers initiate and fund the projects by defining goals and budgets while monitoring progress and ensuring compliance with regulations and it has the authority in making decision especially on purpose, objectives, and parameters as well as the time that the project can start to commence since they are the owner of the project. The General Conditions of Contract for Construction Works (GCC 2004) states that "Employer" means the party named in the tender proposal who has called for tenders to build or construct erect or deliver the works and who will employ the contractor and the legal successors in title to the employer but not (except with the consent of the contractor) any assignee of the employer.‟ According to FIDIC Red Book (2005) "Employer" means the person named as employer in the Contract Document and the legal successors in title to this person. ‟ According to PPA (2011) "Employer" means "Procuring Entity" as defined in the Public Procurement Proclamation." According to (Mwakamui & Ntshwene, 2024) "Project owners are the individuals or organizations that finance and ultimately own the construction project. They define the project's scope, objectives, and budget while managing relationships with stakeholders. Their role is critical, as they make key decisions regarding the selection of suppliers, contractors and consultants, provide funding, and approve major design choices. Monitoring the project's progress and ensuring alignment with their vision and objectives is also within their purview."

2. Architects and designers

The researchers (Munaro & Tavares, 2023) defined that "Architects and designers develop the project plans and drawings conducting feasibility studies and collaborating with clients to refine designs that meet safety standards. Design professionals, including architects and engineers, are responsible for creating the detailed designs and technical specifications that guide the construction project. Their tasks involve conducting feasibility studies, site analysis, and producing architectural drawings and they ensure that the designs comply with regulatory standards and effectively meet the project requirements. Collaboration with other stakeholders to address any design issues is also a fundamental part of their role and they have the responsibility to resolve any unmatched architectural, structural, electrical, mechanical, sanitary, and detailed

drawings, by relating with constructability and functionality requirements, contract documents and specifications."

3. General contractor

The Ethiopian Public Procurement Agency PPA defines as "General contractor oversees the entire construction process, managing subcontractors, scheduling timelines, and ensuring adherence to safety protocols. Contractor means a natural or juridical person under contract with a Public Body to supply works (PPA_SBD_GCC, 2011)." And (Kshaf et al, 2022) defined as "General contractors play a pivotal role in overseeing the overall construction process and they manage scheduling, budgeting, logistics, and the coordination of various subcontractors and suppliers. As the primary point of contact, they ensure that all work is completed on time and adheres to the required specifications and also they are responsible for obtaining necessary permits and formalities and managing on-site safety standard's to mitigate risks."

4. Subcontractors

Sub-Contractors are specialized tradespeople hired by general contractors to complete specific aspects of the construction project, such as plumbing, electrical, mechanical, masonry, or carpentry work by collaborating with the main contractor to meet the schedules with affordable price and specific quality standards. Subcontractors must coordinate with general contractors for scheduling and communicate any challenges that arise during the construction process (Almutairi, 2022). Subcontractor means any natural person, private or government entity, or a combination of the above, including its legal successors or permitted assigns who has a contract with the contractor to carry out a part of the work in the contract, which includes work on the construction site (PPA_SBD_GCC, 2011).

5. Suppliers

Supplier means a person under contract with a public body to supply good, to render non-consultancy service or consultancy service or to perform works (Ethiopian Procurement-and-property-proclamation, 2024). Suppliers are defined as being capable of supplying quality products at market prices and have sufficient flexibility to respond to fluctuations in market demand for a fleeting time without adversely affecting the safety and business environments. Suppliers are crucial to the efficient completion of building projects therefor, the choice of the

right supplier is critical to the project's progress with the view that quality, cost, and flexibility are essential evaluation factors in supplier selection (Toan et al, 2022).

Suppliers source or provide necessary services or products, materials, machines, and equipment's, ensuring timely delivery and maintaining quality control by sourcing or producing the required materials, through constant improvement in their processes to meet project demands. Suppliers directly impact internal company activities such as stock, cash flow, quality management, and production planning with important consequences for overall business performance (Patrucco et al, 2021). Suppliers provide the necessary materials for construction projects, such as machines, concrete, re-bar, formwork, and finishes, also they ensure that materials arrive on-site in a timely manner and manage inventory levels to prevent shortages. Suppliers are crucial for maintaining the flow of materials which directly impacts the construction schedule, and they provide product warranties and specifications to ensure compliance with project standards (Frempong et al, 2021).

6. Consultants

Consultants offer expert advice across various areas including project management and regulatory compliance by helping to optimize project outcomes and establish the necessary safety and building regulations reviewing permits and conducting inspections to ensure adherence to codes. Consultants are inspectors and quality control personnel's who conduct regular site inspections to ensure compliance with building codes and safety standards, documenting their findings, and recommending corrective actions as needed. Consultancy Service means a service of an intellectual and advisory nature provided by consultants using their professional skills to study, design, supervise, organize specific projects, advise clients, conduct training, and transfer knowledge (Procurement-and-property-proclamation, 2024).

7. Logistics service providers

Logistics is the process of planning, implementing and controlling the efficient and effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to consumer requirements. Logistics is the positioning of resource at the right time, in the right place, with the right cost, the right quantity and at the right quality standards. The term logistics in a construction project can be defined as

getting construction materials, equipment's and labor to site before they are required and logistics management requires accurate delivery date and material plans to suit the actual site plan and storage arrangements otherwise, it leads to the construction schedule delays and interruptions, or resulted in the storage, handling and transportation process waste of resources (Tewodros, 2021). Logistics providers manage the transportation and delivery of materials and equipment to construction sites by optimizing processes for efficiency. Their responsibilities include planning the logistics of material deliveries and maintaining inventory levels to ensure materials are available when needed. By executing effective transportation strategies, logisticians help in preventing delays in the construction schedule, making their role critical to the smooth operation of construction projects from planning logistics up to material delivery and maintain inventory levels as required as possible.

8. Financial institutions

Financial institutions, such as banks and investors, provide the necessary funding for construction projects. They evaluate project financials and assess risks before approving loans or investments. Their role includes managing loan agreements and disbursing funds throughout the project lifecycle. Financial institutions also monitor the project's financial performance to ensure compliance with financial obligations and to assess the overall viability of the project (Abdullayeva & Ataeva, 2022). Project financing is very good at funding specific investments in certain industries and it is suitable for capital intensive infrastructure investment that employ established technology and generate stable returns that are denominated or can be easily converted into hard currencies (Gatti, 2023).

2.1.6) Types of Contractual Relationships Between Contractors and Suppliers

Contract is a written agreement between or among two or more parties whereby each party promises to do or not to do something and agrees to terms (conditions and Warranties) set out in the contract. Conditions of Contract are terms in which parties in the contract are governed / administered with, and it is an administrative law which is the legally binding part of the contract. These promises and terms shall be enforceable by law and incorporates the rights, obligations and remedial rights of each contracting parties (Wubishet Jekale, 2012).

The contractual relationship between suppliers and contractors is the starting point for any construction projects. Contracts are a legally binding documents which define the roles, obligations, duties, and responsibilities of each party. The clarity and completeness of the contract can significantly impact the relationship between suppliers and contractors. Incomplete or ambiguous contracts can lead to misunderstandings and disputes, while clear and comprehensive contracts can establish a positive relationship between suppliers and contractors. And all parties in the contract have to know and ensure contract related national and international laws, rules, and regulations have the ability to govern and manage changes, claims and disputes in the contract management process.

Contract management is the act of ensuring that the obligations under a contract between a public body and a supplier or a buyer of disposable property are duly performed which involves tasks of payment, timely delivery, contract amendment, price adjustment, quality inspection, resolution of contractual disputes, contract completion and other activities of monitoring and evaluation of contract performance (Ethiopian Procurement-and-property-proclamation, 2024). The contractual relationship between contractor and supplier in construction can be categorized and defined based on their contract and relationship in between as listed below:

1. **Transactional Relationships:** In the research by (Cox & England, 2021) transactional relationship is defined as "It is characterized by short-term agreements focusing on specific transactions without long term commitment in which suppliers supply materials or services at agreed prices with minimal interaction thereafter often used for simple purchases where the competition drives prices down. When there are fixed contracts with defined terms and conditions, there is less flexibility to make adjustments based on evolving project needs. Transactions are governed by those."
2. **Collaborative Relationships:** The relationship was defined as a closer cooperation between suppliers and contractors often including joint problem solving and shared goals (Hassan et al, 2020). Partnerships can generate innovations in processes and materials that are mutually beneficial by increasing productivity and reducing costs and develop an environment of trust and open communication which is vital for managing the complexities and uncertainties inherent in large scale construction projects.

3. **Strategic Partnerships:** (Provan & Kenis, 2020) defined this relationship as "long-term arrangement for suppliers and contractors to work together towards common objectives by emphasizing trust and mutual benefit." This partnership supports continuous improvement and may lead to shared investments in technology and operations that lead to better project outcomes."
4. **Integrated Relationships:** This relationship was defined by (Kumar & Ranjan, 2022) as "seamless integration of processes between suppliers and contractors, often facilitated through technology and information sharing. Integrated relationships improve the ability to coordinate, respond to changes in the project in real-time, and build agility into the supply chain to optimize project outcomes by leveraging all team member's knowledge to represent the highest form of collaboration.
5. **Adversarial Relationships:** (Cheng & Li, 2018) characterized this relationship in contrast "adversarial relationships are characterized by mistrust and conflict, where suppliers and contractors see each other principally as opponents. Cost and quality disputes may result in inefficiencies and delays to the project. Such relationships can be damaging and are best avoided in favor of more collaborative approaches."
6. **Traditional Relationships:** A study by (Hassan et al, 2020) defined this relation as it is built over long periods focusing on trust, mutual respect and stable collaboration among parties, by fostering communication and flexibility by promoting a long-term commitment to quality and performance. Understanding these relationship types is essential for effective construction project management and efficient procurement strategies but initial cultural shifts towards trust and collaboration may be challenging to achieve goals in this relationship type.

To manage the relationship efficiently and to build a strong seamless partnership by minimizing risks and maximizing benefits the interaction between supplier and contractor is vital in SRM in construction projects. The choice of the relationship type should align with the organizations specific objectives and the dynamics of the construction sector in all strategic aspects.

2.2) Empirical Review of Related Literature

The expanding complexity and dynamisms of construction projects have led to the growing recognition of the integration of knowledge, practices and theories of Construction Project

Management (CPM) and Logistics and Supply Chain Management (LSCM) as a strategic imperative. This integration aims to leverage the organized methodologies of project management to address multifaceted supply chain challenges such as inefficiencies and coordination problems and integrating these fields often involves adopting digital tools which aid's construction project managers in controlling supply chains, mitigating risks, and improving time management through better procurement and delivery control. Construction supply chain integration is a particularly integral cluster within the broader field of Construction Logistics and Supply Chain Management (CLSCM), and Several researchers have examined from different perspectives Supply Chain Management (SCM) and SRM challenges and practices that contractors and suppliers faces in their contractual relationships and the related issues in construction projects (Nguyen & Le, 2022). And the article conducted by (Jaisree & Palani, 2024) argue that effective SCM is vital for the success of construction projects, impacting timelines, costs, and overall efficiency. And the article by (Samantha, 2024) explores SRM within the context of modern supply chain dynamics. "It emphasizes that as supply chains evolve into complex global networks and effective SRM becomes vital for organizations aiming to enhance value, mitigate risks, and drive innovation. Collaboration and trust are identified as foundational characteristics of effective SRM practices, enabling open communication and joint problem-solving.

A thesis by (Roham & Filip, 2016) sightsees the dynamics between contractors and suppliers in the construction sector, emphasizing the importance of strong collaborative relationships. They discovered that social bonds rooted in personal relationships are vital for fostering trust and commitment. On the other hand, the lack of formal long-term agreements and collaboration strategies hinders a more profound relationship development, often resulting in a transactional approach characterized mainly by price considerations. The study recommends enhancing supplier involvement early in the design phase, implementing structured feedback mechanisms, and considering intermediate partnering arrangements to improve collaboration, efficiency, and overall project outcomes.

