ADDIS ABABA UNIVERSITY

COLLEGE OF TECHNOLOGY AND BUILT ENVIRONMENT

SCHOOL OF BUILT ENVIRONMENT

DEPARTMENT OF INFRASTRUCTURE AND TECHNOLOGY MANAGEMENT

THE LEVEL OF WOMEN'S INVOLVEMENT IN PROJECT MANAGEMENT POSITIONS IN THE ETHIOPIAN CONSTRUCTION INDUSTRY

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This certification attests that the thesis entitled "The level of women's involvement in project management positions in the Ethiopian construction industry" is prepared by Serawit Getachew and has been submitted in partial fulfillment of the requirements for a Master of Science degree in Construction Management, and that it adheres to the regulations of the university and conforms to the accepted standards of originality and quality.

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List of Acronyms

CIC	Construction Industry Council
CIOB	Chartered Institute of Building
CGEP	Ethiopia's Country Gender Equality Profile
CPM	Construction Project Management
EEA	Ethiopian Economics Association
GBV	Gender Based Violence
GDP	Gross Domestic Product
ILO	International Labor Organization
MoUI	Ministry of Urban and Infrastructure (MoUI),
MoWUD	Ministry of Works and Urban Development
MoWSA	Ethiopia's Ministry of Women and Social Affairs
MSD	Musculoskeletal disorder
PM	Project Manager
RICS	Royal Institution of Chartered Surveyors
USA	United States of America

Abstract

This study explores the extent of women's involvement in project management positions within the Ethiopian construction industry, with a particular focus on Addis Ababa. Despite increasing awareness of gender equity, gender diversity improves innovation and decision-making in construction, women remain significantly underrepresented in leadership roles across the sector. Most existing studies in Ethiopia focus on general construction roles and there is a lack of practical frameworks to support women's advancement in PM roles. Therefore, the study aims to assess the level of female representation, identify the challenges hindering their participation, and propose effective interventions to enhance gender inclusion in project management roles.

The conceptual and empirical literature review with relevant international and Ethiopian experiences was conducted to examine key challenges, representation gaps, and strategies for career advancement. A mixed-method research approach was adopted, combining quantitative data from 394 survey respondents drawn from a population of 25,000 licensed construction professionals, with qualitative insights from interviews and a focus group discussion involving female project managers. The research employed descriptive statistical analysis for quantitative data using SPSS, and thematic analysis for qualitative data to ensure comprehensive interpretation.

Findings reveal that women constitute a small minority in project management roles less than 10% and face multiple structural, institutional, and socio-cultural barriers. The study identifies 6 major challenges, including physical demands, Unequal Job opportunities between men and women, gender bias, lack of mentorship and training programs, work-life imbalance, and Unsociable work hours and harsh working condition. Moreover, only a few companies reported having active goals or policies to promote female leadership.

The research concludes that there is an urgent need for sector-wide strategic interventions, including gender-sensitive recruitment policies, mentorship programs, flexible work arrangements, and targeted leadership training. These measures are essential not only for enhancing women's participation in project management but also for improving overall organizational effectiveness and equity in the Ethiopian construction sector.

Keywords: Women in Construction, Project Management, Gender Inclusion, Ethiopian Construction Industry, Leadership Barriers, Addis Ababa

CHAPTER 1

1. Introduction

1.1. Background of the study

One of the most significant industries boosting employment and the world economy is the construction sector (Powell, et al., 2007). It is considered the global biggest industrial employer, with an anticipated workforce of around 220 million as of 2023 (ILO, 2023).

In developing countries, the sector plays a critical role in national growth. Many of these countries depend heavily on the growth and expansion of physical infrastructure, which is closely linked to both economic and social progress. For instance, in many developing countries, the construction sector represents a substantial portion of national investment, contributing significantly to capital assets, GDP, and fixed infrastructure development (Esayas, 2020).

Construction Project Management (CPM) involves overseeing project planning, execution, and completion, ensuring efficiency in time, budget, and quality (Archdesk, 2022). In addition to project management knowledge, Design and construction process knowledge is essential for project management (Hendrickson, 2010). Effective project management demands a blend of technical expertise and leadership competencies, including communication and coordination skills (Chen, et al., 2009). All project phases, including progress tracking and budget execution, must be planned, started, and overseen by the project manager (Archdesk, 2022).

Although the role of the construction project manager is well defined, access to such leadership positions is not equitably distributed. Gender disparities continue to shape leadership dynamics in the construction sector, with women significantly underrepresented and women aspiring to these roles face barriers such as gender stereotypes, limited mentorship, discriminatory hiring practices, and restricted access to advancement opportunities (Kofi, et al., 2022).

Gender diversity in leadership has demonstrated positive outcomes. Inclusive project teams are more innovative and productive and bring varied perspectives to problem-solving (Richard, et al., 2016). Women in leadership roles enhance organizational culture, strengthen decision-making, and serve as

role models for future professionals (Gurjao, 2017). According to the World Bank (2020) and UN Women (2022), women remain significantly underrepresented in leadership roles within traditionally male-dominated sectors, including construction. However, in Ethiopian cities like Addis Ababa, the involvement of women in project management remains minimal despite progressive national policies aimed at gender equity (World Bank, 2020; UN Women, 2022). This context highlights the pressing need to explore the specific dynamics affecting women's roles in project management and to understand the structural and socio-cultural challenges they face in advancing their careers.

1.2. Statement of the problem

For several reasons, gender diversity is crucial in the construction sector while the industry gains from a variety of perspectives which encourages innovation, creativity, and effective problem-solving by promoting a more balanced representation of genders (Richard, et al., 2016). Although efforts to increase gender inclusion in the construction sector have gained momentum globally but women remain underrepresented in project leadership roles as existing studies in Ethiopia have addressed women's participation in general construction work, labor challenges, and gender mainstreaming with limited emphasis on managerial positions particularly in urban centers like Addis Ababa (Gene, et al., 2017; Wellington, 2010; Abraham, et al., 2017; Kidist, et al., 2023). Therefore, there is an absence of actionable frameworks and intervention schemes to enhance women's representation in project management.

In order to close that empirical and contextual gap, this study looks at how involved women are in project management, what obstacles they encounter, and how to improve gender inclusion in leadership positions in Addis Ababa's construction industry.

1.3. Research question

The following research questions have been developed in order to fill the research gap:

- ✓ To what extent is women's representation in construction project management position in Addis Ababa, Ethiopia?
- ✓ What are the factors hindering women from attaining and sustaining project management roles?

- ✓ What are some potential approaches that can help women in construction project management progress their careers?

1.4. Objectives of the research

1.4.1. General objective

To study the extent of women's participation in project management roles in the construction sector of Addis Ababa, Ethiopia.

1.4.2. Specific objectives

1. Identify the extent of women's involvement of in project management positions within the construction projects in Addis Ababa, Ethiopia.
2. Identify the factors hindering women from assuming project management positions in construction projects in Addis Ababa, Ethiopia.
3. Identify a suitable intervention schemes for promoting women's advancement to project manager position in the construction projects in Addis Ababa, Ethiopia.

1.5. Significance of the research

This study examines women's participation in project management roles in Ethiopia's construction sector, highlighting the key challenges they encounter, potential opportunities, and strategic approaches for advancement. Its findings are important for fostering gender equity and promoting inclusive leadership. By uncovering obstacles and recommending practical solutions, the research contributes to broader initiatives aimed at increasing female representation in leadership positions within the industry.

The primary beneficiaries of the research are the Ethiopian construction sector and women currently working or aspiring to work in project management roles in the construction sector. The findings will also be valuable to private and public sector employers, policymakers, and construction stakeholders (such as clients, consultants, and contractors), who seek to create inclusive and equitable professional environments. Furthermore, educational institutions may utilize the study for academic purposes, including curriculum development and research.

In addition to its practical applications, the study addresses gaps in both conceptual and empirical understanding of women's roles in construction leadership. It offers insights into the day to day contributions of women project managers, highlights the systemic challenges they encounter, and underscores their potential impact on project outcomes. Finally, this study can serve as a foundation for advance academic research on gender representation in leadership within Ethiopia and comparable contexts.

1.6. Scope of research

This study seeks to develop effective approaches to improve women's participation in project management roles within Ethiopia's construction sector. Although women's involvement in the industry spans various roles from clients and consultants to engineers and laborers the research narrows its focus specifically to women serving as project managers.

This study is aimed at developing suitable intervention strategies to enhance the participation of women in project management roles within the Ethiopian construction industry. While the broader concept of women's involvement in construction encompasses a wide range of roles and participants including clients, consultants, contractors, statutory bodies, engineers, project managers, and laborers; this research specifically focuses on women in project manager positions.

Conceptually, the study is centered on examining the representation, experiences, and challenges of women working as project managers in construction projects. It investigates their participation in leadership roles, the barriers to their advancement, the opportunities available to them, and potential approaches to promote gender inclusion in construction project management.

The study is geographically confined to Addis Ababa, Ethiopia, as the city represents a major hub for construction activity and professional opportunities in the sector.

Methodologically, the research will adopt a sample survey approach. The findings from the selected sample will be used to generalize about the broader population. The study is planned to be conducted over a period of one year, beginning with proposal development and concluding with the final report writing.

1.7. Limitation of research

This research is specifically focused on selected construction projects in Addis Ababa, and its findings may primarily reflect the context and conditions of those particular settings. Since construction norms, practices, and regional dynamics can vary significantly across different locations and project types, the strategies and opportunities explored in this study may not be universally applicable. Additionally, while the study centers on women in project management roles, it does not comprehensively capture the perspectives of all industry stakeholders such as employers, clients, internal and external consultants, suppliers, site personnel, contractors, subcontractors, or end users.

1.8. Organization of the research

This study is structured into five distinct chapters. The first chapter outlines the foundation of the research, covering the introduction, background, problem statement, key research questions, objectives, significance, and the scope and limitations of the study. The second chapter reviews existing literature relevant to the topic, including conceptual insights, and empirical findings from previous research. The third chapter details the methodological approach, describing the research design, sampling methods, data sources, collection techniques, analytical tools, and ethical considerations. The fourth chapter presents and interprets the data gathered, followed by an in depth discussion of the results. Lastly, the fifth chapter provides a summary of the key findings, draws conclusions, and proposes recommendations based on the study's outcomes.

CHAPTER 2

2. Literature review

This chapter examines the current literature concerning the participation of women in project management roles in the construction sector. It examines key challenges, representation gaps, and strategies for career advancement. The chapter is structured around conceptual definitions, conceptual reviews, and relevant international and Ethiopian experiences.

2.1. Conceptual Definition

Construction Industry: It encompasses all tasks related to the construction, repair, and upkeep of infrastructure and buildings, involving experts like engineers, architects, contractors, and workers.

Project Manager: A professional responsible for overseeing the planning, execution, monitoring, and closure of construction projects. This includes managing resources, budgets, timelines, and stakeholder communication.

Women's Involvement: The active participation and engagement of women in project management roles within the construction sector, emphasizing inclusion in decision-making, planning, and leadership.

Gender Representation: The ratio and level of involvement of women compared to men in leadership and management roles within the construction sector.

Challenges and Barriers: Institutional, societal, and workplace-related obstacles that hinder women's access and advancement in the project management roles.

Advancement Approaches: Strategies, policies, and practices aimed at enhancing women's representation, retention, and leadership progression in the construction sector.

2.2. Conceptual literature review

The construction sector significantly contributes to national economic development. In Ethiopia, it is a major source of employment and infrastructure investment sectors (EEA, 2016)**.**

Construction project management entails the planning, coordination, and supervision of construction projects throughout all phases, including design, procurement, execution, and completion (Mahdi, et al., 2009). The choice of a project manager should be grounded in their experience, knowledge, authority, and comprehension of the project type, as these factors are crucial to the success of a construction project. A project manager influences every phase of the project by ensuring it is completed on schedule, within budget, and meets the required quality standards (ibid).

2.2.1. Historical background of Women's in Construction sector

Women's involvement in construction has a long and varied history, though often under recognized. Traditionally, societal norms assigned women domestic responsibilities, limiting their perceived suitability for professional roles. Despite this, historical evidence shows that women have contributed to construction since at least the 13th century in Spain, often serving as laborers, mortar mixers, water carriers, and even patrons of construction projects (Hatipkarasulu, et al., 2011; Winke, 2023). Many of these women were either unmarried or from low-income backgrounds, and their contributions were largely informal and underpaid.

During the Industrial Revolution, women started taking on factory jobs connected to construction materials, and the earliest female engineers and architects began to appear. A significant example is Emily Warren Roebling, who supervised the finishing of the Brooklyn Bridge in the 1880s, while Ethel Charles became the first woman accepted into the Royal Institute of British Architects in 1898 (Winke, 2023).

World War II marked a pivotal moment, as labor shortages led women to assume roles traditionally held by men, including construction work. While many were dismissed after the war, this period laid the groundwork for future gender equality movements and legal protections in the workforce. From the 1960s onward, women's organizations and labor unions began actively campaigning for equal opportunities and improved working conditions in construction (Winke, 2023).

Historical records from the 15th-century Toledo Cathedral project show that women received half the wages of their male counter parts a trend that, in some forms, persists today. Women still make up less than 10% of the construction workforce, are frequently employed in unskilled roles, and continue to

face pay Women continue to represent less than 10% of the construction workforce, are often found in unskilled positions, and still experience wage inequalities (Aulin & Jingmond, 2011; Devi, et al., 2013). Contributing factors include limited career progression, the dual burden of work and family responsibilities, and a male-dominated workplace culture characterized by conflict and exclusion (Menches & Abraham, 2007; Rajkumar & et, 2016).