The article by (Lepold et al, 2023) "highlight the importance of SRM within the context of lean construction methodologies emphasizing the need for long-term sustainable partnerships rather than short-term cost-driven relationships that demonstrate the relationship. And a study by

(Irshadullah, 2023) explores strategies to enhance collaboration and optimization performance between organizations and their suppliers it highlights SRM as a key strategic approach transitioning from traditional buyer-seller dynamics to strategic partnerships focused on innovation, efficiency, and mutual value creation. By utilizing advanced technologies like Artificial Intelligence (AI) and block-chain organizations can facilitate real-time communication, data-driven decision-making, and streamline processes. The piece underscores essential SRM practices such as supplier selection and segmentation, performance monitoring, and risk management, which contribute to operational excellence. Trust and transparency are positioned as vital for building resilient relationships, which face challenges like cultural misalignment and complexity in managing diverse supplier networks."

The article written by (Koolwijk et al, 2018) investigates "the dynamics of collaboration and integration within project-based supply chains in the construction sector, questioning whether these practices are solely linked to integrated project-delivery methods or if traditional methods can also foster effective collaboration, and the findings revealed that collaboration is an essential, independent factor within integrative practices, and both traditional and integrated project delivery methods can enable collaboration over time." And the article by (Waerdt et al, 2024) explores how "Project Based Firms (PBFs) manage their relationships with suppliers and other PBF within programmatic multi-project settings, specifically in construction portfolios and projects. The study highlights the significance of cooperative relations over competitive ones in portfolios or program settings, suggesting that this shift is essential for knowledge sharing, innovation, and effective program execution."

The article by (Emovon et al, 2025) explores "the critical role of SRM in improving supply chain performance within the Nigerian construction project, in an environment where efficient procurement and supply chain management are essential for project success. Quality emerges as the primary criterion for supplier selection reflecting a shift towards performance-driven procurement practices." And the study conducted by (Ibrahim & Mutuku, 2022) explores the significant influence of SRM on the performance of construction projects in Kenya. The research aims to provide insights into how effective SRM practices can enhance project outcomes within the region's construction sector. Key findings indicate that a substantial portion of respondents agreed that positive supplier relationships lead to improved communication, cost savings, the

identification of waste, and overall better operations. The study underscores the importance of fostering positive relationships with suppliers as a pathway to drive efficiency, enhance feedback loops, and streamline project execution. In her thesis (Kidist, 2021) investigates the relationship between supply chain management (SCM) practices and firm performance focusing on Etete Construction in Ethiopia. “The study identifies three key SCM practices: strategic supplier partnership, SRM, and information sharing by examining how these influence supply chain responsiveness and competitive advantage. Findings indicate that while strategic partnerships and information sharing are practiced moderately in existing SRM practices significantly enhance supply chain responsiveness and competitive advantage. The research underscores the importance of robust supplier relationships and effective information sharing to improve operational performance while identifying challenges such as poor supplier payment practices, design changes, and inadequate logistics.”

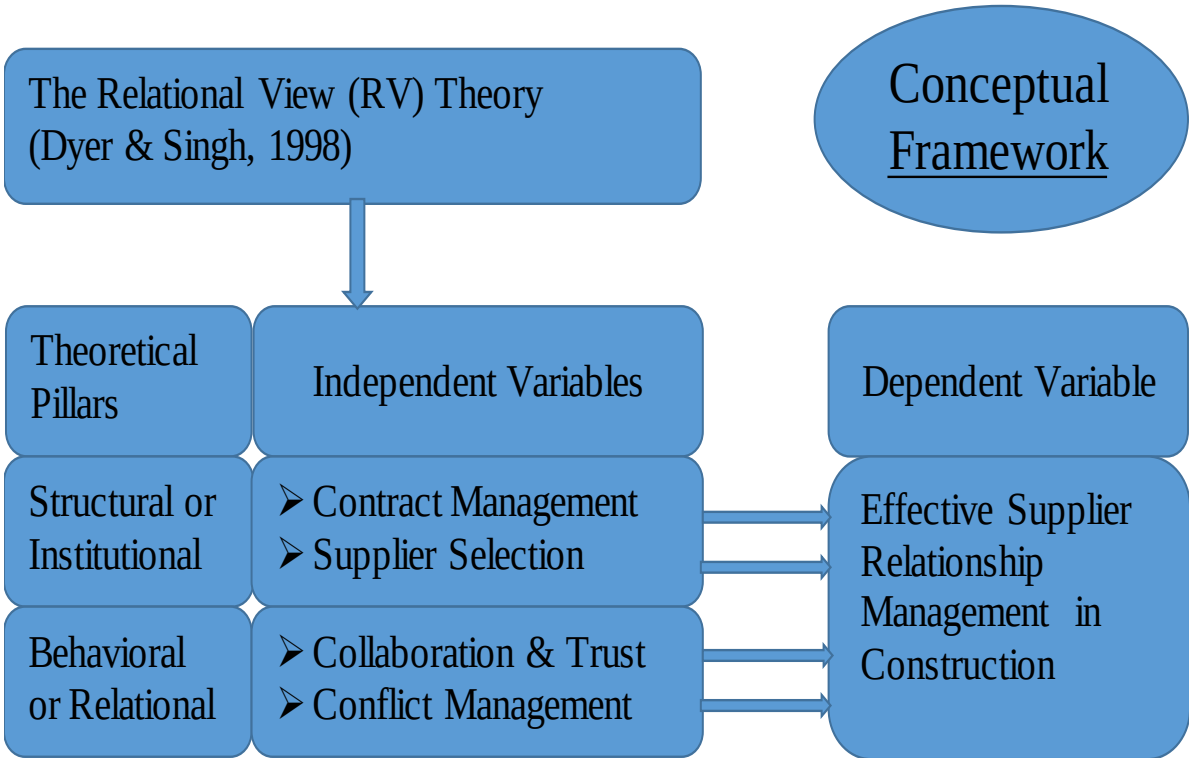
The study by (Moges, 2015) “ highlights how proper SCM can reduce costs, improve delivery times, and enhance customer satisfaction, and found that SCM practices in the companies were mostly fragmented, and there was inadequate cooperation with suppliers. Poor information sharing practices were identified, particularly with suppliers, leading to inefficiencies in procurement and material delivery.” And the thesis conducts by (Mesfin, 2020) “highlights the crucial role of SCM in optimizing project execution, aiming to improve quality, budget adherence, and timeliness in construction projects. Findings of the study indicates that while strategic supplier and customer relationships are moderately practiced, the overall SCM practices are below average, particularly in terms of information sharing and its quality.” The thesis by (Temesgen, 2017) “reveal that while some SCM practices are implemented moderately, significant gaps exist, particularly in strategic relationships with suppliers and the application of IT. The study highlights the necessity for improved cooperation with suppliers and customers, better information quality, and greater IT utilization to enhance overall performance.” The thesis by (Tewolde, 2017) explores the limitations of the bid/tender-based procurement system prevalent in Ethiopia, particularly in the context of SRM. The current competitive bidding approach often emphasizes selecting suppliers based solely on low prices by leading to various inefficiencies such as poor quality of goods, extended delivery times, and increased costs that ultimately hinder organizational performance in both public and private sectors. The author advocates for a shift towards long-term supplier relationships as a more effective strategy. The

results of the article of (Walta, 2022) show that there are positive strong correlations between SRM practices and procurement performance. The highest effects are supplier training and performance evaluation, mainly by indicating that effective supplier training can significantly improve product quality and procurement efficiency. Also trust and good negotiation processes were seen as essential components to enable better supplier relationships that improve overall procurement outcomes.

2.3) Conceptual Framework

As per the definition of (Joshua, 2021) "A conceptual framework is a concept or structure that guides a research and it is a product of the theoretical framework and provides the map on the literature composition within the study. This structure is usually presented in a diagram and graphic form depicting building blocks and components of the study and it comprises the researcher's thoughts, structures, thinking, actions, plans, practice, layout, and implementations of the whole study." And (Memon et al, 2019) defined conceptual framework as "the logical and diagrammatical structure of the conceptual framework made it possible to show how research concepts and components are interconnected as well as the flow of ideas"

Figure 2.1: Conceptual Framework



Source: Own Survey, 2026

The theoretical framework was simplified to concentrate on a core set of important variables in order to create a dependable, stable, and academically defensible model. Four main independent variables that reflect the behavioral (soft relational capacities) and structural (hard institutional controls) aspects of the Relational View are isolated in this model:

1. Management of Contracts (Structural Governance)
2. Choosing a Supplier (Partner Complementarity)
3. Trust and Cooperation (Relational Capital)
4. Inter-firm Problem-Solving Procedures for Conflict Management.

The variance in the dependent variable, Effective Supplier Relationship Management (ESRM), is explained by the above four fundamental factors stated as independent predictors.

2.3.1) Operationalization of Variables

The following four independent variables were analyzed in this study as follows:

1. **Contract management:** The comprehensive management of formal written contracts so that mutual obligations, payment terms, quality standards, and dispute resolution mechanisms are clearly defined. This is the main formal controlling system against project risk in the relational view.
2. **Supplier Selection:** Supplier selection is a formal process of evaluating, screening, and appointing of vendors based on multidimensional criteria such as financial health, technical capacity, quality standards and delivery reliability rather than the lowest bid alone. This is in line with the partner complementarity pillar of the relational view.
3. **Collaboration and Trust:** The soft relational arrangement of a partnership, meaning the shared belief that both parties will keep their promises, act in good faith, and work together transparently towards common benefits and project goals without exploiting each other's vulnerabilities.
4. **Conflict Management:** The established joint problem solving routines and communication lines used by contractors and suppliers to identify, address, and solve operational disputes (e.g. payment delays, material defects or schedule changes) in a timely and constructive manner.

2.3.2) Research Hypotheses

"A research hypothesis translates curiosity into a testable claim and it specifies how an independent variable influences a dependent variable in a defined population by ensuring that the study addresses a clear question and contributes to existing scholars, and also guide readers to the theoretical frame and statistical methods we will use," (Alessandra, 2025). A testable hypothesis requires two variables null hypothesis and alternative hypothesis. To statistically analyze the relationship in the regression model of this study the following hypothesis is generated based on the literature review and conceptual framework of the research for statistical testing:

HA-1: Contract management has a statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

H0-1: Contract management has no statistical significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

HA-2: Supplier selection has a statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

H0-2: Supplier selection has no statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

HA-3: Collaboration and trust has a statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

H0-3: Collaboration and trust has no statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

HA-4: Conflict management has a statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

H0-4: Conflict management has no statistically significant positive direct effect on successful supplier relationship management in Ayat SC construction project.

2.4) Limitation of the Study

This study forms a very predictive and robust model whose limitations need to be stated in order to give a true context to the generalizability of the same and provides useful statistically

validated insights on determinants of effective SRM in construction projects but a number of boundaries and structural constraints need to be noticed:

- **Geographic and Organizational Boundary:** The empirical boundary of this study was limited to real estate building projects executed by one private developer, Ayat S.C, inside the urban context of Addis Ababa, Ethiopia. As a result, the findings may not be immediately generalizable to public sector infrastructure projects, non-governmental organization (NGO) activities, or rural civil engineering contexts that operate under distinct regulatory frameworks.
- **Exclusion of External Macroeconomic and Socio-Cultural Drivers:** Methodologically, the research was limited to internal structural and behavioral factors (the four independent variables). The model purposely omitted external macro-environmental shocks like national political instability, shifting government policies, global supply chain disruptions, currency adjustments, and localized socio-cultural factors which heavily influence contractor-supplier dynamics in real-world environments.
- **Methodological Dependence:** The study depended solely on cross-sectional quantitative survey data collected by Likert-scale questionnaires. This technique exposes possible vulnerabilities to subjective responder bias or compliance branding. It also lacks the contextual refinement a mixed-methods design integrating qualitative, semi-structured interviews may provide.
- **Sample Limitations:** A purposive sampling technique provided a focused and well qualified sample of active respondents. However, the very small sample size is a reflection of the peculiar internal operating environment of one company, and as such it does not adequately capture the statistical variance of the entire Ethiopian construction supply chain.

CHAPTER THREE
METHODOLOGY

3.1) Description of the study Area

The study area of this research is contractor supplier relationship management in construction in the case of Ayat S.C. Ayat is an Ethiopian-owned real estate share company which is a pioneer in this sector with over 30 years of experience by creating not only houses but villages and homes, integrating innovative development, construction, and financial solutions to fulfill the dreams of thousands of families by delivering over 6000 houses and 1200 commercial properties. Beside the construction endeavors currently the company generated employment opportunities for over 17000 individuals by participating in the construction of high rising buildings on Kazanchis Public Private Partnership Project (KPPPP), CCE, Hillbotom, Lina, Meri, and Zone 3 projects. Ayat S.C. is working on the above mentioned construction projects and other upcoming proposed projects by own force and out sourcing to different suppliers and contractors with a vision of becoming an Africa-wide well-known real estate developer and a leading multi-disciplinary national company.

3.2) Research Approach and Design

To provide an empirically rigorous investigation into the relationship dynamics at Ayat S.C., this study adopts a strictly quantitative research approach. Quantitative methods are chosen to facilitate objective measurement, standardization of data collection, and the application of econometric modeling techniques. The most commonly used research designs are explanatory, exploratory, and descriptive which are selected based on the purpose of the study. From this research designs this thesis implemented both descriptive design and explanatory research design. Descriptive design will be employed to describe an intervention or phenomena in the real life context in which it occurs, while the explanatory design was employed to clearly show the relationship among variables.

3.3) Population and Sampling Technique

This study has been undertaken by considering Ayat S.C. real estate construction projects in Addis Ababa to make a clear investigation about suppliers and contractor relationship management determinants, challenges and practices in this sector. The study will select respondents purposively among the main suppliers, agents, sub-contractors, consultants and employee of Ayat who have a direct participation on the supply chain and SRM practices from construction, engineering, contract administration, procurement, finance, auditor, transport and logistics, and store departments. The study uses purposive sampling technique because it involves the deliberate selection of particular units of the universe for constituting a sample on the principle that the investigator's knowledge about the population can be leveraged to select elements that representatively characterize this population. In purposive sampling, units are chosen based on the specific objective of the study, essentially the understanding and awareness of the context of the study and the researcher's familiarity with the prospective participants allow them to determine for purposive sampling (Wieland & Ivens, 2025).

The selected participants have a direct involvement in SCM, SRM, and related issues of the company and the research use purposive sampling technique because of the fact that there are only 160-180 expected participant's in this research and they are too few to be sampled from each department (Procurement & Logistics Departments 100% participation) and suppliers of Ayat S.C, hence only higher officials, expertise, and the selected key personnel's are included in the sample. Purposive sampling technique is a highly effective method for obtaining focused and relevant insights in quantitative research it provides both practical and academic advantages that contribute to high quality research participants as well as outcomes.

As (Memon et al, 2025) illustrated "Purposive sampling technique allows researchers to concentrate on participants most likely to provide relevant data, thereby saving time and reducing costs associated with data and offers several advantages, including efficiency and cost-effectiveness. This efficiency is particularly valuable in management research, as it allows researchers to focus on specific organizations or individuals with relevant expertise or characteristics, reducing time and resources typically required to identify and engage

suitable participants." Therefore, the researcher used purposive sampling technique since the population size is reasonable to conduct and the total number of key personals, expertise, and higher officials required for the study is smaller.

3. 4) Data Sources and Collection Instruments

The study will collect data from primary and secondary sources. Primary data will be obtained through surveys from the selected participants who are directly engaged in supply chain operations, contract administration, project procurement, and vendor management practices. The secondary data will be obtained from relevant literature, performance reports, legal contracts, procurement proclamation's, and other published materials. The research instrument used in this study will be a questionnaire. The questionnaire will have a closed-ended questions designed to capture data on the factors that determines this relationship strongly and the roles and responsibilities of suppliers, agents, contractors, and consultants selected employees in Ayat real estate construction projects. The questionnaire items will be formatted using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree to allow for statistical variance mapping. The draft instrument is organized across five aggregated research domains comprising 30 total operational items and 6 basic demographic information's.

3.5) Data Analysis and Diagnostics Stage

The collected data will be analyzed using statistical software called Statistical Package for Social Science (SPSS) V-26 and the research methodology used in this study will be a structured, systematic, and quantitative, enabling us to provide an objective analysis of the determinant factors in the relationships between suppliers and contractor in Ayat real estate construction projects in Addis Ababa. This research will apply both inferential statistics to analyze the relationship and descriptive analysis to summarize and present the collected data from respondents.

3.6) Ethical Considerations

This research adheres to ethical considerations and obtain necessary permissions from relevant authorities and stakeholders to conduct research at the selected sites. Comply with local regulations and guidelines related to data collection and research involving human subjects. Ethics are a guiding principle that shapes the conduct of researchers. It influences both the process of discovery and the implications and applications of scientific findings. Ethical

considerations in research include but are not limited to the management of data, the responsible use of resources, respect for human rights, the treatment of human and animal subjects, social responsibility, honesty, integrity, and the dissemination of research findings. At its core, ethics in scientific research aims to ensure that the pursuit of knowledge does not come at the expense of societal or individual well-being and it fosters an environment where scientific inquiry can thrive responsibly (Goshen, 2024).

CHAPTER FOUR

RESULT AND DISCUSSION

4.1) Introduction

This chapter presents the empirical results and subsequent discussion of the study conducted and also provides an interpretation of the findings in relation to the research objectives and hypotheses formulated for this study. The primary objective of this analysis and result discussion is to evaluate the relationship between contractor-supplier management practices specifically focusing on supplier selection and contractual foundations and the overall success of Supplier Relationship Management (SRM) within the construction project context.

4.2) Response Rate

According to (Taherdoost, 2022), "a response rate exceeding 80% in specialized industry surveys is considered excellent and significantly reduces the risk of non-response bias." Furthermore (Ernest et al, 2024), suggest that "high response rates from technical staff ensure that the findings reflect the practical realities of project execution in the context of construction management research." The high engagement at Ayat S.C. personnel and partners suggests that the workforce views SRM as a critical factor for effective construction project delivery. The data is collected from purposively selected professionals of contractor, sub-contractor, supplier, and consultant by screening based on their department, professions, and positions. As shown in the table below the response rate of this research is 86.86% totally 175 questionnaires were dispersed and 152 questionnaires are returned with valid information and data

Table 4.1 Respondent Rate

Description	Frequency	Percentage (%)

Returned Questionnaires	152	86.86%
Non-Returned Questionnaires	23	13.14%
Total Distributed	175	100.0%

Source: Own survey, 2026

The fact that 152 samples out of 175 were not just returned, but returned with the required data, indicates that the survey was well-understood by the participants of the survey and also there is no missing Value. High response rate can show that a strong interest from the operational side of the company in improving supplier relationships.

4.3) General Information of Respondents

The demographic analysis of the 152 respondents is discussed in main six variables gender, age, educational background, organization, department, and work experience in order to synthesis and demonstrate the internal validity of the research and to show that the data comes from highly qualified and diverse professional participants.

Table 4.2 Representation of Gender, Age, and Educational Background

Variable	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Gender	male	102	67.1	67.1	67.1
	female	50	32.9	32.9	100
	Total	152	100	100	
Age	21-30	27	17.8	17.8	17.8
	31-40	76	50	50	67.8
	41-50	32	21.1	21.1	88.8
	>50	17	11.2	11.2	100
	Total	152	100	100	
Educational	level- diploma	73	48	48	48

Background	BSC or BA	65	42.8	42.8	90.8
	MSC or MA	13	8.6	8.6	99.3
	PHD & Above	1	0.7	0.7	100
	Total	152	100	100	

Source: Own survey, 2026

4.3.1) Gender: Out of the total 152 respondents (Employee of Ayat, Suppliers, or Sub-Contractors) in terms of gender distribution, 102 participants of the study, 67.1%, are male. On the other hand, 50 respondents, constituting about 32.9%, were female. These statistics indicates that the proportion of males is significantly higher within the organizations, while female participation in the global construction sector is rising, the construction project remains male-dominated, particularly in technical and site-based activities and a significant presence of women in some professional and administrative capacities within the Ethiopian construction context.

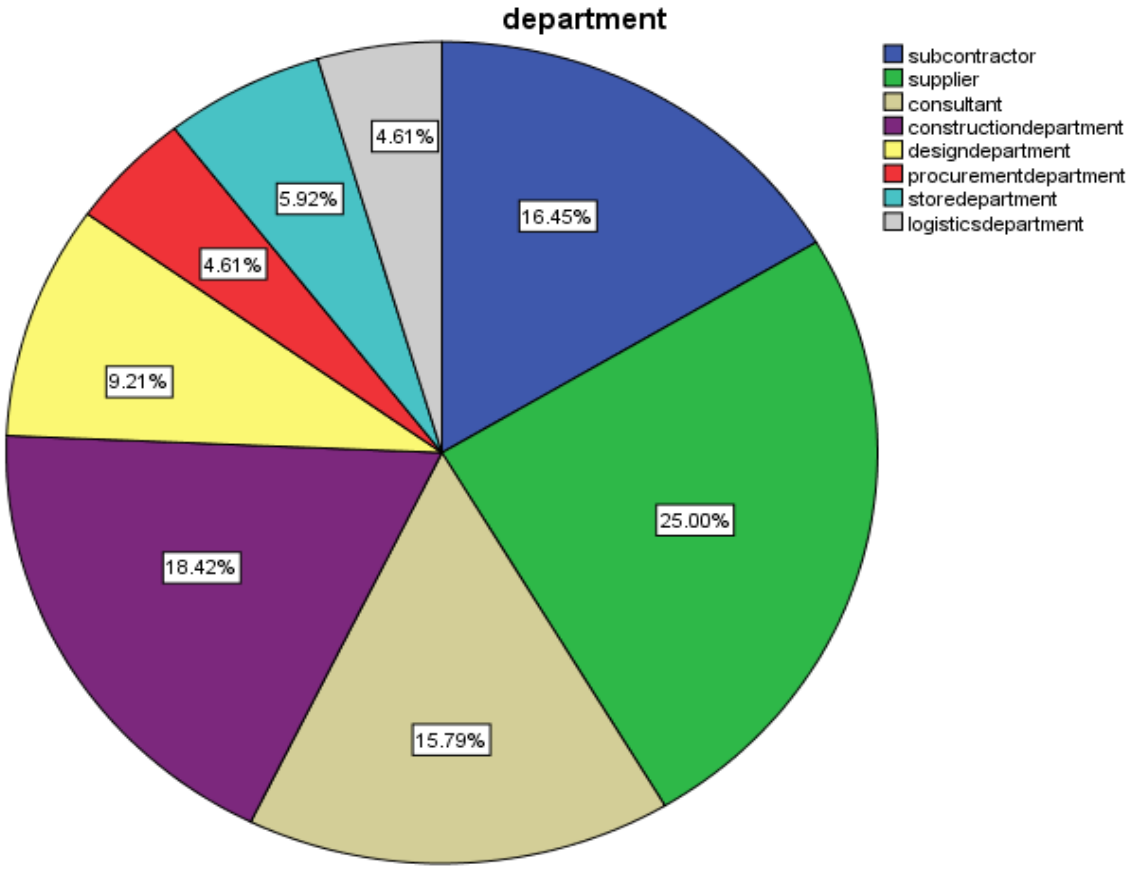
4.3.2) Age: A total of 27 respondents, making up 17.8% of the group, fall between the ages of 21 and 30 years. And 76 research participants, covering for about 50% of the group, are between the ages of 31 up to 40 years and this age bracket constitutes the largest portion of the group. Another 32 respondents, which is 21.1% of the group, are between 41 and 50 years. Finally, 17 respondents, making up 11.2% of the group are above the age of 50 years. Considering these figures, it is evident that the majority of employee who have been participated in this study are distributed within the 21 and 50 age brackets. These three age ranges contain the highest number (88.8%) of respondents, reflecting the prevalent age demographics within the group which confirms the respondents have the necessary background to provide accurate data for the research analysis, as they are actively involved in the construction project.