Women have also contributed to traditional construction practices such as adobe building and thatching, and they have been involved in community-based construction of churches and schools. However, their participation in modern, large-scale construction projects has remained limited due to cultural biases and the physically demanding nature of many roles (Gene, et al., 2017). It was not until the mid-20th century that women began entering the formal construction workforce in significant numbers, though barriers to advancement persist (ibid).

Encouragingly, the number of women pursuing careers in construction-related trades has been steadily increasing. According to Leadmin (2022), job growth for women in construction has been nearly five times faster than overall industry growth. Support from professional associations and nonprofit organizations have also been critical, offering training, networking, and visibility for women professionals in the field (leadmin, 2022).

2.2.2. Gender Diversity in Construction Industry

The construction sector encounters significant challenges from limited gender diversity, as women constitute only a small portion of the workforce (KING-LEWIS, 2020). This gap is shaped by several factors, such as unconscious gender bias, insufficient training opportunities, and prevailing negative stereotypes about women in the construction industry (Rajkumar & et, 2016). Despite those challenges women have made important contributions to the construction industry over the years, and their participation has helped to promote gender diversity and equality in the workplace (Gene, et al., 2017).

Many organizations and companies are actively working to attract and retain women in the construction industry by implementing diversity and inclusion initiatives aimed at creating a more welcoming and supportive environment. These efforts include establishing clear goals to boost female

representation, introducing policies that promote work-life balance, offering mentorship programs, providing leadership development opportunities, and encouraging flexible work arrangements (BigRentz, 2024; RICS, 2018). Today, women remain integral to the construction industry, with construction trades experiencing the largest growth in female participation in two decades, signaling a positive shift toward improved gender diversity (BingRentz, 2023).

Gender Diversity's Benefits for the Construction Sector

Gender diversity in the construction industry brings a wide range of benefits that have been increasingly acknowledged in recent years. As an industry focused on innovation, problem-solving, and teamwork, construction can greatly benefit from adopting more inclusive practices. According to research by King-Lewis (2020), gender diversity can boost profitability by up to 15%, driven largely by better talent acquisition, higher employee satisfaction, increased creativity, improved workplace relationships, and stronger customer focus (KING-LEWIS, 2020). This underscores that fostering gender diversity is not only a social justice issue but also a critical factor for sustainable business success.

Beyond financial gains, gender diversity can help address the construction industry's ongoing labor shortage. This shortage poses serious risks to economic growth, often resulting in increased project costs, scheduling delays, and the hiring of under qualified workers (KING-LEWIS, 2020). King-Lewis (2020) also notes that a more diverse workforce can mitigate these issues by expanding the talent pool and encouraging broader participation, especially from women who are currently underrepresented in the sector.

Women in leadership roles bring unique perspectives, enhance team creativity, and foster inclusive environments. As more women assume responsibilities across various roles and levels in the construction, real estate, infrastructure, and project (CRIP) sectors, they contribute meaningfully to decision-making and project outcomes (RICS, 2018). According to RICS (2018), leadership roles offer not only professional influence but also financial empowerment, boosting more women to enter and remain in the sector.

Encouraging gender diversity also involves creating supportive structures. This includes developing mentorship programs, offering flexible work policies, and addressing unconscious bias. Such initiatives help build a culture where women can thrive, improve retention, and encourage more equitable recruitment practices (Richard, et al., 2016).

In conclusion, increasing gender diversity in the construction sector is both a strategic and moral imperative. It leads to improved performance, addresses labor shortages, and fosters a more inclusive work environment. Through adoption of targeted policies and embracing a culture of equity, the sector can empower women to contribute their skills and perspectives, ultimately enhancing the sector's overall success.

2.2.3. Obstacles women encounter in the construction sector

Traditionally dominated by men, the construction industry has developed systemic obstacles that hinder women's involvement and limit their opportunities for advancement. According to Sheila et al. (2022), key contributing factors include societal stereotypes, gender bias, and skepticism about women's competence in physically demanding roles. Additionally, women face workplace challenges such as sexual harassment, discriminatory practices, limited mentorship, and inflexible work conditions (Sheila, et al., 2022).

Physical demands, exposure to hazards, and harsh labor conditions including extreme weather and irregular work hours further discourage women's participation (Post & Nadine, 2003). These challenges are often compounded by limited access to training, networking opportunities, and leadership pathways (BigRentz, 2024).

This issue is not confined to one region. For instance, in Australia, Riza and Imriyas (2017) found that women working in construction face higher levels of stress and anxiety compared to their male counterparts, stemming from intense workloads, time pressure, bullying, sexual harassment and discrimination (Riza & Imriyas, 2017). Similarly, Gene et al. (2017) reported that women often endure pain and physical strain due to job related expectations, which can lead to musculoskeletal disorders (MSDs). Many women also overextend themselves physically to counter gender stereotypes, leading to long term health implications (Gene, et al., 2017).

The Nigerian context reveals similar concerns. Richard et al. (2016) identified a lack of self-confidence, limited support, and unequal job opportunities as key barriers for women. They further observed that women remain underrepresented in senior roles, with societal attitudes and male dominance impeding progress (Richard, et al., 2016).

Amaratunga et al. (2006) emphasized that gender stereotypes, lack of inclusive organizational support, and unconscious bias restrict women's advancement in construction. Women often experience feelings of isolation in male dominated environments, which reinforces inequality and limits career growth. Nevertheless, when women do attain leadership positions, their success can inspire structural change and encourage broader inclusion (Amaratunga, et al., 2006). Similarly, Gene et al. (2017) mentioned lack of role models and support from colleagues and employers, Limited access to training and education opportunities and limited networking opportunities can further limit women's skills and knowledge in the field (Gene, et al., 2017).

Overall, the literature illustrates that despite regional differences, women in construction globally face deeply rooted barriers related to gender norms, health risks, limited representation, and structural inequality as highlighted by Arslan & Kivrak (2004) and Baker & French (2018). In order to create a more equal and inclusive construction sector, these problems must be addressed.

2.2.4. Approaches for women's career advancement in the project management role

Efforts to enhance gender diversity in the construction sector have grown in recent years as a 2023 McKinsey & Company report found that organizations with more than 30% female representation experienced a significant financial advantage, reinforcing the value of workplace diversity (McKinsey & Company, 2023). Similarly, organizations like the National Association of Women in Construction (NAWIC) continue to play a key role in advocating for women's participation in the sector by raising awareness and encouraging women to work in construction (BigRentz, 2024).

Promoting women's advancement in construction requires creating a supportive organizational culture that values inclusivity and enforces gender equality. According to Richard et al. (2016), this can be achieved through clear diversity policies, zero tolerance approaches to harassment, and respectful workplace practices (Richard, et al., 2016).

Gene et al. (2017) recommend several approaches to improve gender diversity, including proactive recruitment of women, inclusive job advertisements, and mentorship programs. They emphasize the need for employers to address both physical and psychosocial work conditions such as providing appropriate protective equipment, improving job control, and offering ergonomic support. Additionally, portraying positive images of women in the industry and showcasing their contributions to successful projects can help challenge stereotypes (Gene, et al., 2017).

Sheila et al. (2022) further advocate for motivating women through education and training, flexible work arrangements, and professional development opportunities. Addressing sexual harassment and fostering an inclusive work culture are critical components of this strategy (Sheila, et al., 2022).

According to the Project Management Institute (PMI, 2023), the number of women in project management roles within the construction sector is rising. Women are increasingly taking on leadership positions and challenging traditional gender roles. This shift aligns with the broader evolution of the industry, where technological change, data driven practices, and leadership adaptability are critical for success (PMI, 2023).

Additional approaches include mentoring and sponsorship packages that offer women assistance and access to management opportunities (Gene, et al., 2017). Leadership training is also essential, as it equips women with the skills needed to navigate the unique challenges of the construction industry. In addition, work life balances initiatives such as flexible scheduling and parental leave provide crucial support, enabling women to successfully manage both their careers and personal responsibilities (ibid). Promoting networking and involvement in professional associations can also help women build influence and access career advancement opportunities (Richard, et al., 2016).

Addressing unconscious bias in hiring and promotion, establishing accountability measures, and monitoring diversity goals are essential to sustaining progress. These combined efforts can foster a more inclusive construction industry where women are supported, retained, and empowered to advance into leadership roles (BigRentz, 2024).

While significant challenges remain, these strategies provide a strong foundation for organizations committed to promoting diversity and equity in construction leadership.

2.2.5. Global and Local Experiences on involvement of women in construction industry

Various scholars have highlighted that the construction industry's male dominated, blue collar, traditional, and skill based nature has posed significant barriers to women's recruitment, participation, and career advancement (Baker & French, 2018; Wells, 2004; Winke, 2023 Fielden, S.L. et al, 2001; Gene, et al., 2017).

In developed countries, such as the United Kingdom, Australia, Japan, and Sweden, there have been ongoing efforts over the past two decades to increase female participation in the construction industry (Shamil et al., 2020). Women now make up between 10% and 16% of the construction workforce, with around 13-17% holding project management or leadership roles (Hanna et al., 2023; UN Women, 2023; PMI, 2023). These countries benefit from institutional support, diversity policies, and professional bodies advocating for gender inclusion. However, progress is hindered by deeply rooted gender bias, limited flexible work arrangements, and a male-dominated culture. Women in these countries frequently face workplace discrimination, harassment, and underrepresentation at senior levels, with board-level participation still below 25% in most sectors (ibid).

In contrast, developing countries such as Ethiopia, Ghana, South Africa, India, and Bangladesh show a different pattern. While some countries report high female labor force participation in construction, particularly in unskilled roles women remain significantly underrepresented in managerial and project leadership positions, often less than 5% (Kofi et al., 2022; PMI, 2023). Their roles are mostly limited to manual labor, with low wages, limited legal protections, and little access to training or advancement. Challenges include gender-based violence, hiring discrimination, unsafe conditions, and societal norms restricting women's career mobility (Richard, et al., 2016). Though initiatives like Ethiopia's Women Entrepreneurs Development Project (WEDP) and Ghana's Female Talents in Construction (FTC) offer promise, progress is slow and heavily dependent on donor-funded programs rather than systemic national policies (UN Women & Ministry of Women and Social Affairs of Ethiopia, 2023; Kofi et al., 2022).

2.2.5.1. Developed countries' experience

Developed nations have made considerable progress in encouraging women's participation in the construction industry. Studies and initiatives from countries such as the United States, the United Kingdom, and Australia have showcased the achievements and ongoing challenges, as well as the opportunities available for women in this field.

Table 1 developed countries experience
Source: literature survey

Country	Women in Construction (%)	Women in PM / Leadership Roles (%)	Workforce Role	Key Challenges / Initiatives	Source(s)
United Kingdom	14-15.8% (2022)	13% in PM; 16% managerial; 21% board level	Mix of roles	Gender bias, bullying (40%), poor treatment (51%), and cultural resistance. RICS, CIOB, CIC promoting diversity; BME inclusion	Shamil et al. (2020); UCATT (2014); UKCW (2024); Gurjao (2017); Dainty et al. (2001); PMI (2023)
Australia	14% (2024); 5% in trades	Around 17% in leadership; 11.1% board; 2.7% CEOs	Mostly on-site & managerial	Barriers include biased recruitment, gatekeeping, lack of structured career pathways	Baker & French (2018); Luisa (2021); SydneyBuildExpo (2024)
Japan	3% in construction	Around 12% target in firms (Obayashi, Kajima); 16.2% executives (2023); 30% Gov. target by 2030	Mainly low and mid-level roles	Cultural resistance; underrepresentation; slow leadership gains despite policy shifts	BingRentz (2023); Reddit (2024)
Sweden	Around 7.1% in construction (2019)	<10% managers; ~18.4% execs (2013)	Construction, mining, utilities	Masculine work culture, site manager role stereotypes; women seen as incompatible with leadership roles	Alexander (2011); Einar (2021)
United States	Around 10.3–11%	Around 9–10% in PM roles (varies by state/firm)	Mostly managerial and least in laborer	Bias in hiring, limited mentorship, low retention in trades	PMI (2023), BingRentz (2023, US BLS,(2024)
Global Trends (UN)	Varies by region	Projected rise (e.g., Asia 14% → 19% by 2050)	General leadership	Managerial representation increasing globally in small increments	Hanna et al. (2023); UN Women (2023)

2.2.5.2. Developing countries' experience

In developing nations, women are often overlooked in the construction industry, with women accounting for only a small fraction of overall workforce.