4.3.3) Educational Qualification: The highest portion of the group respondents, 114 (75%) holds a Bachelor's degree (BA/BSC) as their highest educational qualification. And the second highest portion of the group, comprising 26 individuals or about 17.1%, possess a Level Certificate-Diploma as their highest educational qualification. Another 12 respondents or 7.9%, have obtained a Master's degree or higher as their highest educational qualification. Taking these figures into account, it can be clearly observed that the highest proportion within the group has a Bachelor's degree (BA/BSC) and above qualification (82.9%). This indicates that the majority of

individuals in the group have completed their undergraduate studies, by reflecting the prevalent educational background of the group. This illustrate that majority of the respondents were in state of providing consistent response about their understanding and observation of the relationship between contractor and supplier in construction sector. The high educational background of the participants at Ayat S.C. ensures that the responses provided are based on a strong understanding of professional management principles.

4.3.4) Organization or Department Representation: The below attached department pie chart shows the types of the organization and departments in which the respondents were working there. Out of the total respondent's suppliers and their representatives or workers make up 25% (38/152), construction department employees make up 18.42% (28/152), sub-contractors make up 16.4% (25/152), consultants make up 15.8% (24/152), design department personnel's make up 9.2% (14/152), store department staffs make up 5.9% (9/152), procurement department staffs make up 4.6% (7/152), and logistics department officers make up 4.6% (7/152). This distribution is highly relevant to the study as these departments have a direct involvement in the relationship management of suppliers and contractors because, they are the first to experience the impact of supplier performance on construction quality, cost, and time. Overall, this breakdown provides insights into the distribution and composition of the respondents' organizations or work settings.

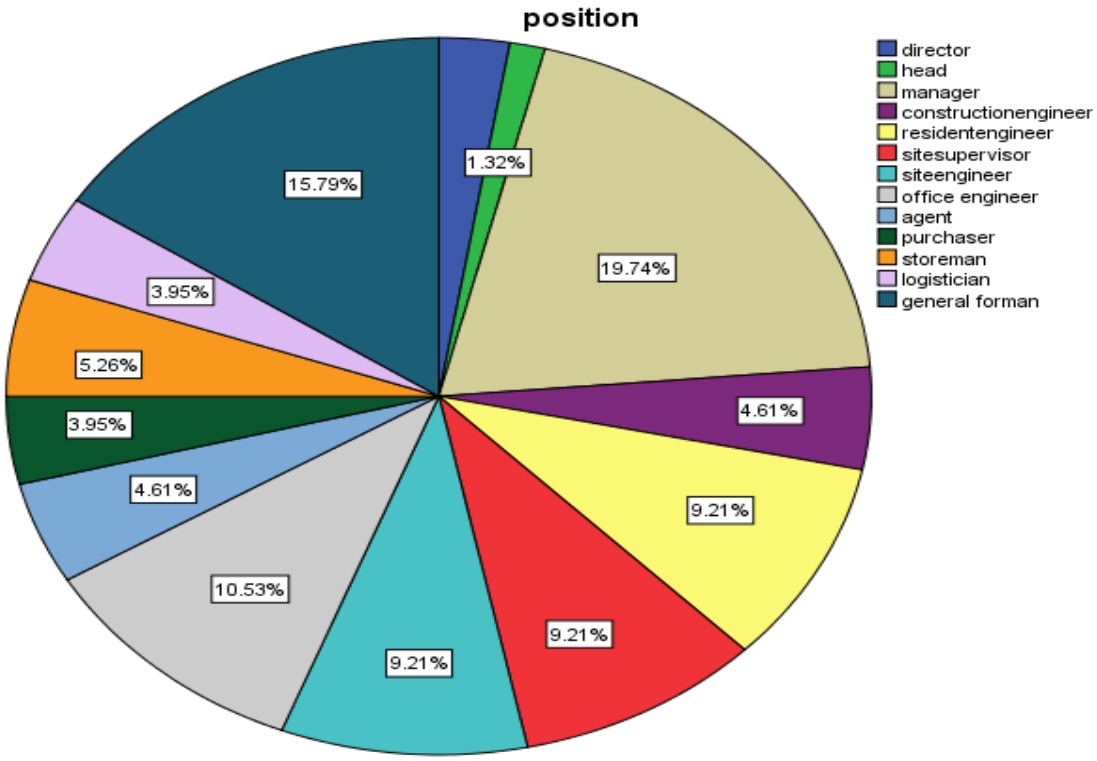
Figure 4.1 Department Representation of Respondents



Source: Own survey, 2026

4.3.5) Current Position in the Organization: The below attached pie chart shows the position in which employee or participants of the study were working. Managers comprise the largest percentage at 19.7% (30), and most of them are business owners of different service (sub-contractor) and/or product (supplier) providing companies. General Foreman's encompass the second largest percentage at 15.8% (24), indicating their significant presence and importance in construction projects production, day to day activity and quality control. Office Engineers covers the third largest percentage at 10.5% (16), who are working either for contractor's or supplier's companies.

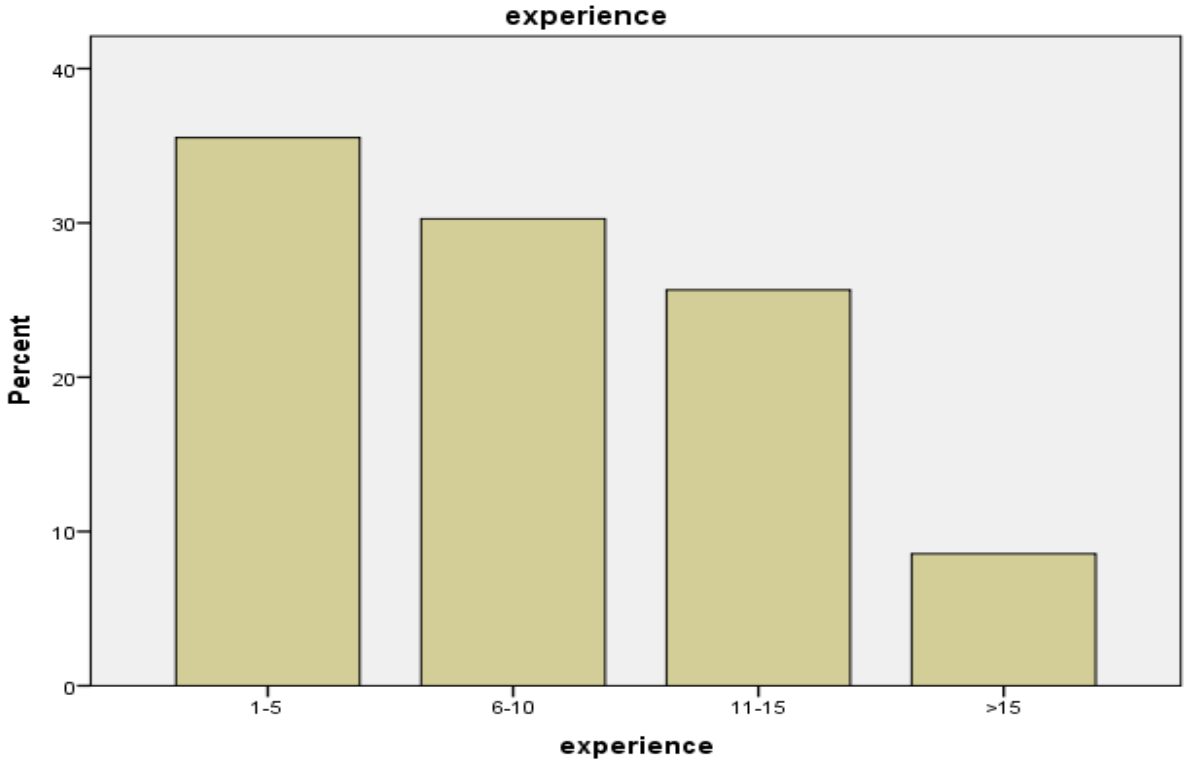
Figure 4.2 Representation of Respondents by Position in their organization



Source: Own survey, 2026

Resident Engineers, Site Engineers, and Site Supervisors have equal distribution in this sample each counting about 9.2% (14) respondents from Consultant, Contractor, or Sub-Contractor offices and these individuals are responsible for overseeing the quality of works, engineering aspects of a project, and ensuring its successful completion of tasks. 5.3% (8) store man/keeper respondents have participated in this survey who have a direct involvement in the demand and supply management practice. Construction Engineers from Contractor and Sub-Contractor side and Agents of Suppliers has participated in this survey in equal portion which are 4.6% (7) respondents. Construction Engineers role involves managing the workforce, ensuring adherence to schedules, and coordinating tasks to maintain project efficiency and safety. Logisticians and Purchasers also have equal number of respondents in this survey each by counting 3.9% (6) personnel's who have a substantial impact in Contractor-Supplier relationship management. Directors and head of departments are 2.6% (4) and 1.3% (2) respectively and the participation of this higher officials in this survey provides a comprehensive and representative data for the study.

Figure 4.3 Representation of Respondents by Work Experience



Source: Own survey, 2026

4.3.6) Work Experience: As shown on the above figure the data collected through questionnaire from total of 152 respondents of the study 56/152 (36.8%) have an experience ranging 1-5 years, 44/152 (28.9%) of employees had worked for a period of between 6-10 years, 39/152 (25.7%) of employees had been working for 11-15 years. Lastly the study shows that 13/152 (8.6%) of respondents were worked in the in the organization for long period of time (>15years).

Table 4.3 Representation of Position with Educational Background

Education by Position		Education								
		level-diploma		bsc-ba		msc-ma		phd		
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Total
position	director			1	.6%	2	1.3%	1	.6%	2.5%
	head			2	1.3%					3.3%
	manager			28	18.4%	2	1.3%			19.7%
	construction engineer			7	4.6%					4.6%
	resident engineer			12	7.9%	2	1.3%			9.2%
	site superviser			12	7.9%	2	1.3%			9.2%
	site engineer			13	8.6%	1	.6%			9.2%
	office engineer			14	9.2%	2	1.3%			8.5%
	agent	4	2.6%	3	2.0%					4.6%
	purchaser	2	1.3%	4	2.6%					3.9%
	storeman	4	2.6%	4	2.6%					5.2%
	logistician	2	1.3%	4	2.6%					3.9%
	general forman	14	9.2%	10	6.6%					15.8%
Total =152		26	17.1	114	75%	11	7.3	1	0.6	100%

Source: Own survey, 2026

4.3.7) Technical Credibility of Target Population: Prior to executing inferential causal modeling, a comprehensive descriptive analysis of the respondent demographics was conducted to validate the institutional credibility and technical reliability of the primary data gathered. As shown on table 4.3 out of the 152 valid completed questionnaires retrieved through the survey inquiry, over 82% of the participants hold specialized bachelor's or master's degrees in Project Management, Construction Technology, Civil Engineering, Accounting, Management, and other related field of studies. In addition, the respondent distribution is heavily weighted by senior

decision-making professionals, including active Managers, Construction, Resident, Site, and Office Engineers, Procurement Officers, and Contract Administrators, with more than 65% of the sample documenting over five years of active, hands-on experience within the complex Ethiopian real estate development sector. This elite professional distribution gives a strong baseline of technical validity to the study and empirically proves that the main data source is highly qualified higher officials, experienced expertise, key personnel's, practitioners with deep day-to-day understanding of CSRM, SCM, SRM, procurement lifecycle, contract governance realities, and site execution bottlenecks.

4.4) Diagnostic Test

The data should be checked for the mathematical assumptions of the statistical model chosen before doing inferential analysis, particularly in academic research such as construction management, (Joe, et al, 2020). This study utilized Reliability, Multi-collinearity and Normality tests to validate the data collected from 152 respondents.

4.4.1) Reliability Test

The article by (Taherdoost, 2022) defined reliability test as: "Reliability analysis is a fundamental step in quantitative research used to verify the internal consistency of a research instrument. It ensures that the items within a scale are measuring the same construct in a stable and consistent manner. The standard measure for this is Cronbach's Alpha, where a coefficient of 0.70 or higher is generally accepted as the threshold for reliability in management sciences." Reliability test is conducted on thirty individual item research questions as well as on the five composite variables which represents the core pillars of the research evaluating determinants of effective SRM in construction projects to check the validity of the data.

1. Individual Item Reliability Test: The article by (Goshen, 2024) stated that **"**reliability analysis is a fundamental procedure in quantitative research which we can use to verify the internal consistency of the research instrument applied and it will insures that the items within the scale are measuring the same construct in a stable and consistent manner. In academic research the standard measure is an alpha score of 0.70 or above is in the acceptable range and an alpha score above 0.90 is categorized as excellent by indicating that the items within the questionnaire are highly consistent and stable."

Table 4.4 Reliability Statistics of Individual Items

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.826	.832	30

Source: Own survey, 2026

The presented data in the above table 4.4, ensures that the data collected from the 152 respondents is dependable and accurately represents the constructs under this study. Reliability score of 0.826 confirms that the survey was statistically validated, well-designed, and the technical terminology used was clearly understood by the professionals at Ayat S.C. Despite the extensive number of the survey individual items (30 questions), the high alpha score suggests that the respondents remained consistent in their ratings across different sections.

2. Reliability Test of Research Constructs: The first reliability assessment was conducted on the individual questionnaire items (30 survey questions) to ensure that the specific questions related to contractor-supplier dynamics were understood consistently by the 152 respondents and then the data was grouped into one dependent and four independent research construct composite variables representing the core pillars of the research framework.

Table 4.5 Reliability Statistics of Variables

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.827	0.852	5

Source: Own survey, 2026

The reliability analysis of the 5 research constructs as detailed in the above table 4.5 indicates a high level of internal consistency for the research instrument, with a Cronbach's Alpha of 0.827 and a Standardized Alpha of 0.852, the instrument surpasses the standard academic threshold of ≥0.70. This indicates that the overall structural and behavioral components are well aligned and statistically stable, and makes sure that the framework is strong enough to proceed to multiple linear regression modeling.

3. Reliability Test of Independent Variables: According to widely used psychometric thresholds of (Hair, et al., 2020), a Cronbach's alpha value of 0.70 is considered to be good and acceptable internal consistency. Values between 0.60 and 0.69 are considered moderately acceptable especially in exploratory research or complex field environments. Values below 0.60 indicate low reliability and highlight potential measurement error or ambiguous scale items.

Table 4.6 Reliability Statistics of Independent Variables

		Reliability Statistics		
Row N.	Independent Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
1	Collaboration and Trust	0.830	0.844	6
2	Conflict Management	0.730	0.755	6
3	Supplier Selection	0.636	0.634	6
4	Contract Management	0.609	0.608	6

Source: Own survey, 2026

As shown on table 4.6 the highest standalone reliability among the independent variables was the behavioral dimension of collaboration and trust 0.830, by indicating that the 6 items measuring relational transparency, shared risk, and mutual goodwill are highly reliable. The construct that measured conflict management yielded a stable alpha value of 0.730 comfortably superseding the standard cutoff line of 0.70. This lower alpha score reveals an important fact within the organization sampled and the procedures of supplier selection and construction contracts is typically fragmented and inconsistent.

4.4.2) Normality Test

A study conducted by (Taherdoost, 2022) stated the range of normality test as follows: "In academic literature, data is generally considered to be normally distributed if normality test value fall within the range of -2.0 to +2.0 and in organizational research which the sample size exceed 100 cases kurtosis between -7.0 to +7.0 is in the acceptable limit."

Table 4.7 Table of Normality Test

Tests of Normality						
Description	Kolmogorov-Smirnov[a]	Shapiro-Wilk	Std. Error	Skewness	Kurtosis	Sig.
Supplier Selection	.209	.864	.028816	.178	-1.537	.000
Conflict Management	.261	.854	.023177	-.959	-.017	.000
Contract Management	.184	.872	.030821	.167	-1.389	.000
Collaboration and Trust	.138	.927	.046199	.110	-1.033	.000
Effective SRM	.236	.884	.026848	.193	-1.231	.000

Source: Own survey, 2026

As shown on the above table of normality test all construct variables are in the allowable limit with the highest skewness value effective SRM 0.193 and lowest skewness value conflict management -0.959 and highest kurtosis value supplier selection -1.537 and lowest kurtosis value conflict management -0.017 in which all five variables are in the applicable range. The normality test result of the normality test Kolmogorov-Smirnov and Shapiro-Wilk yielded a significance value of 0.000 by showing the normality of the data is suitable for parametric testing. The conducted normality tests result shows that all five variables are completely in the range of -2.0 to +2.0 as a result this approves that the collected data doesn't exposed to extreme skewness or heavy-tailed outliers that would distort parametric test calculation of the study.

4.4.3) Multi-Collinearity Test

The article by (Jane, et al., 2023) stated that "Collinearity refers to the non-independence of predictor variables, usually in a regression-type analysis. It is a common feature of any descriptive ecological data set and can be a problem for parameter estimation because it inflates the variance of regression parameters and hence potentially leads to the wrong identification of relevant predictors in a statistical model. Collinearity is a severe problem when a model is

trained on data from one region or time, and predicted to another with a different or unknown structure of collinearity." Concentrating on four primary predictors contract management, supplier selection, collaboration and trust, and conflict management this research model to address extreme collinearity to allow the model for a more stable and scientifically valuable assessment of determinants of effective supplier relationship management in construction.

Table 4.8 Collinearity Diagnostics Table

Collinearity Diagnostics[a]

Model	Eigenvalue	Condition Index	Variance Proportions				
			Constant	Supplier Selection	Conflict Management	Contract Management	Collaboration and Trust
1	4.976	1	0	0	0	0	0
2	0.016	17.523	0.06	0.03	0.01	0	0.24
3	0.013	21.705	0.11	0.13	0.04	0	0
4	0.009	27.329	0.15	0.03	0.09	0.07	0.03
5	0.004	34.953	0.27	0.93	0.04	0	0
Collinearity Diagnostics[a]		Tolerance		0.677	0.451	0.157	0.243
		VIF		1.478	2.218	6.358	4.107

a. Dependent Variable: Effective SRM

Source: Own survey, 2026

A sophisticated variance decomposition analysis using eigenvalues and condition indices was carried out to perform an extensive examination for multi-collinearity. While a condition index above the threshold of 30.0 indicates an area of high shared variance and it becomes problematic collinearity only if a single dimension accounts for a proportion of variance greater than 0.90 across two or more independent variables at the same time and even if a complete elimination of multi-collinearity is not possible condition index of 30 to 100 are considered in a range of moderate to strong associations (Dinesh et al., 2018). Methodologically the empirical diagnostics show five distinct dimensions in the model and dimension 5 shows higher condition index of 34.953 which isolates the moderately higher variance proportion for supplier selection 0.93. But, these high variance proportions do not match across variables so the OLS regression engine retains the mathematical capacity to isolate the unique predictive effects of each predictor. And as stated in the study of (Kim & Nguyen, 2022) "multi-collinearity is considered as it is in allowable range if tolerance value is >0.10 & Variance Inflation Factor (VIF) values is <5.0

shows that predictors are not correlated & doesn't inflate the standard errors of the coefficients." As displayed in the collinearity diagnostics output table 4.8 the tolerance value of the four independent variables contract management 0.157, supplier selection 0.677, collaboration and trust 0.243, and conflict management 0.451 & VIF value of 6.36, 1.48, 4.11, & 2.22 respectively as well as due to all values are in the allowable range of tolerance value >0.10 & VIF values < 7, the assumption of non multi collinearity is fully satisfied. The result implies that the individual predictive weights of contract management, supplier selection, collaboration and trust, & conflict management possesses sufficient distinct operational variance by allowing a reliable stable estimation on the dependent variable effective SRM.

4.5) Descriptive Analysis

The article by (Siregar, 2025) defined descriptive analysis as "The primary goal of descriptive statistical analysis is to transform raw numerical data into a comprehensible summary that can guide interpretation and communication by employing measures such as mean, median, mode, range, and standard deviation, researchers gain insight into data distribution and variability. Descriptive statistics is the basic level of quantitative data analysis by focusing on techniques for summarizing, organizing, and displaying data sets in some useful ways without making probabilistic inferences about larger populations and has diagnostic value in providing information about the distribution of data patterns and potential anomalies before inferential analysis begins." The data collected from the respondents of this research is analyzed with descriptive and inferential analysis and under descriptive analysis mean and standard deviation of all 5 research construct variables is analyzed and presented in the table 4.9 below.

Table 4.9 Statistics of Variables and Research Constructs

Descriptive Statistics				
R.N.	Variables	Mean	Std. Deviation	N
1	Supplier Selection	3.93531	.355266	152
2	Conflict Management	3.79715	.285740	152
3	Contract Management	3.73575	.379983	152
4	Collaboration and Trust	3.48684	.569580	152
5	Effective SRM	3.77303	.331007	152

Source: Own survey, 2026

4.5.1) Central Tendency and Dispersion

Supplier selection scored the highest mean of 3.93 by exposing that it is among the organization main focus area and conflict management got the second highest mean score of 3.8 by revealing that the organization management team has a great emphasis on this area. The third highest score is enumerated for the dependent variable effective SRM by getting a score of 3.77 by indicating that the organization efficiency in this area is not as it has to be. The fourth score is enumerated for the independent variable contract management by getting a score of 3.73 by signifying that the company's limitation in managing and administering contracts. Collaboration and trust got the list mean scores by describing that there is a drawback in this area of management. The standard deviation endured moderately small value across all research construct variables specifically collaboration and trust scored the highest 0.57 and conflict management scored the least 0.28 by confirming that there is high level of consensus between the participants of this research.

4.5.2) Data Distribution

As the normality and data distribution test result is presented on table 4.7 the Kolmogorov-Smirnov and Shapiro-Wilk yielded a significance value of 0.001 by showing the normality of the data is suitable for parametric testing. The conducted normality test result shows that all five variables are completely in the range of -2.0 to +2.0 as a result this approves that the collected data doesn't exposed to extreme skewness or heavy-tailed outliers that would distort parametric test calculation. In order to determine whether data meets distribution assumptions for parametric estimations, skewness and kurtosis were assessed against the ± 2.0 criteria. Skewness values of all variables varied between -0.959 and 0.193, showing great symmetry. In addition to that, the kurtosis values varied from -1.537 to -0.017. They all fit nicely the academic ± 2.0 requirement. Therefore, it may be concluded that the data satisfies the characteristics of a normal distribution and is acceptable for reliable and unbiased parametric estimations and can proceed to inferential regression analysis.

4.6) Inferential Analysis

Inferential analysis is a branch of statistics that allows researchers to move beyond simple descriptions of a dataset to make generalizations, predictions, and estimations about a larger population. It serves as a critical statistical framework in academic research, allowing to make a

population based specific sample data and resolving diagnostic issues such as multi-collinearity is essential for maintaining the integrity of inferential results (Memon et al, 2019).

4.6.1) Correlation Test

Correlation analysis is an inferential statistical method used to evaluate the strength and direction of the linear relationship between two continuous variables. In statistical analysis the most commonly used indicator of strength and direction of linear correlation is the Pearson Correlation Coefficient "r" which lies between values of -1.0 and +1.0. A value of +1.0 denotes that there exists a perfect positive relationship meaning that the two variables rise or fall together. A value of -1.0 means that the relationship is perfectly inverse with one variable rising as another falls. Just as essential is the level of significance a p-value less than 0.05 or 0.01 is generally required to reject the null hypothesis and confirm a meaningful association (Hair, et al, 2020). To assess the bivariate linear relationships across the framework a Pearson-Correlation analysis was conducted as shown in table below.