Table 2 developing countries experience

Source: literature survey

Country/ Region	Women in Construction (%)	Women in PM / Leadership Roles (%)	Workforce Role	Key Challenges / Insights	Source(s)
Thailand	95%	-	Laborers / Helpers	Low pay or unpaid; minimal upward mobility	Wells (2004)
Bangladesh	88%	-	Laborers / Helpers	Similar issues: unskilled, underpaid, informal roles	Wells (2004)
Sri Lanka	78%	-	Laborers / Helpers	Labor-intensive tasks; lack of formal wages	Wells (2004)
South Africa	Around 12%	-	General Workforce	Low retention due to poor pay, unsafe conditions; only ~10% in construction by 2001	Wells (2004)
Ghana	-	Few in PM roles	Professional PMs	Challenges: discrimination, lack of networking, family conflict, recruitment bias (Kofi et al., 2022)	Kofi et al. (2022)
Ethiopia	21.1% (Addis Ababa)	1.2% supervisors, few PMs	Mix: Low-skill to managerial	Issues: GBV, wage gaps, unsafe conditions; industrial parks employ mostly women (87%)	CSA (2008/09), MoWSA (2021), MoUI (2022), (UN Women & MoWSA, 2023)
India	12%	1.4% technical/managerial; around 2% leadership	Mix: low and skilled jobs	Employment concentrated in low-paid labor; leadership under 2%; wage gap persists; ILO report calls for reforms	The Hindu (2023), ILO (2025)
Nigeria	16.30%	-	Professional workforce	Underrepresentation in formal construction; discrimination, male-dominated culture; survey among Abuja PMs	Premium Times (2021)

Women's participation in construction is generally higher and more diverse in developed countries, where 10–16% of the workforce is female and supported by institutional initiatives, though leadership roles remain limited. In developing countries, women are mostly engaged in low-skilled labor with minimal representation in management due to cultural, safety, and training barriers. Progress there often relies on donor-funded programs like Ethiopia's WEDP and Ghana's FTC. The comparison is detailed by different aspects as follows:

Table 3 Comparison: Women in Construction - Developed vs. Developing Countries

Source: literature survey

Aspect	Developed Countries	Developing Countries
Overall Workforce Representation	Typically **10–16%** (e.g., UK 14–15.8%, Australia 14%, Sweden ~7.1%, Japan 3%)	Varies widely: **3–21%**, with some countries like Ethiopia showing up to **21.1%** in total labor force
Leadership / PM Roles	Higher but still limited: e.g., **UK 13% in PM**, Australia around 17%, Japan targeting 12%, Sweden <10%	Very low representation: <2–5% in PM or supervisory roles in most cases (e.g., Ghana, Ethiopia, India)
Nature of Roles Held	Broader range: includes **technical**, **managerial**, and **executive** roles	Primarily **laborers**, **helpers**, or **informal workers**; very few in technical/leadership positions
Workplace Challenges	**Cultural resistance**, **gender bias**, lack of mentorship, bullying/harassment (e.g., UK: 40–51% report issues)	**Wage discrimination**, **gender-based violence**, unsafe conditions, lack of access to training, cultural bias
Policy & Institutional Support	Stronger institutional mechanisms (e.g., RICS, CIOB in UK; company-level targets in Japan & Australia)	Often weak or under-implemented; some initiatives (e.g., Ghana's FTC, Ethiopia's WEDP) exist but have limited reach
Career Progression	Women face **glass ceiling** but still reach board/executive roles (e.g., 21% in UK boards, 16.2% in Japan firms)	Rare progression to senior roles; often stuck in low-skilled positions with no structured path to promotion
Key Opportunities	Gender equity laws, flexible work policies, industry outreach to young women, professional bodies' support	Donor-funded or NGO programs, industrial park employment (e.g., Ethiopia), basic technical skills training

2.2.6. Legal framework for gender diversity in Ethiopian construction sector

A joint report by the "African Development Bank Group", "UN Women", and "Ethiopia's Ministry of Women and Social Affairs" presents Ethiopia's Country Gender Equality Profile (CGEP), offering an in depth analysis of the nation's advancements and ongoing challenges in promoting women's empowerment and gender equality. The report covers a wide range of topics, including environmental and climate change issues, peace and security, leadership and decision making, social and economic sectors, productive industries, as well as related policies and institutional frameworks. (UN Women & Ministry of Women and Social Affairs of Ethiopia, 2023).

Ethiopia has demonstrated its commitment to promoting gender diversity through national and international legislative frameworks. The country has ratified various international conventions and protocols, including the Beijing Platform for Action, the Maputo Protocol, the "Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)", and the "Sustainable Development Goals (SDGs)", particularly SDG 5 on gender equality. To ensure gender equality and protect women's rights, Ethiopia has enacted legislation and policies at the national level, including the National Policy on Women (1993), the Ethiopian Constitution (1994), the Family Code (2000), the Criminal Code (2005), and Proclamation No. 1064/2017.

"Ethiopia's Ministry of Women and Social Affairs (MoWSA)" s tasked with coordinating gender mainstreaming policies and programs, supported by regional and sub-regional offices as well as gender focal points across all levels of administration.. Gender Directorates ensure gender priorities are integrated into government policies and programs. The Annual Women's Conference brings stakeholders together to discuss strategies for gender equality, while the Women's Parliamentarian Forum/Women's Caucus integrates gender considerations into parliamentary committees. These efforts highlight Ethiopia's commitment to enhancing gender diversity and equality, particularly in sectors like construction (Ministry of Women and Social Affairs, African development bank group, UN women, 2021).

The Ethiopian government has undertaken several initiatives to incorporate gender sensitive practices and promote diversity in the construction industry. These include adopting gender sensitive planning by the Ethiopian Roads Administration (ERA), which involves conducting "gender based violence

vulnerability" studies "during the design phase of road projects" to ensure women's safety and involvement. Policy initiatives focus on increasing women's participation across various sectors, with industrial park policies promoting employment opportunities and socio environmental sustainability. Additionally, the government has implemented training and scholarship programs aimed at up skilling women and facilitating their access to leadership positions in industry, including construction (Ministry of Women and Social Affairs, African development bank group, UN women, 2021).

The report highlights a major challenge in the road construction sector: the slow adoption of gender sensitive principles. Women are often excluded from community consultations during the feasibility study phase, resulting in their needs and perspectives being neglected. Furthermore, the absence of gender disaggregated data on the impacts of road construction projects limits the ability to effectively address gender specific concerns.

Generally, The Country Gender Equality Profile for Ethiopia outlines advancements and obstacles in the pursuit of gender equality. Women's participation in construction, especially in road projects, is limited but improving, with women underrepresented in managerial roles. While industrial parks offer employment opportunities, challenges persist in road construction, where women are excluded from project discussions, leading to oversight of their needs. Additionally, the lack of gender disaggregated data hampers effective gender specific interventions.

2.2.7. Statistical data and trends of women in construction industry

Statistical data and trends of women in construction indicate a gradual increase in female representation in the industry. Paul & Cui's, (2020) study reveals that, although women make up 50.8% of the general population and earn 21.9% of civil engineering bachelor's degrees, they remain significantly underrepresented in executive leadership roles. Women occupy only 3.9% of executive engineering roles; however, some companies that actively promote diversity have demonstrated higher levels of female integration (Paul & Cui, 2020). However, many companies still lack a strong commitment to gender diversity within their leadership culture and mission statements. In the context of increasing workforce turnover and globalization, bringing more women into executive roles can provide valuable new ideas and diverse perspectives (Paul & Cui, 2020).

Traditionally, hiring women in the construction industry has been limited due to pronounced gender stratification. However, according to the U.S. Bureau of Labor Statistics, in 2024, approximately 1.3 million women were employed in the construction sector, making up 14% of the blue collar workforce. This marks a 60.5% increase in female participation. Additionally, the number of women entering construction related trades has been steadily rising for decades, with women's job growth in the industry occurring nearly five times faster than the overall job growth in the field (Graham, 2024).

From the labor force statistics of the Current Population Survey (CPS), the data from 2002 to 2024 reveals a fluctuating pattern in the number of women employed in the construction industry, with periods of both growth and decline (Graham, 2024). Between 2002 and 2007, the number of women steadily increased from approximately 900,000 to a peak of around 1.2 million. This was followed by a decline between 2008 and 2011, reaching a low of about 850,000. From 2012 to 2016, employment numbers remained relatively stable, with only slight year-to-year variations. A consistent upward trend began in 2017, with numbers rising steadily to reach nearly 1.4 million by 2024 which the highest value recorded during the entire period.

In terms of job distribution, more than half a million women in the construction industry hold management, professional, and related positions, accounting for 40% of the total female workforce in the sector. Additionally, 34% are employed in sales and office roles, while 24% work in natural resources, construction, and maintenance occupations. Female representation is notably lower in production, transportation, material moving, and service occupations, with only 2% and 1% employed in these areas, respectively (Graham, 2024).

This overall trend indicates a significant recovery and continued progress in women's representation after the earlier decline. The post 2017 growth may reflect the gradual impact of gender-focused policies, awareness campaigns, and expanding opportunities for women, particularly in sectors like construction and project management where they were previously underrepresented.

Construction industry is considered the world's largest industrial employer with estimated around 220 million employees in 2023 (ILO, 2023). The International Labor Organization (ILO) reports that women's global labor force participation is little less than 47%. Recent data from the Project

Management Institute (PMI) indicates that women make up approximately 20-30% of project management professionals worldwide. The gender disparity is particularly pronounced in this field, where male project managers outnumber females by a ratio of 3 to 1, with men representing 70% of PMI's membership and women accounting for the remaining 30% (PMI, 2023).

The construction industry is actively working to boost women's representation in managerial roles, with project management positions having the highest percentage of female participation. According to a report by PMI, UN Women, and the Pardee Center for International Futures, the global share of women in managerial roles is expected to grow from 24% in 2023 to 28% by 2050 (UN Women, 2023). Central and Southern Asia is projected to experience the most significant relative increase, with women's representation in management rising from 14% in 2023 to 19% by 2050 (PMI, 2023).

In 2024, women hold approximately 24 percent of managerial positions worldwide. The regions with the lowest female representation in management are Northern Africa and Western Asia (NAWA) and Central and Southern Asia (CSA), with women occupying 14.3% and 17% of managerial roles, respectively (UN Women, 2023). Eastern and South eastern Asia (ESEA) falls slightly below the global average at 22.1%. The highest proportions of women in managerial positions are found in Australia and New Zealand at 38.2%, followed by Europe and Northern America (ENA) at 36%, and Latin America and the Caribbean (LAC) at 38.5% (UN Women, 2023).

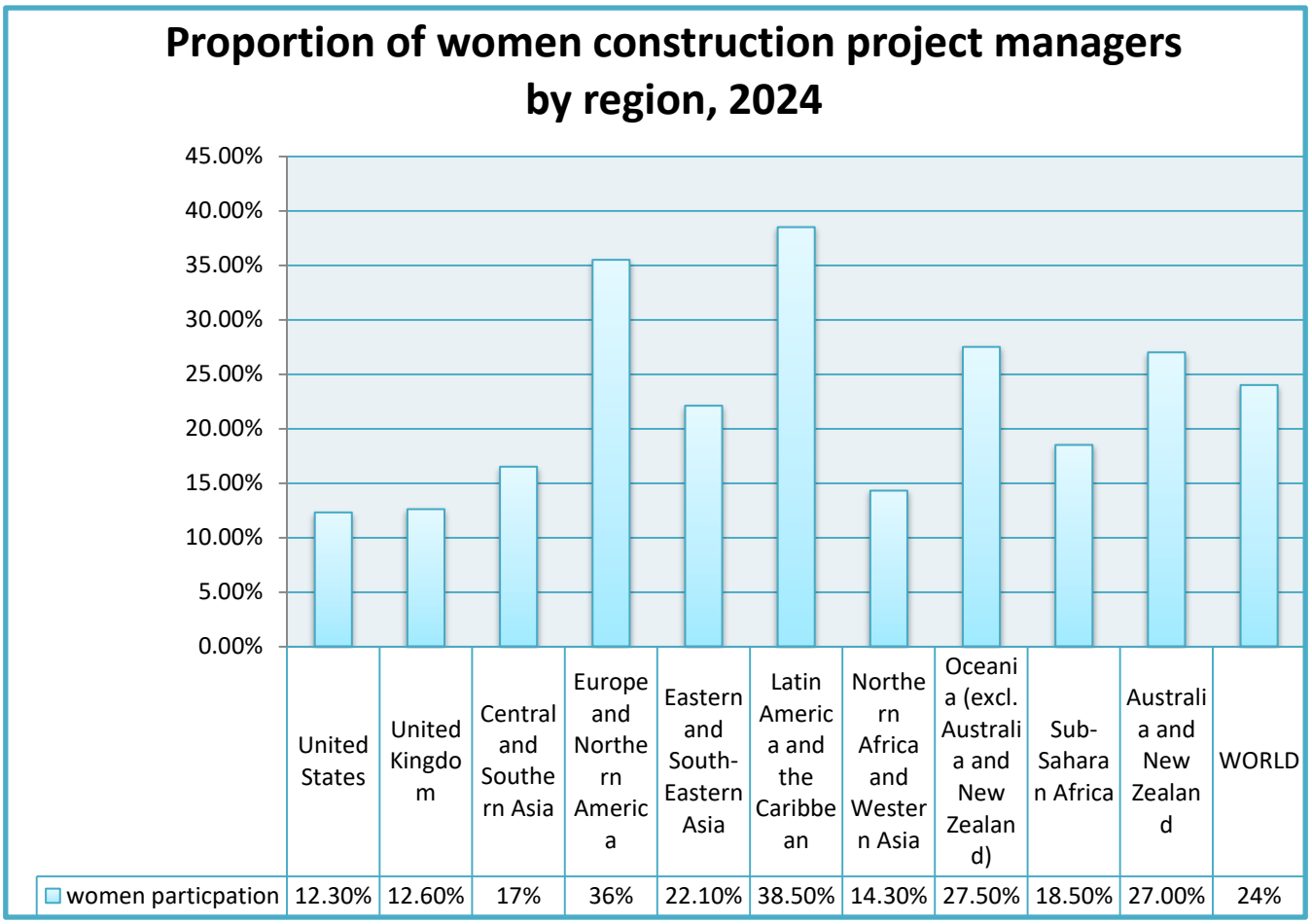

Figure 1 Percentage of women construction project managers by region, 2024

Source: UN Women and the Pardee Center for International Futures using IFs v. 7.97

2.3. Literature review summary

The literature reveals that, the construction industry remains male dominated across both developed and developing countries, with women significantly underrepresented, especially in leadership roles. In the United Kingdom, women made up approximately 25% of the workforce by 2020, yet remain marginalized due to persistent recruitment patterns and a masculine industry image. Despite the efforts of professional bodies such as RICS, CIOB, and CIC to increase female participation, resistance remains. Reports indicate that 40% of women in the UK have experienced bullying or harassment by managers (UCATT, 2014), and similar challenges are echoed in Australia, where 51% of women reported gender based mistreatment. In Sweden, "women and ethnic minorities" remain underrepresented in key roles such as site management.