Table 4.10 Correlation Analysis Table

Correlations

Description		Supplier Selection	Conflict Management	Contract Management	Collaboration and Trust	Effective SRM
Supplier Selection	Pearson Correlation	1	.508**	.535**	.408**	.588**
	Sig. (2-tailed)		.000	.000	.000	.000
Conflict Management	Pearson Correlation	.508**	1	.697**	.489**	.820**
	Sig. (2-tailed)	.000		.000	.000	.000
Contract Management	Pearson Correlation	.535**	.697**	1	.856**	.950**
	Sig. (2-tailed)	.000	.000		.000	.000
Collaboration and Trust	Pearson Correlation	.408**	.489**	.856**	1	.845**
	Sig. (2-tailed)	.000	.000	.000		.000
Effective SRM	Pearson Correlation	.588**	.820**	.950**	.845**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	152	152	152	152	152

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

Source: Own survey, 2026

Empirical evidence has shown that all the four independent variables have statistically significant positive linear relationship with the dependent variable effective SRM at $p<0.001$ level. Contract

management held the strongest linear association ($r = 0.950$, $p < 0.001$), showing it serves as the main foundation for building a successful relationship. The relational parameters also had very strong bonds, where collaboration and trust ($r = 0.845$, $p < 0.001$) and also conflict management ($r = 0.820$, $p < 0.001$) were heavily correlated with relationship performance. Upfront multi-criteria supplier selection was found to maintain a stable, strong positive relationship ($r = 0.588$, $p < 0.001$) verifying that proactive partner screening supports downstream relationship execution. Even if, strong linear cross-correlations were found between the predictors, especially between contract management and collaboration & trust ($r = 0.856$, $p < 0.001$). The high level of shared variance indicates that structural contract administration and informal relational trust operate as highly integrated systems within the sampled organizations, which supports the use of multiple linear regression modeling in order to isolate their unique predictive contributions. Collectively, these results provide a scientifically sound mandate to proceed with regression analysis, as they confirm that these variables are powerful predictors of organizational outcomes.

4.6.2) Model Fit and Variance Explanation

An article by (Eva et al., 2025), model fit describes the relationship between a response variable and one or more predictor variables. There are many different models that you can fit including simple linear regression, multiple linear regression, and Analysis of Variance (ANOVA). Through rigorous econometric techniques the data was subjected to an exhaustive cleansing and nesting process. Operational variables contract management, supplier selection, collaboration and trust, and conflict management were nested under their corresponding primary structural dimensions, making independent variables relevant for the regression analysis.

Table 4.11 Model Summary Table

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.985a	.971	.970	.056982	.971	1237.071	4	147	.000

a. Predictors: (Constant), Collaboration and Trust, Supplier Selection, Conflict Management, Contract Management

Source: Own survey, 2026

As shown in the above table the effectiveness of the inferential model is demonstrated by the multiple correlation coefficient "R" 0.985 which shows a near perfect alignment combined between the predictors and the determinants of the relationship, and standard error of the estimate, 0.057 indicates that the model is a very good fit with low residual variance about the regression line. Adjusted R^2 of .970 specifies that 97% of the variance in effective SRM is explained by the combination of collaboration and trust, conflict management, supplier selection, and contract management and only 3% of the variance will remain uncalculated and outside of this model.

Table 4.12 ANOVA Table

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.067	4	4.017	1237.071	.000b
	Residual	.477	147	.003		
	Total =	16.544	151			

a) Dependent Variable: Effective SRM

b) Predictors: (Constant), Collaboration and Trust, Supplier Selection, Conflict Management, Contract Management

Source: Own survey, 2026

The overall statistical validity of these relationships was confirmed by the ANOVA results, which yielded a highly significant F-statistic of 1237.071 (p = .001) ensuring the findings are not a result of random chance as shown in the above ANOVA table 4.12. The overall F-value is massive and its significance value is far below the traditional alpha threshold (alpha = 0.05), so the null hypothesis is confidently rejected. The combined predictive model is very stable, reliable and mathematically sound in predicting outcomes of the relationships and these preliminary findings provide the justification for moving towards predictive modeling through multiple linear regression.

4.6.3) Regression Analysis

Regression analysis investigates components work best together when building predictive models, leading to far more precise forecasts and determine the statistical significance of a link between two or more variables and can give detailed information about relationships which can

provide a quantitative prediction of the influence of many variables on a target variable. The goal of regression analysis is to reveal the effect that varying the value of one variable has on the dependent variable (Junaid, 2022).

Table 4.13 OLS Regression Parameter Estimates (N=152)

Coefficientsa

Model-1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.024	0.067		0.364	0
Supplier Selection	0.061	0.016	0.065	3.813	0
Conflict Management	0.401	0.024	0.346	16.575	0
Contract Management	0.386	0.031	0.443	12.548	0
Collaboration and Trust	0.157	0.016	0.27	9.513	0

a) Dependent Variable: Effective SRM

Source: Own survey, 2026

1. Evaluation of Coefficients: Multiple regression assumes a linear relationship exists between the independent variables and the dependent variable. The coefficients table represents the final and vital component of multiple linear regression analysis by evaluating individual coefficients methodological validation (Thurasamyd, et.al, 2025).

The following section provides a detailed discussion of the above coefficients table through the lens of regression assumptions. In this model, the unstandardized coefficients "B" are positive for all four independent variables: Conflict Management (B = 0.401), Collaboration and Trust (B = 0.157), Supplier Selection (B = 0.061), and Contract Management (B = 0.386). This satisfies the assumption of linear directionality proving that a positive improvement in any of these execution and management pillars results in a direct predictable increase in effective SRM.

2. Relative Impact Analysis of Beta Weights: While unstandardized coefficients of "B" are used to construct the predictive regression equation, standardized coefficients "β" are used to compare the relative strength of the predictors because they are converted into a standardized scale.

Contract Management: is identified as the most dominant predictor of effective SRM in this model with a Beta value of "β"=0.443 which implies that when holding all other variables constant, a one-standard-deviation increase in the quality of contract management results in a 0.443 standard deviation increase in effective SRM. This underlines that formal structures, legal clarity and good contract management are the essential drivers for effective SRM.

- **Supplier Selection:** has a smallest relative direct effect "β"=0.065 compared to the other three variables. However, because it remains extremely significant ($p < .001$), it should be interpreted as a foundational prerequisite in the research. While selection happens at the initial phase of a project, its ongoing direct effect ensures that choosing the right partner sets the baseline upon which contracts and relational metrics operate.
- **Conflict Management:** is the second most influential predictor in this research. A one standard deviation increase in conflict management metrics such as proactive collaborative dispute resolution routines leads to a 0.346 deviation increase in effective SRM. This highlights the importance of resolving field disputes early in order to avoid operational gridlock and preserve supply chain relationships.
- **Collaboration and Trust:** is a very important clean positive driver and the third most influential predictor in this study by resulting a one standard deviation increase in collaboration and trust leads to a 0.270 deviation increase in this relationship success. This is in perfect accordance with the literature review, showing that relational goodwill and transparency optimization in effective SRM in construction projects.

3. Hypothesis Testing and Statistical Significance: The table provides the definitive empirical proof required to accept or reject the research hypotheses. This is evaluated using the t-statistic and the significance Sig. value.

- **HA-1 Contract Management:** Yields a t-statistic of 12.548 with a significance level of .001. Because $p < .05$, This supports to reject the null hypothesis H0-1 and conclude that contract management has a statistically significant positive direct effect on effective SRM.
- **HA-2 Supplier Selection:** Yields a t-statistic of 3.813 with a significance level of .001. While it has the lowest t-value in the model it remains highly significant $p <0.001$, meaning verifies to reject the null hypothesis H0-2 and it makes a unique and essential contribution to the prediction of effective SRM.

- **HA-3 Collaboration and Trust:** Yields the t-statistic in the model 9.513 with a significance level of .001 proofing statistically support to accept the alternative hypothesis HA-3. This relational collaboration and trust have a statistically significant positive direct effect on effective SRM.
- **HA-4 Conflict Management:** Yields the highest t-statistic in the model 16.575 with a significance level of .001 and B=0.401, this confirms that statistically significant positive direct effect on effective SRM and support to accept the alternative hypothesis HA-4.

4. Predictive Regression Equation: The following equation was developed based on the unstandardized coefficients "B": Effective SRM = 0.024 + (0.386*Contract Management Beta) + (0.061*Supplier Selection Beta) + (0.157*Collaboration and Trust Beta) + (0.401*Conflict Management Beta). The Constant (B = 0.024) represents the Y intercept. If contract management, supplier selection, collaboration and trust, and conflict management were all theoretically valued at zero, the baseline value for effective SRM would be 0.024. The fact that the constant is statistically significant (t = 0.364, p = 0.001) validates the mathematical structure of the model.

From hypothesis testing results it is clear that all the four independent variables have a statistically significant and positive effect on the dependent variable effective SRM at the highest level of confidence intervals (p = .001). As shown in the analysis of standardized regression coefficients, contract management is a leading factor responsible for relationship optimization with (beta = 0.443, t = 12.548). This is followed by conflict management which is a secondary contributor to effective SRM (beta = 0.346, t = 16.575), collaboration and trust is the third contributor to effective SRM (beta = 0.27, t = 9.513), while supplier selection is the least significant but foundational variable in relation to effective SRM (beta = 0.065, t = 3.813). Additionally, this observation constitutes solid empirical evidence of the conceptual models validity demonstrating clearly that hard institutional controls and soft relational capacities are the essential preconditions of determinants of effective SRM in construction projects. Inferential evaluation of individual parameters was simulated based on the linear regression coefficient indicating precisely how much and in what direction each independent parameter affects the dependent variable in this case the degree of effective SRM in construction projects.

4.7) Discussion of Findings

Findings from the analysis of data obtained through 152 respondents of the research survey at Ayat S.C. provided a very detailed and rigorous statistical basis for the understanding of determinants of effective SRM in construction projects. In this section, the findings from the analysis of the descriptive, diagnostic, and regression findings are systematically evaluated in conjunction with current construction management literatures.

4.7.1) Description of the Model Components

The regression model distinguishes the variables into Causes (the predictors) and Effects (the outcomes):

- **Dependent Variable (The Effect):** Effective SRM (the targeted variable) the outcome that needs to be predicted or improved.
- **Independent Variables (The Causes):** Contract management, supplier selection, conflict management, and collaboration and trust are the strategic levers used to change SRM effectiveness.
- **The Constant (0.024):** This is the intercept value. This means that mathematically where Contract management, supplier selection, conflict management, and collaboration and trust have an assumed score of 0, the floor value for Successful SRM will be 0.024.
- **Error Term ε (Epsilon):** Methodologically it is important to point out that while this theoretical population model includes a stochastic error term epsilon ("ε") to capture the unmeasured structural and environmental irregularities in the construction sector this explicit parameter is excluded from this empirical equation. This is a justified omission as Ordinary Least Squares (OLS) estimation constrains the mean of the residuals to be zero. The extremely low Standard Error of the Estimate (0.067) of the model shows that the variance of the unmeasured error term is very low, which confirms that the error term accounts only 3% of the remaining unexplained variance in the overall model framework.

4.7.2) How the Calculation Works (Unstandardized “B” Weights)

Beta coefficients are used since they provide the absolute values of how much effective SRM will increase for each unit increase (of one point on the five point Likert scale) of one predictor, assuming that the value for other variables are held constant:

- **Collaboration and Trust Calculation (0.157):** Effective SRM score directly rises by 0.157 points for each 1.0-point improvement in the score assigned to the main collaboration and trust criteria.
- **Conflict Management Calculation (0.401):** Effective SRM score directly rises by 0.401 points for each 1.0-point improvement in the score assigned to the main conflict management practices.
- **Supplier Selection Calculation (0.061):** An improvement of 1.0 points on supplier selection will cause an effective SRM increase of (0.061) points.
- **Contract Management Calculation (0.386):** The total effective SRM value increases by 0.386 for an increase of one unit of contract management performance.

For Example: If a team working on a project of Ayat S.C. scores 4.5, 4.25, 4.0, and 3.75 out of 5 Likert-Scale on Collaboration and Trust, Conflict Management, Supplier Selection and Contract Management respectively, then the Effective SRM is calculated as follows:

Successful SRM = 0.024 + (0.157*4.5) + (0.401*4.25) (0.061*4.0) + (0.386*3.75)

Successful SRM = 0.024 + 0.7065 + 1.7042 + 0.244 + 1.4475

Successful SRM = 4.1022

4.7.3) Description of the Path Diagram (Standardized "β" Weights)

The total Whereas scale scores have been derived using the regression equation formula and the path diagram makes use of standardized coefficients also known as "β". Because such values are convertible into the same standardized scale and it becomes possible to prioritize the variables in order of their relative importance so as to identify the most critical strategic driver in terms of its importance weight as follows:

- **Contract Management "β" = 0.443:** Is the most dominant causal driver among all other drivers in the model. An increase of one standard deviation in the process of carrying out a contract leads to a highest significant rise of 0.443 standard deviations in effective SRM.

- **Conflict Management "β" = 0.346:** An increase of one standard deviation in the process of conflict management leads to a highly significant rise of 0.346 standard deviations in effective SRM.
- **Collaboration and Trust "β" = 0.27:** An increase of one standard deviation in the process of collaboration and trust leads to a highly significant rise of 0.27 standard deviations in effective SRM.
- **Supplier Selection "β" = 0.065:** This driver has the least importance weight relative to the others. This explains the fact that there exists high embedding of the selection process into contracts, and supplier selection sets a necessary foundation but its variance is largely carried out through the project active contract over its lifecycle.
- **Statistical Significance (p = 0.001):** All four paths have shown a high degree of confidence level of 99%. The possibility that the observed relationships might be due to any form of sampling is statistically less than one in a thousand, which means that this model presents an excellent and mathematically sound tool for this thesis.

4.8 Implications of the Study

The article by (Fishbone, 2026) defined that "research implications tell us how and why the results are important for the field at large and tell us how the work contributes to the field and what it adds to it. Implications are essential when we want to tell the peers why the research is important for ongoing theory, practice, policymaking, and for future research. Crucially, the implications must be evidence-based, and they must be derived from the results in the paper. A good strategy is to separate the implications into types and the most frequently used types are theoretical and practical. Theoretical implications relate to how the findings connect to other theories or ideas in the field, while practical implications are related to what we can do with the results."

4.8.1 Theoretical Implications

Contract Management: The dominance of Contract Management (beta = 0.443) means that in situations where a market encounters serious macro-economic shocks like the rise in material prices and currency changes which is often seen in Ethiopia, then loose relational trust is extremely fragile and may easily crumble. Based on this study's findings, formal contracting

governance is a requirement for building trust within arrangements through a strict contract provisions, change order control systems, and risk allocation mechanisms.

Collaboration and Trust: Social exchange theory suggests that relationships within organizations evolve over time through a series of mutual reciprocal exchanges that create obligations and develop trust. The regression model shows a unique and highly significant positive baseline for collaboration and trust by indicating that relational capital is not merely an enjoyable by-product of business but it is a quantifiable independent source of predictive variance for relationship performance. This expands SET in project-based effective SRM by showing that even in a highly formal rigid environment informal goodwill and mutual trust are mathematically required for optimum operational efficiency.

Conflict Management: Created the greatest clean unit-to-unit positive baseline change in the whole model ($B = 0.401$, $t = 16.575$, $p < 0.001$). This moves the academic lens on conflict management away from a defensive troubleshooting activity to conceptualized systematic loops of dispute resolution as a dynamic organizational capability. The capacity to absorb field shocks settle disputes without work stoppages and align divergent goals serves as a strategic asset that directly drives relationship health.

Selection of Suppliers: acts as the ultimate strategic portal for effective SRM by functioning as a critical upstream filter that sets the fundamental structural quality, technical capacity, and relational alignment of the supply chain ($r = 0.588$, $p < 0.001$). While its relative predictive weight decline it remains a mathematically vital and statistically significant foundation ($t = 3.813$). Thus, it is a mathematical necessity to move away from the traditional lowest-bidder paradigm to a holistic multi-criteria pre-qualification matrix that filters out operational risks at the entry point to unlock downstream relationship success.

4.8.2 Empirical Implications

The empirical findings of this study clearly map a route for procurement directors and project managers in that effective SRM cannot exist in a vacuum, but must be managed as a continuous lifecycle wide governance system ($R^2 = 97.1\%$). When higher capacity partners are in place managers must not treat formal contract administration as a passive legal safety net, but as an active operational blueprint that sets the transparent boundaries needed for collaboration and trust to safely mature. Finally, as construction projects are highly susceptible to disruptions in the

real world firms must institutionalize collaborative non-adversarial dispute resolution routines, this practice acts as the model's most agile dynamic capability turning potential conflicts into productive alignment and directly securing effective SRM and long term supply chain success in construction projects.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

5.1) Conclusions

This study offers a rigorous empirical assessment of the structural and behavioral factors that influence the effectiveness of SRM in construction projects, particularly at Ayat S.C. The study combined the relational view with the behavioral obligations of social exchange theory to successfully map and calculate the unique operational levers that drive downstream relationship success in construction project based environments.

The empirical evidence leads to the definitive conclusion that effective SRM cannot operate in isolation or as a passive background process, but rather functions as a highly integrated, continuous lifecycle management system. The generated regression model (Adjusted R^2 = 97%) shows that the explanatory power of relationship effectiveness is strongly related to systematic contract governance, proactive multi-criteria vendor filtering, collaborative dispute resolution capabilities and mutual transparency.

A key finding of this study is the overwhelming relevance of formal structures relative to informal relationship connections. While behavioral trust is important, Contract Management was found to be the single most dominant predictive driver (beta = 0.443). In an intrinsically volatile macroeconomic environment characterized by sharp price movements and localized supply chain bottlenecks structured contract management is the essential stabilizing ground by

setting a clear boundaries and risk sharing structures that allow informal collaboration to grow safely.

Therefore, this research finds that operational conflict management is the most dynamic capability of the model and has the most positive direct change on unit basis (B = 0.401). Because of the scattered nature of disputes in construction sites are almost inevitable. Hence, the ability to rapidly resolve material and scheduling frictions by means of structured and collaborative processes avoids operational standstill and protects long-term cooperation networks. Finally, while Supplier selection had the lowest direct beta weight, it is still a statistically required baseline filter. A shift from short-term low-bid procurement models to balanced multi-dimensional pre-qualification is structurally required to remove downstream project failure risks before project execution begins.

5.2) Recommendations

Based on the empirical findings, data analysis and conclusions of the study the following actionable recommendations are suggested for the management of Ayat S.C, industry practitioners and procurement directors in order to turn the current contractor-supplier relationship from being a fragmented, reactionary, and cost centered into a productive strategic asset:

- **Transition from reactive to proactive contract governance:** Ayat S.C. needs to improve its contract management capability significantly to match its high capacity to resolve conflicts. There needs to be a more standardized systematic approach towards developing contract administration manual procedures which include automation of milestone notices, price adjustment mechanisms as buffers against inflation in the local market environment, and clear risk allocation provisions.
- **Develop Collaborative Conflict Resolution protocols:** Because conflict management has the highest unit change (B = 0.401) on relationship success, the management should institutionalize collaborative problem-solving procedures. Ayat S.C. should set up specific inter-firm dispute mitigation committees comprising the project managers, procurement officers, and main supplier representatives. This approach should enforce structured feedback loops to solve early field friction like material problems, (quality,

quantity, shortage) late payments, delivery delays, and avoid costly legal battles or work stoppages in the middle of construction project implementation period.

- **Collaboration and Trust:** The organization should invest in integrated technical solutions to communicate real-time material demands and building timetables to maximize the positive effects of collaboration and trust. Being open about how to finance, how long projects will take, and how often will be payed helps to cut down on opportunistic behavior from partners and helps to create trust in between supplier and contractor and makes the supply chain more responsive.
- Supplier Selection: Ayat S.C. should remodel its vendor selection criteria to safeguard the downstream execution of construction projects. The procurement department shall implement some clear and formalized selection criteria which could be used to score candidates on multi-dimensional performance vectors like financial health, technical capacity, delivery reliability, historical quality records, and relational compatibility.

Appendixes-1 References

Abdullayeva, M., & Ataeva, N. (2022). Mortgage Lending with the Participation of the Construction Financing Fund of the Bank of the Future: A Literature Review.

Afsheen, Hassan, M., Chohan, I., Hussain, S., & Ali, R. (2025). Supply Chain Management Impact On Project Performance In Construction.

Alemayehu Bakalo & Mekonnen Bogale. (2024). Trust and Collaboration in Practices of Supply Chain Management.

Alemu, S. (2017). St. Mary's University School of Graduate Studies.

Ali Reza Afshari & Diana Dast Pak. (2023). Trust in construction projects.

Almutairi, F. S. (2022). The Contractor-Subcontractor Relationship Types in the Construction Industry in Saudi Arabia. Open Journal of Business and Management,

Amanuel Haile. (2022). Practice and challenges of contract management in construction.

Ayelign, A. (2023). The effects of supplier relationship management practices on organizational performance and competitive advantage of large manufacturing companies in Bahir Dar, Ethiopia. Journal of Future Sustainability, 3, 233–242.

Betelhem Kebede. (2017). Assessment of Supply Chain Management in Public Building Construction Projects in Addis Ababa.

D´ esir´ ee A.C. Wieland & , Bj¨ orn S. Ivens. (2025). Purposive Sampling.

Daboun, O., Abidin, N. I., Khoso, A. R., Chen, Z.-S., Yusof, A. M., & Skibniewski, M. J.(2023). Effect of relationship management on construction project success delivery.

Daboun, O., Md Yusof, A., & Khoso, A. R. (2023). Relationship Management in Construction Projects: Systematic Literature Review. Engineering Management Journal

Dinesh, Reena, & Anand. (2018). Multi Collinearity.

Dyer, J. H., & Singh, H. (1998). The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage. The Academy of Management Review,

Emovon, G. O., Ugwu, K. E., Duru, E. E., & Ohwofadjeke, P. O. (2025a). Evaluating the Role of Supplier Relationship Management in Enhancing Supply Chain Performance in Construction Projects.

Emovon, G. O., Ugwu, K. E., Duru, E. E., & Ohwofadjeke, P. O. (2025b). Evaluating the Role of Supplier Relationship Management in Enhancing Supply Chain Performance in Construction Projects.

Enawgaw, A. (2021). Factors Affecting Supply Chain Management of Major Building Materials in Addis Ababa, Ethiopia.

Ernest Mugon, James Kanyepe, & Marian Tukuta. (2024). Sustainable SCM Practice and Performance.

Eva Christalle, Levente Kriston, Stefan Zeh1, & Hannah Führes1. (2025). Development and psychometric tes_ng.

Faisol, N., Dainty, A. R. J., & Price, A. D. F. (n.d.). The Concept of 'Relational Contracting' As A Tool for Understanding Inter- Organizational Relationships in Construction.

Fireweyni Kiros. (2024). Factors affecting investment in real estate in Ethiopia.

Frempong, M. F., Mu, Y., Adu-Yeboah, S. S., Hossin, M. A., & Adu-Gyamfi, M. (2021). Corporate Sustainability and Firm Performance: The Role of Green Innovation Capabilities and Sustainability-Oriented Supplier–Buyer Relationship. Sustainability,

Gatti, S. (2023). Project Finance in Theory and Practice: Designing, Structuring, and Financing Private and Public Projects. Elsevier.