In developing countries like Thailand, Bangladesh, and Sri Lanka, women's participation in construction is minimal, often confined to low skilled labor. In Addis Ababa, Ethiopia, women make up low number of the construction labor force, yet their engagement is constrained by gender based violence, wage disparities, and inadequate workplace safety and health protections.

Overall, the findings suggest that women remain underrepresented in project management positions due to a range of obstacles, including discrimination, leadership biases, limited career planning, conflicting societal roles, and exclusionary recruitment practices. Additional challenges include social stigma, perceptions of physical incapability, exposure to unsafe labor conditions, and exclusion from blue collar opportunities.

Nonetheless, the literature also identifies potential chances for women who work in the construction sector. These include contributions to improved construction quality, increased gender sensitivity, better project delivery timelines, and overall project management effectiveness. Advancing women in the industry requires targeted interventions, including gender mainstreaming policies, inclusive practices, and institutional reforms to dismantle structural and cultural barriers.

Although much research has examined the general participation of women in construction, the specific involvement of women in project management roles within Addis Ababa remains underexplored, creating a distinct contextual and empirical gap that this thesis seeks to address.

CHAPTER 3

3. Research Methodology

This chapter outlined the research methodology, including the research design and approach, target population, sample size and sampling techniques, types and sources of data, data collection methods and instruments, data analysis procedures, measures of reliability and validity, as well as ethical considerations.

3.1. Research Design

The researcher would employ exploratory research designs are often used when there was limited knowledge about a topic, and the researcher aimed to gain a deeper understanding of the issue. Therefore, an exploratory research design would be adopted. This type of research design was suitable for the given research question as it allowed a comprehensive exploration of the challenges, initiatives, and identifying intervention schemes for advancing women's involvement in project manager position within the Ethiopian construction industry. The exploratory research design was one strategy that would be used to answer all research questions beside interview and close ended questions.

"The use of survey design would provide a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population in order to generalize from the sample to the population" (Creswel, 2009). A survey design was chosen to enable the inclusion of a relatively large number of participants within the constraints of limited time and budget. Data collection was carried out using a semi structured format that included self-formulated questionnaires and interviews.

3.2. Research Approaches

There are three commonly utilized research approaches: "the quantitative approach, the qualitative approach, and the mixed methods approach" (Creswel, 2009). The mixed methods approach aims to integrate the strengths of both quantitative and qualitative research methods, providing a more comprehensive understanding of a social phenomenon by combining numerical data with in depth contextual insights (Baker, 2010). Therefore, the researcher adopted a mixed methods approach for this study to develop an effective intervention strategy aimed at enhancing the participation of women

in project management roles within the Ethiopian construction industry. This approach enabled a more holistic understanding by capturing both statistical trends and personal experiences.

3.3. Population of the Study

With a population of around (394) sample respondents were taken from the target population for this research includes construction and consulting companies, contracting companies, and public owners of construction projects that have valid registration with the Ethiopian Construction Authority and have participated in construction projects. The construction sites selected for this study are located in Addis Ababa, the capital city of Ethiopia. This location was chosen due to its concentration of construction projects and its representation of urban construction dynamics in the country.

The formulated questionnaire would be administered to key respondents, including executives, HR professionals with experience in the construction industry, project owners, and women and men project managers who hold a bachelor's degree or higher in construction technology and management, civil engineering, human resource management, or project management and other. This diverse group will provide valuable insights into organizational perspectives on gender diversity and potential barriers.

The target population for the interviews consisted of women currently serving in project management positions within Ethiopian construction sector. This selection aimed to ensure diversity in terms of professional experience, specific roles, and organizational backgrounds. By incorporating perspectives from a broad range of participants, the study sought to develop a comprehensive understanding of the challenges and opportunities encountered by women in these roles.

3.4. Sampling Techniques and Sample size

The researcher utilized both "probability and non-probability sampling strategies", to determine sample respondents from the total 181 construction and consulting companies, contracting companies, and public owners of construction projects that had valid registration with the Ethiopian Construction Authority and would be participated in construction projects in this study. As well as, the professional licensed engineers were 25000 in number.

The following computation was done to ascertain the respondents' sample size (Yamane, 1967).

$$n = N/ (1+N(e)^2)$$

The variables in this formula are:

n = the sample size, N = the population of the study, e = the margin error in the calculation (5% = 0.05), and 95% confidence level

According to Ethiopian construction authority, the registered professionals in Ethiopian construction industry are 25,000 in 2024. Therefore the population size would be 25,000.

n = 25000 / (1+25,000*(0.05)^2) = 393.7 ≈ **394**

Therefore, 394 respondents make up the sample size for the survey portion.

Construction and consulting companies with valid registration under the Ethiopian Construction Authority are identified. Due to logistical constraints and accessibility, a purposive sampling approach will be applied to select 20 companies that are active during the study period and accessible for data collection. Within these companies, a stratified sampling technique was used to ensure that respondents represented various professional roles, including engineers, architects, and project managers.

Generally, 394 Respondents were selected from twenty construction companies and consulting companies for the questionnaire.

For interview, 10 randomly selected women construction project managers were interviewed and focus group discussion will be held for the matter of qualitative data collection for this research.

3.5. Type and Sources of Data

This study utilized both primary and secondary data. Primary data, as described by Kothari (2004), is original information collected directly for the first time. For this research, such data was obtained from respondents through a carefully designed questionnaire containing both closed and open ended questions. Secondary data, on the other hand, consists of information previously gathered and analyzed by others. For this study, secondary data were sourced from company documents, existing research studies, reports, articles, and other relevant project materials.

3.6. Data Collections Method

This study utilized both primary and secondary data sources. Primary data was collected via a questionnaire survey, which included both closed ended and open ended questions, distributed in printed form as well as through an online Google Form. Additionally, key informant interviews and focus group discussions were conducted to gather in depth qualitative insights. Higher ranking personnel in the Construction industry interviewed and the secondary data from text books, press releases, periodicals, journals, yearly reports, and unpublished materials relevant to the study, report documents, online sources, and documents the data presented through table, percentage and frequency.

3.7. Data Collection Instrument

For this study, the researcher employed three data collection methods. The investigation included a review of existing literature concerning women's participation in construction project management, focusing on the related challenges, opportunities, and pertinent issues.

The primary data was mainly gathered from selected private and government organizations operating within the construction industry in Addis Ababa. These include the Ethiopian construction Works Corporation, Ethiopian Road Authority, Metasebia Tadesse G.C., Turner & Townsend, Sunshine Construction PLC, BamaCon Engineering PLC, fiscomm engineering group, project management institute Ethiopia, Hayat real state, Tsehay real estate, Goh betoch and other construction and consulting companies. These organizations were deliberately chosen due to their active participation in significant construction projects, representation of both public and private sectors, and their operational presence in Addis Ababa, which is the study area. The selection aimed to capture diverse perspectives and practices across various types and scales of construction firms, particularly those known to employ or collaborate with female project managers or professionals. This method enhances the credibility and richness of the data, while also aligning with the study's objective of assessing gender inclusion and barriers in project management roles within the Ethiopian construction sector.

Thus, both quantitative and qualitative data were collected using questionnaires, interviews, and focus group discussions. Secondary data was obtained from diverse sources including books, journals, reports, and online materials.

Three data collection tools questionnaires, interviews, and focus group discussions were developed to gather relevant information regarding the participation of women as project managers. These include:

3.7.1. Questionnaires

For this study, questionnaires were selected as the primary data collection instrument due to their effectiveness in obtaining factual information and respondents' attitudes from a diverse sample. The questionnaires were initially developed in English and subsequently translated into Amharic to ensure clarity and facilitate better understanding among participants. Careful attention was given to the design of the questionnaire to ensure simplicity and clarity, enabling respondents to complete the items without difficulty. The instrument comprised both closed ended and open ended questions to capture both quantitative and qualitative data. Closed ended items primarily utilized a five point Likert scale, which is well suited for large scale surveys and allows for robust statistical analysis; additionally, yes/no questions were included. The open ended questions afforded respondents the opportunity to provide further relevant insights beyond those addressed by the structured items.

3.7.2. Interview

Interview was selected as a complementary method for the collection of data to gain in depth insights and nuanced perspectives that may not be fully capture through the questionnaire alone. It permits a greater depth of response and allows for clarification and elaboration on key issues.

The organizations selected for the interviews from Ethiopian construction Works Corporation, Ethiopian Road Authority, Metasebia Tadesse G.C., Turner & Townsend, Sunshine Construction PLC, BamaCon Engineering PLC, fiscomm engineering group, project management institute Ethiopia.is purposively chosen based on their significant roles in the construction industry in Addis Ababa. These companies were selected because they include a mix of public and private sector organizations, enabling a broader view of challenges and practices and they are known for engaging in construction projects where project management roles are clearly defined and relevant. A total of ten (10) semi structured interview items were developed, selected based on their relevance and ability to avoid redundancy. The semi structured format was chosen to allow flexibility during the interviews, enabling the interviewer to pose additional questions dynamically in response to the interviewee's answers.

3.7.3. Focused Group Discussion

The focused group discussion aimed to gather in depth qualitative data on the challenges, representations, and practiced related to the involvement of women in project manager roles within the Ethiopian construction sector. The researcher used panel discussion representing women who is currently working in project management roles in the sector. An experienced moderator would be facilitated the focus group discussion, ensuring all participants had an opportunity to share their perspectives. The discussion guide will consist of open ended questions aimed at exploring the challenges and obstacles encountered by women in attaining project manager positions.

- Importance of diversity in engineering and construction inspiring women engineers
- How does diversity drive impact and innovation?

And After discussion the opportunities and enablers for women's advancement in project management roles, and the practices to promote women's involvement in construction project management. The focused group discussion during panel discussion would be audio recorded and professionally transcribed to ensure accurate data capture.

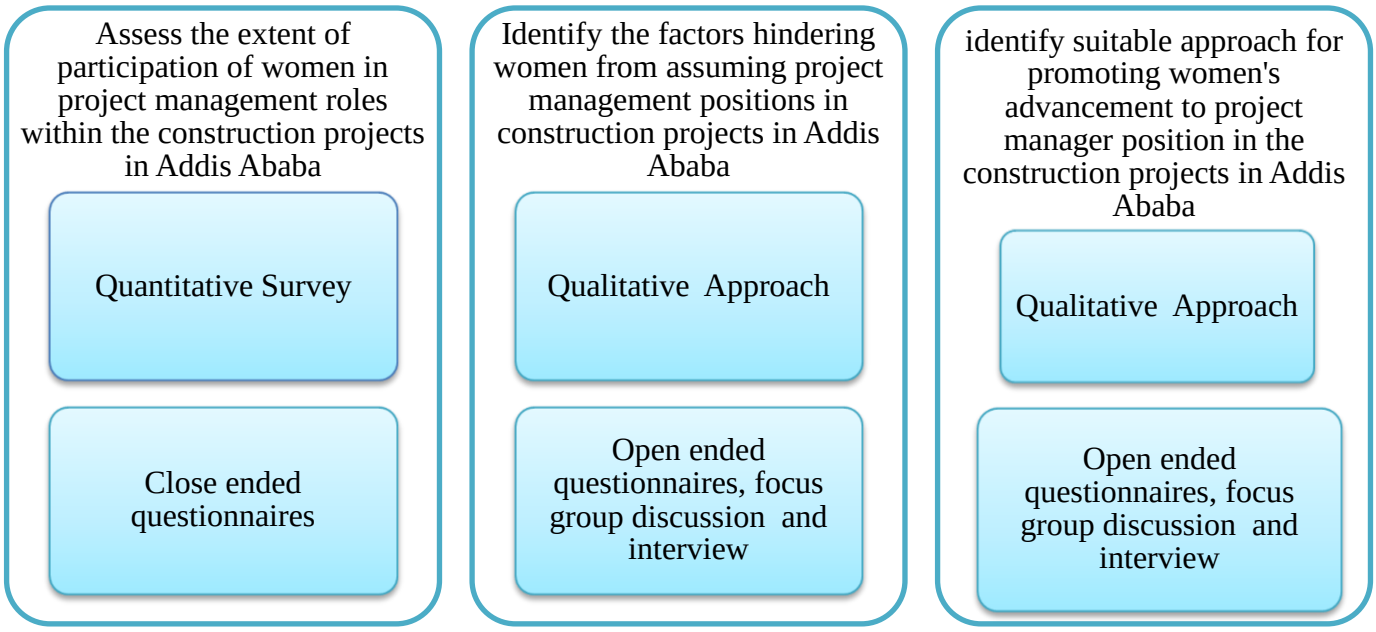

Figure 2 Interrelationship between research methodologies and objectives

Source: Researcher's own, 2025

3.8. Conceptual Frame Work

The conceptual framework outlines the key concepts, variables, and their relationships that guide the research on women's involvement in project manager positions within the Ethiopian construction industry in Addis Ababa. It serves as a blueprint for understanding how various factors interact and influence the research outcomes. The dependent variable is involvement/representation of women and the independent variables are challenges and approaches for advancement.

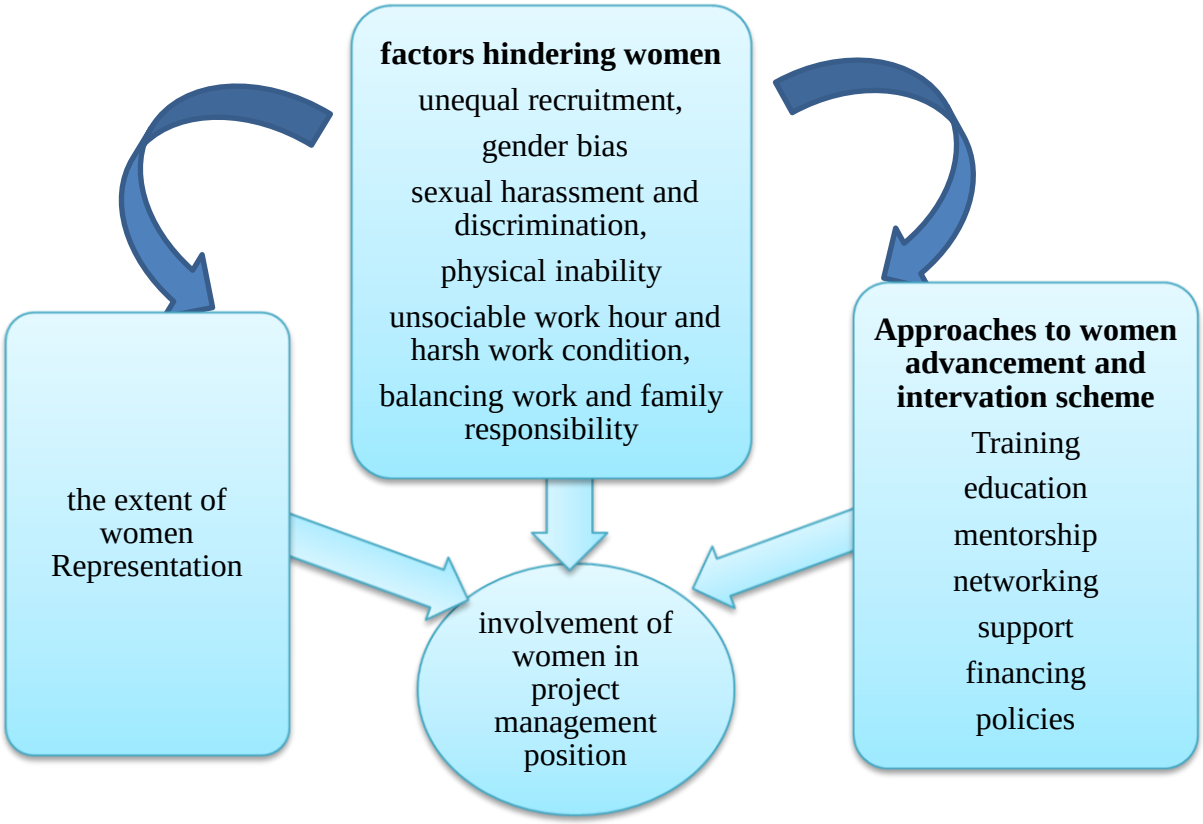

Figure 3 Research frame work

Source: Researcher's own, 2025

3.9. Data Analysis Method

Methodologies used to achieve the study's general and specific objectives. The data was composed from primary sources utilizing a range of methods and procedures, and sub sections would be processed for qualitative data, coded, condensed, and analyzed based on their similarities, theme and

purpose and descriptive statistics used to analyze quantitative data. Information gathered through interviews, and questionnaires, were reviewed and corrected for mistakes and omissions.

For the analysis of the questionnaire data, closed ended questions were evaluated using descriptive statistical methods. Ordinal scales were employed as the measurement level for the survey responses. An ordinal scale ranks or rates data using integers in ascending or descending order. Specifically, numbers 1 through 5 were assigned to indicate levels of importance, with 1 representing the lowest importance and 5 the highest. Additionally, binary responses of Yes and No were coded as 1 and 2, respectively. The data collected from the questionnaires were analyzed using SPSS software and Microsoft Excel.

Data Analysis for the interview, open ended questions as well as focus group discussion transcripts would be analyzed using qualitative data analysis techniques. In this research, data analysis was primarily conducted using trend analysis. This method involved collecting and examining frequency data to identify patterns and trends within the responses. Trend analysis enabled the researcher to generalize and present the responses of participants in a systematic and meaningful manner.

3.9 .Reliability and validity

Cronbach's alpha is a statistical method used to assess the internal consistency of a research instrument by measuring the average correlation among items within a survey. The coefficient ranges from 0 to 1, with values above 0.70 generally considered indicative of acceptable reliability. A Cronbach's alpha value closer to 1 signifies stronger internal consistency among the variables, reflecting a higher level of reliability in the measurement tool (Bonett, 2014). Therefore, a pilot test was conducted on 21 respondents, selected from the total sample size of 394, to assess the validity and reliability of the data collection instrument. The reliability of the questionnaire was evaluated using Cronbach's alpha, which yielded a coefficient of 0.79 (79%). This indicates that the research instrument possesses an acceptable level of internal consistency and is considered reliable. As emphasized by Creswell (2009), ensuring the validity and reliability of research instruments is essential for producing credible and trustworthy data.

Table 4 Reliability Statistics

Cronbach's Alpha	N of Items
.79	21

3.10. Ethical Consideration

To uphold ethical standards, the researcher ensured that the study remained free from any potential conflicts of interest and was conducted in a manner that safeguards all stakeholders from harm. Authorization was obtained from the relevant authorities to carry out the research within their respective organizations. Participants' confidentiality was maintained throughout the study, and their perspectives were considered with due respect. Furthermore, the researcher made efforts to establish rapport with participants by clearly outlining the study's objectives, addressing any concerns, and obtaining informed consent prior to participation. Participants were also assured of their right to withdraw from the study at any stage, in accordance with ethical research guidelines.

CHAPTER 4

4. Result and Discussion

This chapter focused on the analysis, presentation, and interpretation of data collected from individuals working in the construction industry. Data received from respondents were presented and evaluated in the form of tables, frequencies, and percentages. Out of 394 respondents, 381 (96.7%) responded correctly; the remaining 13 questionnaires were incomplete and unreturned. Tables and charts are used to summarize data based on the significance of the SPSS result.

4.1. Socio Demographic Profile of the Participants.

Before beginning the data analysis, it is helpful to observe the demographic trends or characteristics of the sample population to provide the analysis more contexts for the reader. Basic details on the respondents' gender, age, educational background, field of study, the socio demographic profile of the target sample encompassed variables such as employment status and professional experience. In fact socio demographic traits of women and others in construction industry have their own implications and connections in top management position. Women's particularly have challenges and barriers and their representations in construction industry. Accordingly, these variables were summarized and described in tables shown below.

Table 5 General information of respondent
Source; own survey, 2025

Characteristics	Description	Frequency	Percentage
Gender of respondents	Male	248	32.3
	Female	133	67.7
Total		**381**	**100**
Age of the respondents	Less than 25	61	14.8
	25 30	121	29.8
	31 40	161	42.1
	Above 40	39	13.3
Total		**381**	**100**
Educational back ground of respondents	BA/BSC degree	223	61.7
	MA/MSc degree	150	36.4
	PhD degree	8	1.9
		381	100

work experience	less than five years	68	16.5
	5 10 years	264	71.6
	more than 10 years	49	11.9
Total		**381**	**100**
work status	Client/owner	16	3.9
	project manager	32	7.8
	Human resource	48	11.7
	Executive	55	13.3
	site engineer	133	39.8
	project team member	97	23.5
	Total	**381**	**100**
Field of study	Construction technology and management	67	17.6
	civil engineering	236	61.9
	human resource management	30	7.9
	project management	39	10.2
	Other	9	2.4
	Total	**381**	**100**

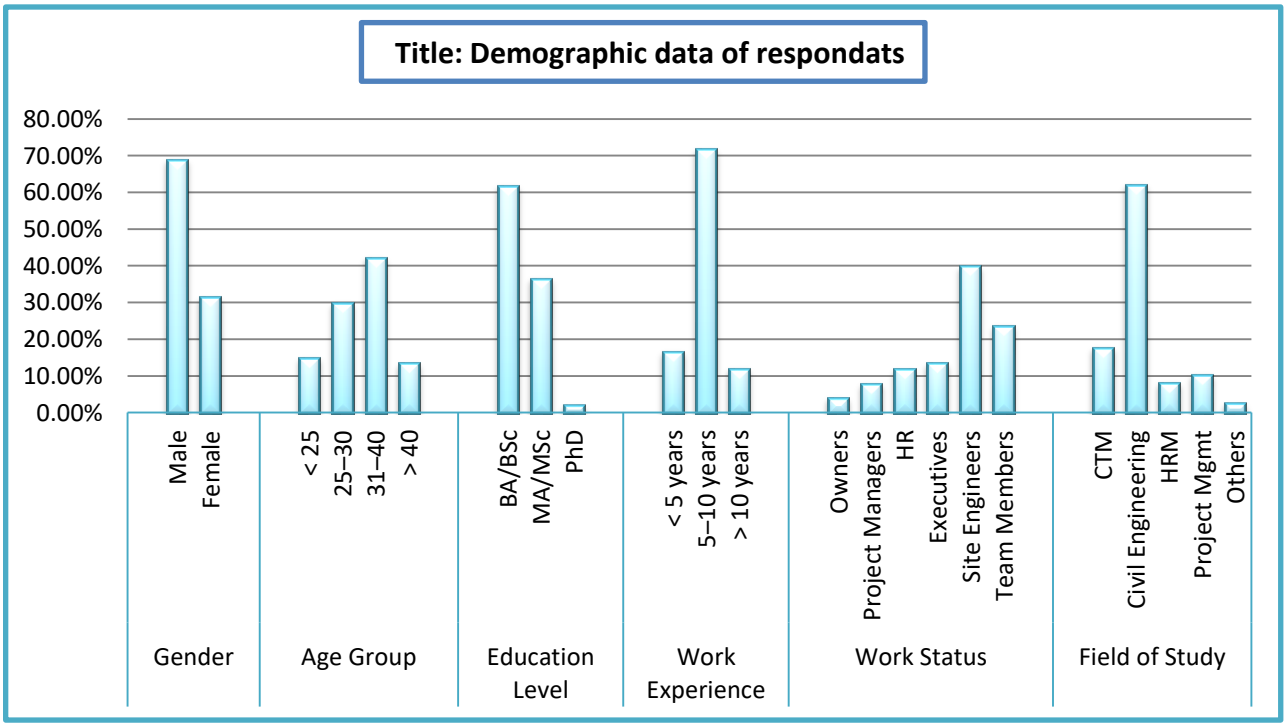

Figure 4 demographic data of respondents
source; own survey, 2025

According to the study, out of the 381 total respondents, 248 (68.7%) were male and 133 (31.3%) were females. It was discovered that there are more males than females in Construction industry in the study area.

As illustrated in table above, Out of 381 participants, 61(14.8%) respondents belonged to less than 25 age group, 121 (29.8%) belong to the age of 25 30, 161 (42.1%) respondents The majority of respondents were between the ages of 31 and 40, while the smallest proportion, 39 individuals (13.3%), were over the age of 40.

As illustrated in table, based on the educational back ground Out of 381 respondents,223 (61.7%) were BA/BSC degree holder, followed by 150 (36.4%) respondents also MA/MSc degree holder, and 8 (1.9%) were PhD degree holder in the construction sector. This implies that majority of workers in the construction industry of the study area were BA/BSC degree holder and the lowest was PhD degree holders.

As revealed in table, based on the work experience Out of 381 respondents, 68(16.5%) had less than five years work experience on construction industry, 264 (71.6%) had experience from 5 to 10 years in construction industry, and the remaining 49 (11.9%) respondents had above ten years work experience on construction industry. This shows that construction industry hired more number of less experienced workers.

According to table, based on the work status Out of 381 respondents, 16 (3.9%) were owners, 32(7.8%) were project managers, 48(11.7%) were human resource, 55(13.3%) executives, 133(39.8%) were site engineers and 97(23.5%) were project team members in construction industry. This implies that there were more site engineers and less clients/owners within the study locations.

As described in table, based on the field of study Out of 381 respondents, 67 (17.6%) were graduated in construction technology and management, 236(61.9%) were graduated in civil engineering, 30(7.9%) had studied human resource management, and 39(10.2%) respondents studied project management, 9(2.4%) were others. This implies that there were more civil engineers and less in other field of studies in the study areas. The general demographic information of the respondents indicates

that the majority possess an educational background sufficient to comprehend and provide valuable insights relevant to the research.

4.2. Gender Representation in project manager position in Construction Industry

In this section, the general representation of gender in project management position in the construction industry will be analyzed based on the data collected through questionnaire.

1. There are a significant number of women in project management roles within your company

Table 6 number of women project managers in the company

Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	325	78.9	85.3	85.3
	Disagree	27	10.6	7.1	92.4
	Neutral	11	3.7	2.9	95.3
	Agree	16	6.4	4.2	99.5
	strongly agree	2	0.5	0.5	100.0
	Total	381	100	100.0	

As illustrated in Table, the respondents were asked the number of women in project manager position with in their company. Accordingly, 11(2.7%) respondents replied to neutral, 325(78.9%) respondents replied strongly disagree, 27 (6.6%), respondents replied disagree, 16 (3.9%), respondents replied agree, and 2 (5%), respondents were replied strongly agree. Therefore, as shown in Table 3, it can be concluded that the majority of respondents, 325 (78.9%), confirmed that women are underrepresented in project manager positions within their company.

According to the respondents' answers to the open ended question, women remain markedly underrepresented in managerial roles, especially in project management positions within the construction industry, a sector that has historically been dominated by men.

2. Your company actively recruits women for project manager position.

Table 7 recruitment statues of women in project manager position

Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	20	4.9	5.2	96.6
	Agree	10	2.4	2.6	91.3
	Neutral	121	29.8	31.8	31.8
	Disagree	217	59.7	57.0	88.7
	Strongly Disagree	13	3.2	3.4	100.0
	Total	381	100	100.0	

As shown in Table, respondents were asked whether their companies actively recruit women for project manager positions. The responses indicated that 121 (29.9%) were neutral, 20 (4.9%) strongly agreed, 10 (2.4%) agreed, 217 (59.7%) disagreed, and 13 (3.2%) strongly disagreed. Therefore, it can be concluded from Table 4 that the majority of respondents, 217 (59.7%), believe that construction companies do not actively recruit women for project manager roles.