Goshen D Miteu. (2024). Ethics in scientific research.

Haddis, E., & Asrat, B. (2023). Stakeholder Management Approach for A Successful Project Delivery: - A Case of Ethiopian Construction Design and Supervision Works Corporation-Construction Sector.

Hazhir Koozani. (2025). Developing a theory of collaboration in construction based on its characteristics and indicators.

Irshadullah Asim. (2023). Supplier relationship management: Strategies for enhancing collaboration and performance.

Jaisree, K. B., & Palani, B. (2024). Supply Chain Management in Construction Projects: A Comprehensive Analysis of the Indian Context - Review. International Journal of Research and Review, 11(1), 298–308. https://doi.org/10.52403/ijrr.20240132

Joe F. Hair, Jr., Michael Page, & Niek Brunsveld. (2020). The Essentials of Business Research Methods.

Joshua Ebere Chukwuere. (2021). Theoretical and Conceptual Framework.

Junaid, M. (2022). Application of Regression Analysis in Advance Research.

Kifle S. Sima. (2023). Conflict Management and Dispute Resolution in Construction Projects.

Kim, S.-Y., & Nguyen, V. T. (2022). Supply chain management in construction: Critical study of barriers to implementation. International Journal of Construction Management, 22(16),

Koolwijk, J. S. J., van Oel, C. J., Wamelink, J. W. F., & Vrijhoef, R. (2018). Collaboration and Integration in Project-Based Supply Chains in the Construction Industry. Journal of Management in Engineering, 34(3), 04018001. https://doi.org/10.1061/(ASCE)

Kshaf, D. A., Mohamed, M. A., & El-Dash, K. M. (2022). The major problems between main contractors and subcontractors in construction projects

Lepold, A., Binninger, M., & Wolfbeiß, O. (2023). Integration and Development Model for Supplier Relationship Management in Construction.

Lu, H., Gao, X., Pishdad-Bozo P., & Wang, G. (2019). Construction Supply Chain Integration

Memon, M. A., Cheah, J.-H., Ramayah, T., Ting, H., Chuah, F., & Cham, T. H. (2019). Moderation Analysis: Issues and Guidelines. Journal of Applied Structural Equation

Meron Gudeta. (2021). A Thesis Submitted to St. Mary's University, School of Graduate

Mesfin Tamire. (2020). Assessments of Supply Chain Management Practice: In The Case of World Vision Ethiopia Construction Section.

Moges Dibaba. (2015). Practices and Challenges of Supply Chain Management In Ethiopian Private Grade One Road Construction.

Mumtaz Ali Memon, Hiram Ting, Jun-Hwa Cheah, & Ramayah Thurasamyd. (2025). Purposive Sampling: A Review And Guidelines for Quantitative Research.

MUTUKU, M. (2022). Supplier Relationship Management and Performance of Road Construction Projects.

Mwakamui, H. K., & Ntshwene, K. (2024). Stakeholders Influence on Construction Project Success. Journal of Civil Engineering and Urbanism, 14(3s), 206–211.

Nguyen, D. T., & Le, P. L. (2022). Twenty-year application of logistics and supply chain management in the construction industry. Construction Management and Economics,

Osho, G. S., Nwuka Ochonogor, K., & Ojumu, M. (2024). Impact of Supply Chain Management in the Construction Industry for Effective Project Delivery. International Journal of Advances in Engineering and Management, 6(10), 602–609.

Patrucco, A. S., Moretto, A., & Knight, L. (2021). Does relationship control hinder relationship commitment? The role of supplier performance measurement systems in construction

PPA_SBD_GCC. (2011). Ethiopian Standard Bid Document.

Procurement-and-property-proclamation. (2024). Procurement-and-property-proclamation-2024.

Rahmani, F., Tadayon, A., & Van Der Walt, J. D. (2025). Managing client-contractors' working relationship in construction projects: A holistic approach. Engineering, Construction and Architectural Management, 32(13), 362–383.

Rigel Pawallo & Oei Fuk Jin. (2025). Construction Supplier Selection Criteria:

Roham Nikinosheri & Filip Staxäng. (2016). Contractor-Supplier Relationships in the Construction Industry.

Samantha Reynolds. (2024). Understanding Supplier Relationship Management Practices in the Context of Supply Chain Dynamics.

Siregar Torang. Descreptive Statistics.

Social Exchange Theory. ResearchGate. Retrieved June 12, 2026, from

Taherdoost, H. Exploring the impact of response option sequen on survey rating scale responses.

Temesgen Tagesse. (2017). Supply Chain Management Practice and Impact on Firm Performance in The Case of Yotek Construction Plc.

Tewodros_Teklay_Final_Thesis_On_Assessement_Of_Logistics_Management.

Tewolde Mulu. (2017). Supplier Relationship Management for Long Term Partnership.

Toan, N. Q., My, H. N. T., Tam, N. V., Anh, P. X., Hai, D. T., & Thuy, N. T. (2022). How do contractors select material suppliers for construction projects? Evidence from Vietnam.

Van De Waerdt, G., Volker, L., Vosman, L., & Voordijk, H. (2024). Developing project-based supplier relations in a programmatic multi-project context: An exemplary case study from the construction industry. International Journal of Managing Projects in Business,

Walta Tekle. (2022). The Effects of Supplier Relationship Management on Procurement Performance of The Ethiopian.

Woreta, K. (2021). The Effect of Supply Chain Management Practices on Supply Chain Responsiveness and Competitive Advantage of the Firm - A Case Study on Etete Construction, In Public Building Projects.

Wubishet Jekale Mengesha. (2012). Procurement and Contract Management.

Yingnan Yang, Ziyi Wei, & Zhicheng Zhang. (2023).

Appendixes-2 Survey Instrument

Survey Title: Analyzing Determinants of Effective Supplier Relationship Management in Construction Projects: The Case of Ayat S.C.

Dear Respondent,

Invitation to Take Part in the Research Study Called " Analyzing Determinants of Effective Supplier Relationship Management in Construction Projects: The case of Ayat S.C." The objective of this study is to assess the effects of contract management, supplier selection, conflict management, and collaboration and trust on effective SRM in construction projects of Ayat S.C.

Section One: Introduction

This survey is a part of a research study being undertaken at Ayat S.C. Your views are greatly valued. This study seeks to analyze how the management of relationships between contractors and suppliers affects project outcomes. As a professional involved in this project, your insights will help identify key challenges such as payment delays disputes and claim management practices or communication gaps and pinpoint effective strategies to improve working relationships.

The questionnaire will not take more than 20 minutes of your time. I do not foresee that you will experience any negative consequences by completing this questionnaire. The researcher will keep any individual information provided herein confidential, not to let it out of his possession, and to analyze the feedback received only at a group level. It will be a great contribution if you may complete all the items covered in the questionnaire since your opinion is of utmost importance for this study.

I thank you in advance for sharing your respected experience and time in completing the questionnaire. Thank you again for taking the time to participate in this survey. The purpose of this survey is to gather information in determinants of effective SRM in construction projects of Ayat S.C. Your honest and thoughtful responses are greatly appreciated.

Sincerely Yours,

henosdesyibelh@gmail.com

Addis Ababa University-School of Commerce

Logistics & Supply Chain Management Department

Henos Desyibelh

Section Two: Demographic Characteristics of the respondents

1. **Gender:**

A. Male ☐ B. Female ☐

2. **Age**

A. 21-30 ☐ C. 41-50 ☐

B. 31-40 ☐ D. Above 50 ☐

3. What is your educational level/qualification? Questionnaire

A. Diploma ☐ B. BA/ BSC ☐

C. Master's Degree and Above ☐ Other_____

4. What is your Current Organization/department?

Sub-Contractor ☐ Supplier/Agent ☐

Construction Dept. ☐ Consultant ☐

Design Dept. ☐ Procurement Dept. ☐

Store Dept. ☐ Logistics Dept. ☐

5. What is your current position in the organization?

Director ---------- ☐ Head ☐

Manager ---------- ☐ Construction Engineer ☐

Resident Engineer---- ☐ Site Supervisor ☐

Site Engineer --------- ☐ General Foramen ☐

Agent ---------- ☐ Purchaser ☐

Store Man ---------- ☐ Logistician ☐

6. How long have you been working for your current organization?

A. 1-5 years ☐ C. 11-15 years ☐

B. 6-10 years ☐ D. Above 15 years ☐

Section Three: Factors in Contractor Supplier Relationship Management in Construction

Please tick and fill in the blanks if you select others. Each scale represents the following rating:

1 = **strongly disagree** 2 = **Disagree** 3 = **Neutral** 4 = **Agree** 5 = **strongly agree**

No	Variables / Survey Statements	1	2	3	4	5
I	Contract Management	(SD)	(D)	(N)	(A)	(SA)
1	Roles, responsibilities, & duties of each contracting party is precisely stated & clearly defined in the contracts.					
2	The language in the contracts is complete and ambiguous, preventing potential misunderstandings					
3	Ayat contract administration process/unit effectively manages contracts, timely delivery of works and services, and quality and inspections of products.					
4	There is a clear mechanism for governing and administering changes, claims, and dispute resolutions within the contract.					

5	Payments and contracts are delivered consistently to suppliers and sub-contractors as per the milestones.					
6	Facilities constructed by Ayat met all technical specifications and functional requirements first and foremost defined in the contract and design.					
II	**Supplier Selection & Segmentation**					
7	Reliable suppliers & sub-contractors are selected based on quality and flexibility rather than just price.					
8	Ayat apply different suppliers selection strategies depending on its segmentation to avoid unnecessary replacement of suppliers and sub-contractors in the middle of the project phases					
9	Ayat categorizes suppliers based on their direct impact on projects final outcomes and core values.					
10	Ayat identifies critical suppliers based on the scarcity of their materials in the local market.					
11	Suppliers are selected based on quality, reliability, and past performance rather than just cost.					
12	Consistent supplier evaluation, records, feedback and development improves material and service quality.					

No	**Variables / Survey Statements**	**1**	**2**	**3**	**4**	**5**
III	**Collaboration and Trust**					
13	Collaboration improves material quality, cost, and availability on time on site as required.					
14	Suppliers collaborate and involve early in the project planning phase.					
15	The relationship between contractor & supplier is built on high levels of mutual trust and professional respect.					
16	There is a high level of mutual respect and trust between Ayat S.C and the partners.					
17	We engage in collaborative relationships that involve joint problem-solving and shared project goals.					

18	Ayat project team (contractors, suppliers, & consultants) maintained a positive relationship through the project lifecycle & overall contractor–supplier relationships contribute to collaboration, project success & sustainability issue.					
IV	**Conflict Management**					
19	Misunderstandings and power struggles will be handled based on contracts, rules and regulations.					
20	Conflicts and problems are resolved fairly without delaying project progress and compromising quality.					
21	Conflict management practices doesn't incur the project unnecessary additional costs					
22	Contractors and suppliers actively engage in joint problem-solving mechanisms and strategies.					
23	Delay in payments will be communicated on time to reduce tension and conflict in working relationships in Ayat construction projects.					
24	Frequent changes in engineering drawings or project scope disrupt supply chains.					

No	**Variables / Survey Statements**	**1**	**2**	**3**	**4**	**5**
V	**Effective Supplier Relationship Management**					
25	Materials and services are delivered on the required time, in order to complete the projects within the planned time/schedule.					
26	Materials and services are delivered within the contract price, in order to complete the projects efficiently and inside the allocated budget.					
27	Supplied materials, specialized expertise, and technical supports consistently meet required quality standards.					

28	There is a high level of reciprocal commitment, where both parties are willing to make short-term sacrifices for long-term partnership gains.					
29	We have secured a more resilient supply chain that can withstand market volatility better than the competitors.					
30	The relation is constructed on sharing benefits & risks in a way that mutually comprehensible & advantageous					

Key:- 1) Strongly Disagree = SD

2) Disagree = D

3) Neutral = N

4) Agree = A

5) Strongly Agree =SA