According to the interview response of the general director CEO Metasebia Tadesse, the recruitment of women in project manager position in construction industry presents that, the career advancement of professional female project managers is hindered by several obstacles, including challenges related to leadership and human capital, various forms of discrimination, issues with career aspirations and planning, gender specific role conflicts, and difficulties in recruitment and selection processes. Consequently, the representation of women in project management positions remains low.

3. Women in project management positions are equally represented across all project types' in your organization

Table 8 representation of women projects managers in all project types
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	17	4.1	4.5	4.5
	Neutral	45	11.5	11.8	16.3
	Disagree	112	30.2	29.4	45.7
	Strongly Disagree	207	54.2	54.3	100.0
	Total	381	100	100.0	

As presented in Table, participants were asked whether women in project manager positions are equally represented across all project types within their organization. The responses were as follows: 45 (11.5%) respondents were neutral, 17 (4.1%) agreed, 112 (30.2%) disagreed, and 207 (54.2%) strongly disagreed. Therefore, it can be concluded from Table 5 that the majority of respondents, 207 (54.2%), confirmed that women in project manager positions are not equally represented across all project types.

4. Your company sets targets or goals for increasing the number of women in project management roles.

Table 9 construction companies setting goals for increasing the number of women in project manager position

Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	188	48.6	49.3	49.3
	Agree	110	29.7	28.9	78.2
	Neutral	47	12.4	12.3	90.6
	Disagree	27	7.2	7.1	97.6
	Strongly Disagree	9	2.2	2.4	100.0
	Total	381	100	100.0	

As illustrated in Table, respondents were asked whether their company sets targets or goals to increase the number of women in project management roles. The responses were: 47 (12.4%) neutral, 110 (29.7%) agreed, 188 (48.6%) strongly agreed, 27 (7.2%) disagreed and 9 (2.2%) strongly disagreed. Therefore, it can be concluded from Table 6 that the majority of respondents, 188 (48.6%), affirmed that their company establishes targets or goals aimed at increasing the representation of women in project management roles.

5. The Construction industry benefits from equally representation of gender in project management position

Table 10 construction industry benefiting from equally representation of gender in project manager position

Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	5.9	5.2	5.2
	Disagree	190	49.1	49.9	92.4
	Neutral	118	29.6	31.0	42.5
	Agree	24	6.5	6.3	11.5
	Strongly Agree	29	9.0	7.6	100.0
	Total	381	100	100.0	

As illustrated in Table, the respondents were asked whether the Construction industry is actually benefiting from equally representation of gender in project management position**.** Accordingly, 118(29.6%) respondents replied to neutral, 190(49.1%) respondents replied disagree 29(9.0%) respondents replied strongly agree, 24(6.5%) respondents replied agree and 20 (5.9%) respondents replied strongly disagree. From Table 7, it can be concluded that the majority of respondents, totaling 190 (49.1%), indicated that the construction industry does not benefit from equal gender representation in project management positions.

6. The representation of women project managers in the construction industry increased compared to a decade ago.

Table 11 the representation of women project managers compared to decades ago
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	187	47.9	49.1	49.1
	Disagree	107	27.0	28.1	77.2
	Neutral	59	16.3	15.5	92.7
	Strongly Disagree	28	8.8	7.3	100.0
	Total	381	100	100.0	

As illustrated in Table, respondents were queried about whether the representation of women project managers in the construction industry has increased compared to a decade ago. The responses were as follows: 59 (16.3%) were neutral, 187 (47.9%) agreed, 107 (27.0%) disagreed and 28 (8.8%) strongly disagreed. Therefore, it can be concluded from Table 7 that the majority of respondents, 187 (47.9%), affirmed that the representation of women project managers in the construction industry has increased over the past decade.

4.3. Challenges and obstacles Faced by Women in Construction Project Management role

This section examines the challenges and obstacles faced by women occupying project manager positions in the construction sector. The analysis is grounded in data gathered from questionnaires, interviews, and focus group discussions.

7. Women face significant gender bias in the workplace that affects their roles as project managers.

Table 12 Gender bias
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	0	0	0	0
	Disagree	7	3.3	1.8	100.0
	Neutral	15	5.6	3.9	89.0
	Agree	324	80.6	85.0	85.0
	Strongly agree	35	10.5	9.2	98.2
	Total	381	100	100.0	

As shown in Table 9 the respondents were asked if Women face significant gender bias in the workplace that affects their roles as project managers. Accordingly, 15(5.6%) respondents replied to neutral, 324(80.6%) respondents replied agree, 7(3.3%) respondents replied disagree, 35(10.5%) respondents replied strongly agree. Therefore, based on the data presented in Table 8, it can be concluded that the majority of respondents, totaling 324 (80.6%), affirmed that women experience significant gender bias in the workplace, which adversely impacts their roles as project managers.

8. Women can be excluded from project manager positions due to assumptions of physical incapability.

Table 13 physical incapability
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	334	86.2	87.7	87.7
	Disagree	39	11.7	10.2	97.9
	Neutral	7	1.9	1.8	99.7
	Agree	1	0.2	.3	100.0
	Total	381	100	100.0	

As stated in Table, the respondents were asked if women can be excluded from project manager positions due to assumptions of physical incapability. Accordingly, 7 respondents (1.9%) selected neutral, 334 respondents (86.2%) strongly agreed, 39 respondents (11.7%) disagreed, and 1 respondent (0.2%) agreed. Therefore, based on the data presented in Table 15, it can be concluded that the majority of respondents 334 (86.2%) affirmed that women face significant challenges in accessing project manager positions due to prevailing assumptions about their physical incapability.

According to the interview, the physical incapability women in project manager position in construction industry the interviewee replied that unbalanced job opportunities in our country with high number of graduates, we have in this country; may be it is difficult to find the jobs. This includes client assumption of physical incapability for the job therefore; getting the position as a woman is difficult. As well as, the physical demands of the job in construction sites could be physically demanding environments, and women might be face difficulties being perceived as capable of handling the physical labor and also the male dominated culture that has historically been prevalent in the construction industry.

9. There are Lack of mentorship and training program

Table 14 Lack of mentorship and training programs.
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	184	47.7	48.3	48.3
	Agree	150	38.4	39.4	87.7
	Neutral	21	6.1	5.5	93.2
	Disagree	18	5.4	4.7	97.9
	Total	381	100	100.0	

As stated in Table, the respondents were asked if there are mentorship and training programs. Accordingly, 21(6.1%) respondents replied to neutral, 18(5.4%) respondents disagreed, 184(47.7%) respondents replied strongly agree, 150(38.4%) respondents agreed. Thus, from table, it can be concluded that the majority of 184(47.7%) respondents ensured that there is lack of training and mentorship programs.

10. Balancing work and family responsibilities is more challenging for women in project management positions

Table 15 Balancing work and family responsibilities
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	22	7.9	5.8	5.8
	Agree	317	78.9	83.2	89.0
	Neutral	35	10.5	9.2	98.2
	Disagree	7	2.7	1.8	100.0
	Total	381	100	100.0	

As stated in Table, the respondents were asked the balancing work and family responsibility is more challenging for women in project management positions. Accordingly, 35(10.5%) respondents replied to neutral, 7(2.7%) respondents replied disagree, 317(78.9%), respondents replied agree, 22(7.9%)

respondents strongly disagreed. Therefore, from table, it can be concluded that the majority of 317(81.7%) respondents has ensured that balancing work and family responsibility is more challenging for women in project management positions.

11. Women face challenges related to extreme weather, unsociable work hours, and harsh working conditions.

Table 16 extreme weather, unsociable work hours, and harsh working conditions.
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	0.2	.3	100.0
	Disagree	7	1.9	1.8	99.7
	Neutral	334	86.2	87.7	87.7
	Agree	39	11.7	10.2	97.9
	Total	381	100	100.0	

As stated in Table, the respondents were asked the Women face challenges related to extreme weather, unsociable work hours, and harsh working conditions. Accordingly, 7(1.9%) respondents were replied to disagree, 39(11.7%) respondents agreed, 334(86.2%) respondents neutral, 1(0.2%) respondents replied strongly disagreed. Thus, based on Table, it can be stated that the majority of respondents 39 (11.7%) indicated that women face challenges related to extreme weather, unsociable work hours, and harsh working conditions.

Additionally, the interviewee replied that Working condition in construction sites requires to deal with the environmental conditions related to extreme weather, unsociable work hours, and harsh working conditions on the site make it difficult for women and the job site is one of the most dangerous areas to work in, and women are particularly vulnerable due to their physical limitations and the lack of gender specific safety equipment.

12. There is an unequal job opportunity between men and women project managers.

Table 17 unequal job opportunity between men and women project managers
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.2	2.4	2.4
	Disagree	21	6.1	5.5	99.2
	Neutral	21	6.1	5.5	93.7
	Agree	327	84.4	85.8	88.2
	Strongly Agree	3	0.7	.8	100.0
	Total	381	100	100.0	

As stated in Table, the respondents were asked as there is unequal opportunity between men and women project managers. Accordingly, 21(6.1%) respondents replied to neutral, 327(84.4%) respondents replied agree, 3(0.7%) respondents strongly agreed, 21(6.1%) respondents disagreed and 9(2.2%) respondents strongly disagreed. Thus, based on Table 14, it can be concluded that the majority of respondents 327 (84.4%) affirmed that there is a lack of equal opportunities between male and female project managers.

According to the interview about job opportunities between men and women replied that there is no equal job opportunities because of male dominated culture that has historically been prevalent, the women face difficulties being perceived as capable of handling the physical labor and women they may not have the same informal networks or mentor ship opportunities as their male counterpart.

4.4 Intervention practices for promoting women's advancement in project manager position in construction industry

This section outlines intervention practices aimed at promoting the advancement of women into project manager positions within the construction industry. The analysis is based on data gathered through questionnaires, interviews, and panel discussions.

13. Your organization support women in education and training at the workplace that enhances their roles as project managers.

Table 18 education and training
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	67	17.6	17.6	17.6
	Yes	314	82.4	82.4	100.0
	Total	381	100	100.0	

As illustrated in Table, the participants were asked Support women in education and training at the workplace that enhances their roles as project managers. Accordingly, 314 (82.4%) respondents said yes, there are supporting education and training at workplace, and 67 (17.6%) respondents said no, which means that there is supporting education and training at workplace.

In an open ended questionnaire, the respondents answered education and adequate training would help women to uphold their capability for the project manager position. As well as, educating and brainstorming the society especially company owners will help increasing the number of women with project manager position.

14. Are there effective applied initiatives or policies aimed at promoting gender diversity in project management roles in your organization?

Table 19 effective applied initiatives or policies
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	239	62.6	62.7	100.0
	Yes	142	37.4	37.3	37.3
	Total	381	100	100.0	

As illustrated in Table, the respondents were asked are there effective applied initiatives or policies aimed at promoting gender diversity in project management roles. Accordingly, 239 (62.6%) respondents said no, there are no initiatives or applied policy promoting gender diversity, and 142 (37.4%) respondents said Yes, which means that there are policies that initiate gender diversity in construction industry.

Based on Ehitabezahu Nigussie from ERA, the existence of initiatives/policies that promote gender diversity in construction industry replied that the construction companies need to actively promote diversity, equity and inclusion initiatives. This could include diversity training, mentorship programs, and ensuring fair employment and advancement practices and it ensure that physical requirements are truly essential for the role, and provide appropriate training, change society attitude, parental leave policies, on-site childcare options, gender mainstreaming, leadership development, formal mentor ship programs, networking events, emotional support and financial arrangements, like a voluntary saving for women and equipment to enable women manage their personal and professional responsibilities. Even though, those initiatives/ policies are believed to be very important enablers for women but they have rarely practiced in the real environment.

15. There are mentor ship and networking opportunities for women in project management roles in your organization.

Table 20 mentorship and networking opportunities
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	129	64.0	33.9	33.9
	No	252	66.0	66.1	100.0
	Total	381	100	100.0	

As illustrated in Table, the respondents were asked if there is applied mentor ship and networking opportunities for women in project management roles. Accordingly, 129 (64.0%) respondents said yes, there mentor ship and networking opportunities for women in project management roles, and 252 (66.0%) respondents said no, which means that there are no mentor ship and networking opportunities for women in project management roles applied in their organization.

In an open ended questionnaire, the respondents answered that, lack of mentorship and networking exposed women for different challenges like work life imbalance ,bias mentality of male domination, less representation of women in project manager position. Providing formal mentorship program network events and leadership development could help to address the gap and advance women for the position.

16. Balancing work and household responsibilities (work life balance) for women in project management roles through flexible work arrangements.

Table 21 Balancing work and family responsibilities through flexible work arrangement

Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	167	43.7	43.8	100.0
	No	214	56.3	56.2	56.2
	Total	381	100	100.0	

As illustrated in Table 18, respondents were asked whether work–life balance for women in project management positions is supported through flexible work arrangements. Of the total responses, 167 (43.7%) indicated "Yes," suggesting that such arrangements are in place. However, a majority of 214 (56.3%) responded "No," indicating that the construction industry generally lacks adequate flexible work arrangements to help women in project management roles balance their professional and family responsibilities.

In an open ended questionnaire, the respondents answered on balancing work and family responsibilities are not accustomed means that supportive work policy that initiate on-site child care center, parental leave policy, and other affirmative actions had never practiced in the construction industry even though it help women better manage their personal and professional responsibilities.

17. Women Get support from colleagues and owners

Table 22 support from colleagues and owners
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	176	46.8	46.2	46.2
	No	205	53.7	53.8	100.0
	Total	381	100	100.0	

As illustrated in Table, the respondents were asked do women get support from colleagues and owners. Accordingly, 176 (46.8%) respondents said yes, women project managers are getting support from colleagues and owners, and 205 (53.7%) respondents said no, which means that women project managers are not getting support from colleagues and owners in construction industry.

Based on an open ended questionnaire, the respondents answered that, even if affirmative action and supportive policies states about the right of rest during child birth, annual leave hasn't practiced perfectly in the selected companies.

18. Does Affirmative action practiced in your working area for women in project management position?

Table 23 Affirmative action
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	73	17.7	19.2	19.2
	No	308	74.8	80.8	100.0
	Total	381	92.5	100.0	

As stated in Table, the respondents were asked if affirmative action practiced in their working area. Accordingly, 73 (17.7%) respondents said yes, affirmative action practiced in their working area, and 308 (74.8%) respondents said no, which means that affirmative action had never been practiced in their organization.

19. Percentage of women in project manager position in your organization.

Table 24 Percentage of women in project manager position
Source; own survey, 2025

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than ten percent	236	57.3	61.9	82.7
	10 20 percent	71	17.2	18.6	18.6
	21 30 percent	17	4.1	4.5	87.1
	31 40 percent	2	.5	.5	19.2
	more than 40 percent	6	1.5	1.6	20.7
	Unknown	49	11.9	12.9	100.0
	Total	381	100	100.0	

As illustrated in Table, out of 381 respondents, 236 (57.3%) indicated that women constitute less than 10% of the workforce in project management positions within the construction sector. Additionally, 71 (17.2%) reported women's representation to be between 10–20%, 17 (4.1%) cited 21–30%, 2 (0.5%) noted 31–40%, and 6 (1.5%) indicated that more than 40% of project managers are women. Furthermore, 49 respondents (11.9%) stated they were unaware of the level of women's representation in their organizations. These findings, particularly the majority response of 236 (57.3%), suggest a notably low level of female participation in project management roles within the construction industry.

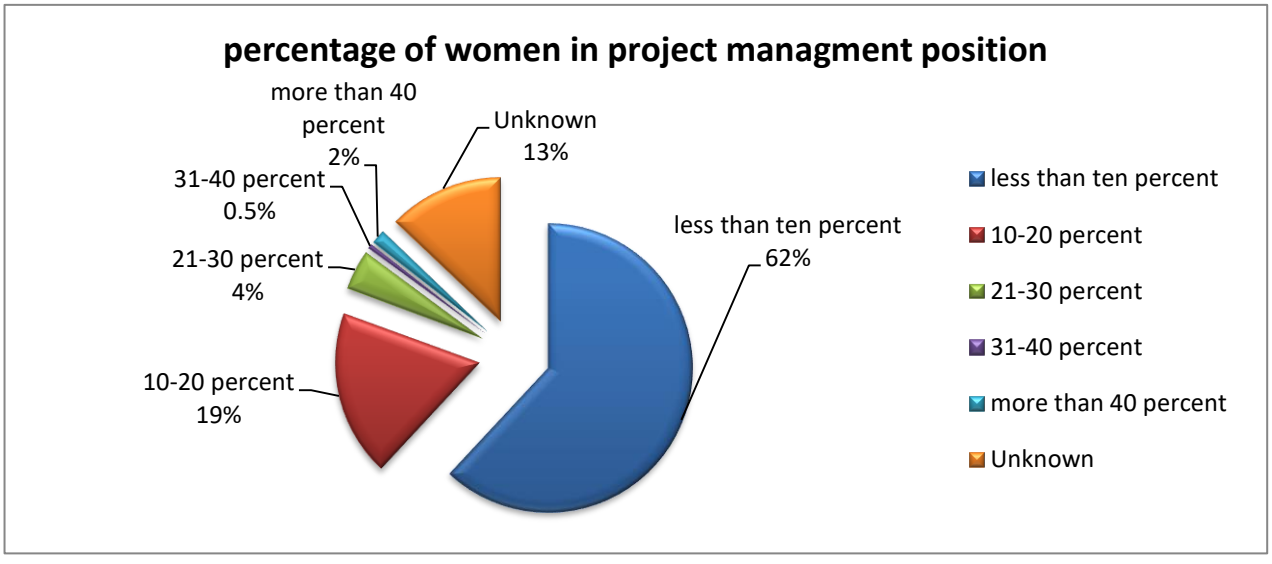

Figure 5. Percentage of women in project management position
Source: own survey, 2025

4.5. Discussion

Under this section, the key findings of the study, obtained through data collection instruments from both primary and secondary sources and aligned with the research objectives, are systematically identified and discussed.

Data collection was conducted using a questionnaire, interviews, and focus group discussions. The researcher got an opportunity to attend Big 5 Construct Ethiopia 2024 at Millennium Hall and participated in a panel discussion on diversity and inclusion in the construction sector, which is directly relevant to the research issue. The participants were Ehitabezahu Nigussie, Engineer at Ethiopian Roads Administration, Metasebia Tadesse, CEO of Metasebia Tadesse G.C., and Yemisrach Molla, Project Manager at Turner & Townsend. The moderator was Marshet Mengstu, Managing Partner at Warkalab Design PLC, and the audience included many event attendees. The subjects were the importance of diversity in engineering and construction motivating women engineers, how diversity drives impact and innovation, overcoming biases, a lack of role models, and access to education and resources. The discussion focused on the role of women in the construction industry, challenges they face, and strategies to improve gender diversity. Participants included women professionals from various roles within the industry, sharing their experiences and insights on the topic. Therefore, based on the research objectives and research questions, the result is discussed as follows:

4.5.1. Gender Representation in project management roles

In most cases, women employed in the construction sector are engaged primarily in unskilled labor roles when they participate in the industry (Devi, et al., 2013). Slow career progression, the physically demanding nature of construction work which adds to the workload of women already managing family responsibilities along with a male dominated culture and an overtly masculine environment characterized by conflict and aggression, are key contributing factors to the low participation of women in the construction industry and the limited protection they receive within the sector (Menches & Abraham, 2007; Rajkumar & et, 2016).

For the research question 1 which is to what extent are women underrepresented in project management positions within Ethiopia's construction industry, and what barriers do they face in advancing their careers? The study has got the following findings;

In the same manner the majority of 325(78.9%) respondents confirmed that the gender representation belonged to less than ten percent therefore the researcher concluded that the number of women in project manager position rarely represented in construction industry. Moreover, Based on the study findings the major things in women project management position in construction industry in Addis Ababa grouped into number, recruitment, equality, benefit, and goal setting to increase number of women are the main parameters of gender representation which are shown lack in construction industry of Addis Ababa.

Women have played important roles in traditional building practices, such as adobe construction and thatching, and have also been involved in the construction of public buildings, such as churches and schools. However, women's involvement in the modern construction sector has been limited, due in part to the industries traditional, male dominated culture and the physical demands of many construction jobs (Gene, et al., 2017). According to the interview result, majority of interviewee pointed that there have no equal involvement in construction industry rather they perform in office jobs like office engineer, material engineer, resident engineer, software engineer, architect (designing team), HR, Receptionist, and performing in sanitary activities and so on in construction industry of Addis Ababa.

4.5.2. Challenges that hinder women in project management roles

The historical context of gender disparities in the construction industry reveals a range of challenges that have discouraged women from entering or advancing in the field. These challenges are deeply rooted in societal stereotypes and gender biases, as well as skepticism and resistance from colleagues who often question women's competence or suitability for physically demanding roles (Sheila, et al., 2022). Additionally, women have frequently encountered sexual discrimination, harassment, and assumptions about their physical incapability. They are also perceived as unqualified for blue collar roles due to labor intensive conditions, including extreme weather, irregular work hours, and hazardous environments, all of which have contributed to their underrepresentation in the industry

(Post & Nadine, 2003). Furthermore, the lack of mentorship and networking opportunities, along with difficulties in maintaining work life balance, remains a significant barrier to women's advancement in construction careers (BigRentz, 2024). This issue is a global concern, as highlighted by Arslan & Kivrak (2004) and Baker & French (2018). In the same way the data analysis on interview revealed that the representation of women in project manager position in construction sector improved when compared a decade ago. However, there is no responsible body that evaluates/ takes measure and enforces implementation gender representation based on set rules and take responsibility for failures in construction industry in Addis Ababa.

For the research question 2 which is "What are the factors hindering women from attaining and sustaining project management roles in construction projects in Ethiopia?" the study has got the following findings;

According to the analysis, the majority of respondents, 334 (86.2%), affirmed that women are often excluded from project manager positions due to assumptions regarding their physical incapability within construction companies. This exclusion contributes to unequal job opportunities between female and male project managers in the industry. Gender diversity remains a critical concern in the construction sector, where women constitute only a small fraction of the workforce.

Women encounter significant challenges such as unconscious gender bias, limited access to training opportunities, and pervasive negative stereotypes within the construction industry. The analysis further revealed that the majority of respondents, 327 (84.4%), confirmed the absence of equal job opportunities between men and women. This disparity is attributed to factors including gender bias, stereotypical attitudes, insufficient training, and ineffective implementation of initiatives and policies designed to promote gender diversity in project management roles. Additionally, the lack of adequate mentorship and networking opportunities, absence of daycare facilities within organizations, and the unavailability of flexible work arrangements to support the balance of work and family responsibilities further hinder women's advancement in project management roles.

The major challenges as shown in above on analysis part the major challenges women project manager positions in construction industry in Addis Ababa were identified the first two ranking challenges are,

Women can be excluded from project manager positions due to assumptions of physical incapability and challenge comes by an unequal job opportunity between men and women project managers.

Gender diversity remains a critical concern within the construction industry, where women constitute only a small fraction of the workforce. Historically dominated by men, the industry continues to exhibit significant underrepresentation of women at all organizational levels. This gender imbalance presents considerable challenges for women pursuing careers in construction (KING LEWIS, 2020). Various factors contribute to this disparity, including unconscious gender biases, limited access to training opportunities, and pervasive negative stereotypes about women's roles in the sector (Rajkumar & et, 2016). Consistent with these findings, the analysis revealed that the majority of respondents, 327 (84.4%), affirmed the absence of equal job opportunities between men and women, citing gender bias, stereotyping, inadequate training, and related barriers as contributing factors. Therefore, the following table is formulated based on the analysis result on challenge:

Table 25 Summary of Major Challenges

Source: Own survey, 2025

No	Challenges that hinder women in project management role	Response of the respondents		
		Frequency	Percentages	Rank
1	Gender bias	324	80.6%	3rd
2	Physical incapability	334	86.2%	1st
3	Lack of mentorship and training programs	184	47.7%	5th
4	work and family responsibility imbalance	317	78.9%	4th
5	Unsociable work hours and harsh working condition	47	12.3%	6th
6	Unequal job opportunities between men and women	327	84.4%	2nd

As illustrated from above table: Accordingly, challenges based on the priority is listed as Physical incapability 334 (86.2%), Unequal Job opportunities between men and women 327 (84.4%), Gender bias 324(80.6%), Balancing work and family responsibility 317 (78.9%), Unsociable work hours and harsh working condition 184 (47.7%), and lack of mentorship and training programs 47(12.3%) ranked 1st, 2nd, 3rd, 4th, 5th and, 6th, respectively.

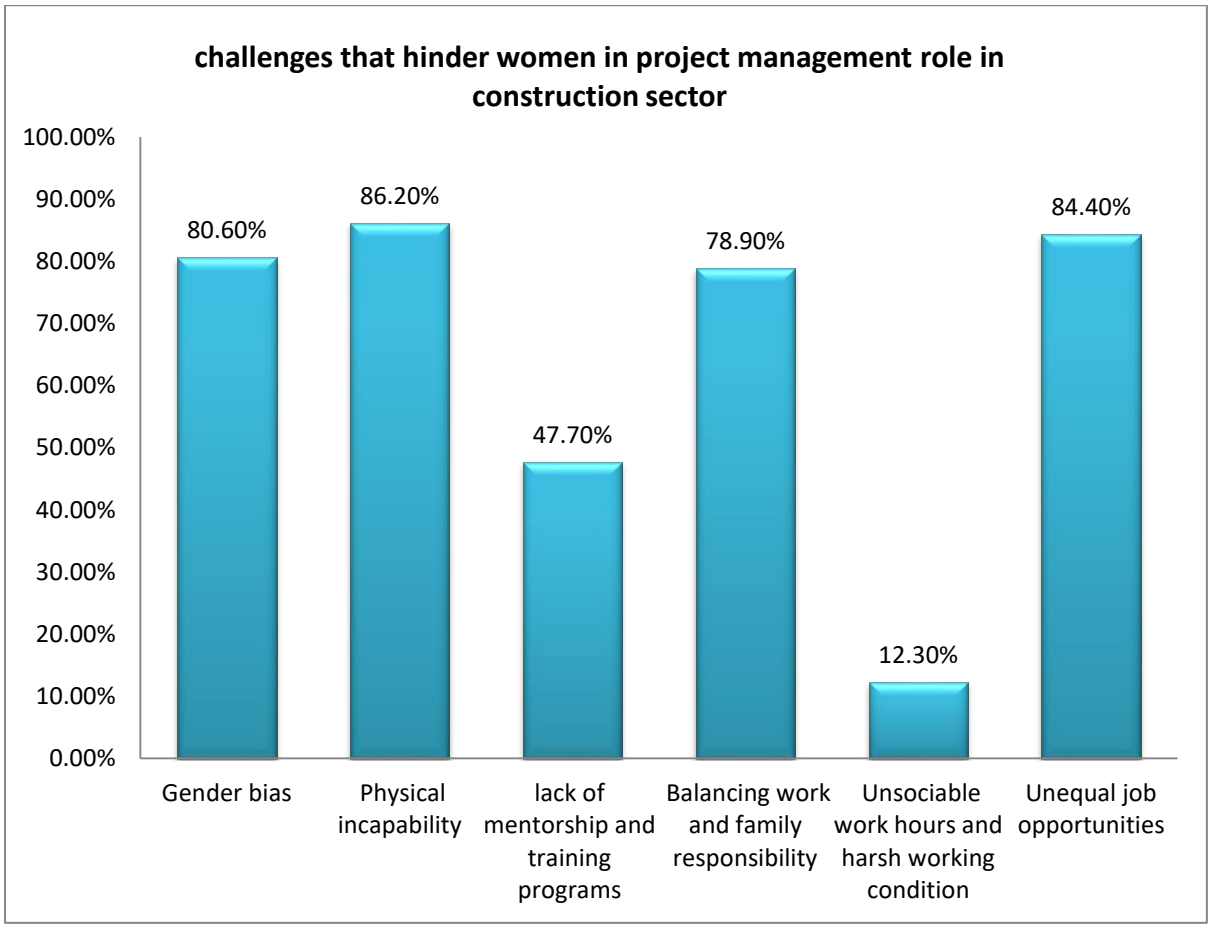

Figure 6 challenges that hinder women in project management role in construction sector

Source: own survey, 2025

4.5.3. Intervention practices for promoting women's advancement in project manager position in construction industry

Initiatives encompass establishing clear goals and targets to enhance female representation in the workforce, enacting policies that promote work life balance, offering mentorship opportunities, and cultivating an inclusive organizational culture. These efforts also include mentorship programs, leadership development initiatives, and flexible work arrangements (BigRentz, 2024) (RICS, 2018).

For the 3rd research question which is "What are the potential approaches can effectively support the career advancement of women in construction project management in Ethiopia?" the study has got the following findings;

In focus group discussion an open ended questionnaire, the sample participants forwarded their view on the issues of gender diversity that initiatives helped women to upheld the productivity and profitability and also, the initiative policy and affirmative action increases the number of women with their strategic leadership skills can significantly benefit the industry to pass balanced decision making and bring innovative solution.

Additionally, According to Ehitabezahu Nigussie, the presence of initiatives/policies promoting gender diversity in the construction industry indicates that construction organizations must strongly support diversity, equity, and inclusion activities. This could include diversity training, mentorship programs, and ensuring fair hiring and promotion practices, and it ensures that physical requirements are truly essential for the role, and provide appropriate training, change society attitude, parental leave policies, on-site childcare options, leadership development, formal mentorship programs, networking events, emotional support, and financial arrangements, such as a voluntary savings for women and equipment to enable women Even though certain initiatives/policies are thought to be very essential enhancers for women, but they have rarely been implemented in practice.

However, in reality balancing work and family responsibilities are not accustomed means that supportive work policy that initiate child care center and other affirmative actions had never been practiced in the construction industry. Accordingly, 214 (56.3%) respondents said no, which means

that there are no balance between work and household responsibilities for women in project management positions through flexible work arrangements in construction companies in Ethiopia.

The data which were being reviewed from the construction industry in Addis Ababa during data collection period revealed that practices for promoting women's advancement like affirmative action, work life balance and family responsibility, getting support from colleagues and owners, mentorship and networking opportunities, education and training , effective applied initiatives or policies aimed at promoting gender diversity in project management roles in organization were rarely practiced for women's advancement.

The main practices for women advancement

Work life balance and family responsibility: women in construction industry unable balance personal goal with construction industry goal.

Affirmative action: Women in construction industry violated to get their rest, and maternity leave.

Mentorship and networking: Women in construction industry lack access of information and role model.

Support from Colleagues and owners: women in construction industry unable to get enough support.

Education and training: The learning and growth for women advancement in construction industry are in sufficient.

Policies: implementing organizational and governmental gender mainstreaming and diversity policies.

CHAPTER 5

5. Conclusion and Recommendations

5.2 Conclusion

Based on the study findings the major challenges of women project managers of construction industry in Addis Ababa in priority order Physical incapability, Unequal Job opportunities between men and women, Gender bias, Balancing work and family responsibility, Unsociable work hours and harsh working condition, and they lack Self-confidence comparing with men colleagues .All these challenges and other de motivating factors hinder the involvement of women in project manager position in construction industry of Addis Ababa.

Besides these challenges, the major opportunities in the study locations the intervention practices promoting women advancement in construction industry in Addis Ababa including the existence of non-governmental and governmental institutions that create awareness and training, financial and technical support to women and the community as whole. As well as, initiative policies, rules, regulation, proclamation, declaration at national and regional level, construction industry enhance employment opportunities, employability, expansion of social services and infrastructures that support the city administration. Therefore the researcher can conclude that since the existence of those challenges there is low intervention practice that promoting women advancement caused low involvement of gender representation women in project manager position in construction industry.

5.3 Recommendation

Based on the key findings of this study, the following recommendations are proposed to improve the participation of women in project management roles within the construction sector in Addis Ababa:

- ✓ Implement Work Life Balance Support Programs: Given that 78.9% of respondents indicated challenges in balancing work and family responsibilities, construction and consulting firms should adopt flexible working hours, establish on-site childcare services, and support family friendly policies. These measures will help reduce career dropouts among female professionals and support their sustained involvement in project management roles.
- ✓ Develop Female Focused Capacity Building and Mentorship Programs: The study identified a

lack of training and mentorship opportunities as a barrier to women's career advancement. To address this, industry stakeholders should develop targeted capacity building initiatives, including technical training, leadership development, and structured mentorship programs that connect experienced female managers with aspiring professionals.

- ✓ Enforce Gender Responsive Recruitment and Promotion Practices: Since 84.4% of participants reported unequal job opportunities, construction companies must ensure that recruitment, induction, and promotion processes are free from gender bias. Clear, transparent criteria should be established to increase the representation of women in leadership and decision making roles.
- ✓ Provide Gender Specific Safety Equipment and Health Protections: With 47.7% of respondents citing unsafe and harsh working conditions, companies should provide personal protective equipment (PPE) suited to women's sizes and physical needs, and ensure enforcement of health and safety protocols that are inclusive and gender sensitive.

These practical and evidence based interventions, if properly implemented, will contribute significantly to promoting gender equality and advancing women in project management positions within Ethiopia's construction industry.

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Annex A: Questionnaire and Interview Questions

Addis Ababa University

College Of Technology and Built Environment

School of Built Environment

Department Of Infrastructure and Technology Management

My name is Serawit Getachew, and I am currently working on a master's thesis for the partial fulfillment of the MSc degree in Construction Management at the Addis Ababa University, College Of Technology and Built Environment School of Built Environment,Department of Infrastructure and Technology Management.

The purpose of the research is to Study on the Level of Women's Involvement in Project Management Positions in the Ethiopian Construction Industry. To achieve this objective, the study requires data related to the involvement of women project managers in small, medium, and large construction and consulting companies in Addis Ababa, Ethiopia.

The confidentiality of the participants in this questionnaire will be maintained. The data will be used exclusively for educational and research purposes. The identity of respondents will remain anonymous. The data obtained will not be linked to participants' names. If you have any questions or require further information, please contact me through the provided address. Please return this questionnaire by hand or via email to the following address. Thank you in advance for your participation.

Serawit Getachew

Mobile phone number: +251-915-248583

Email address: serawitgetachew14@gmail.com

June 5, 2024

To _____

EiABC
Ethiopian Institute of Architecture
Building Construction and City Development
Addis Ababa University

Subject: Cooperation for Data & Information

Addis Ababa,
Ref No. EiABC/CCM/0309

Dear Sirs,

This letter is to inform you that Serawit Getachew is working on a research entitled '***Exploring Involvement of Women in Project Manager Positions in the Ethiopian Construction Industry; Challenges, Opprtunities & Approaches for Advancement***'.

The research is part of the fullifillment of the Construction Techology & Management M.Sc. program in Ethiopian Institute of Architecture, Building Construction & City Development (EiABC), Addis Ababa University.

Currently, she is looking for cooperation to acquire data and information in capturing current practices and support her research work through primary data using questionnaire & interviews.

Thus, I kindly request your esteemed organization to support her in sharing your experience and supply her with the necessary data and information.

We will keep every data and information confidential and shall be used for academic and research purposes only.

Thanks and please let me know if you have any questions.

Best Regards,

Asregedew Kassa, Ph.D., P.E.
Associate Professor
Chair Holder, Construction Management
EIABC, AAU

Ethiopian Institute of Architecture,
Building Construction and City Development
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Asregedew Kassa, Ph.D., P.E.
Addis Ababa

Mobile: +251- 941-616582
Email: asregedew.kassa@eiabc.edu.et

Part I Personal Information

1. Gender: Male ☐ Female ☐
2. Age:

   Less than 25 ☐ 3- 40 ☐

   25-30 ☐ Above 40 ☐

3. Educational background:

   BA/BSc degree ☐ MA/MSc degree ☐ PHD and above ☐

   If other, please specify_____

4. Graduated in (discipline/field of study)

   Construction Technology and Management ☐ Civil Engineering ☐

   Human Resource Management ☐ Project Management ☐

   If other, please specify_____

5. Work status

   Client/owner ☐ Project Manager ☐ HR (human resource) ☐

   Executives ☐ Site Engineer ☐ Project team member ☐

   If other, please specify_____

6. How many years have you worked in the construction sector?

   Less than 5Years ☐ 5 10 Years ☐ Above 10 years ☐

Part II to Part III. Close ended questions that respondents will respond using the Guide to Likert scale:

Kindly rank your answer by using √ along your choices.

(1) Strongly disagree (SD) (2) Disagree (D) (3) Neutral (N)

(4) Agree (A) (5) strongly agree (SA)

Part II

No	1. Gender Representation in construction Industry					
	Questions	**5**	**4**	**3**	**2**	**1**
1	There are a significant number of women in project manager positions within your company.					
2	Your company actively recruits women for project manager positions.					
3	Women in project management positions are equally represented across all project types' in your organization.					
4	Your company sets targets or goals for increasing the number of women in project management roles.					
5	The construction industry benefits from the equally representation of gender in project management position.					
6	The representation of women project managers in the construction industry increased compared to a decade ago.					

Part III

No	2. Challenges and barriers Faced by women in construction project manager position					
	Questions	**5**	**4**	**3**	**2**	**1**
1	Women face significant gender bias in the workplace that affects their roles as project managers.					
3	Women can be excluded from project manager positions due to assumptions of physical incapability.					
4	Balancing work and family responsibilities is more challenging for women in project management positions.					
5	Women face a lack of self-confidence to compete with their male counterparts.					
6	There is an unequal job opportunity between men and women project managers.					

Part IV: Close ended questions that respondents will respond using the Guide to if agree "Yes" or if you don't agree "No"

Kindly rank your answer by using √ along your choices.

No	3. intervention scheme for promoting women's advancement in construction industry		
	Questions	**Yes**	**No**
1	Support women in education and training at the workplace that enhances their roles as project managers.		
2	Are there effective applied initiatives or policies aimed at promoting gender diversity in project management roles in your organization?		
3	There are mentor ship and networking opportunities for women in project management roles in your organization.		
4	Balancing work and family responsibilities for women in project management positions through flexible work arrangements.		
5	Women Get support from colleagues and owners.		
6	Does Affirmative action practiced in your working area for women in project management position?		

Part IV open ended questions. Please express your ideas freely.

1. In your opinion, what positive contributions do women project managers brings to construction industry?

_____

_____

_____

_____

_____

2. What percentage of project managers within your organization are women?

Less than 10%	☐	10-20%	☐
21-30%	☐	31-40%	☐
More than 40%	☐	I don't know	☐

3. What, in your opinion, what are the key challenges that women project managers may face in the construction industry, and how can these challenges be addressed?

_____

_____

_____

_____

4. What advice would you give young women who are considering pursuing a career in project management in the construction industry in Addis Ababa?

_____

_____

_____

_____

5. In your opinion, how can the construction industry in Addis Ababa better attract, retain, and promote women in project management positions? What specific initiatives, policies or programs would you recommend?

_____

_____

_____

_____

Thank you for your time and cooperation!!

Part VII. Interview questions

1. What challenges have you faced as a woman in a project manager position within the construction sector?

2. What opportunities and initiatives do you see for women to advance in project manager positions in your institution?

Link to online data collection

https://docs.google.com/forms/d/e/1FAIpQLScoh7C6MHImabyn5V507HznweIWJKavjbEzRtTyTpLhlAUO9A/viewfor

Annex B: Publication Article (Manuscript)

The level of women's involvement in project management positions in the Ethiopian construction industry

Author: Serawit Getachew, (2025); Email: serawitgetachew14@gmail.com

Department Of Infrastructure and Technology Management, College of Technology and Built Environment, School of Built Environment, Addis Ababa University, Ethiopia.

Abstract

This study explores the extent of women's involvement in project management positions within the Ethiopian construction industry, with a particular focus on Addis Ababa. Despite increasing awareness of gender equity, gender diversity improves innovation and decision-making in construction, women remain significantly underrepresented in leadership roles across the sector. Most existing studies in Ethiopia focus on general construction roles and there is a lack of practical frameworks to support women's advancement in PM roles. Therefore, the study aims to assess the level of female representation, identify the challenges hindering their participation, and propose effective interventions to enhance gender inclusion in project management roles. The conceptual and empirical literature review with relevant international and Ethiopian experiences was conducted to examine key challenges, representation gaps, and strategies for career advancement. A mixed-method research approach was adopted, combining quantitative data from 394 survey respondents drawn from a population of 25,000 licensed construction professionals, with qualitative insights from interviews and a focus group discussion involving female project managers. The research employed descriptive statistical analysis for quantitative data using SPSS, and thematic analysis for qualitative data to ensure comprehensive interpretation. Findings reveal that women constitute a small minority in project management roles less than 10% and face multiple structural, institutional, and socio-cultural barriers. The study identifies 6 major challenges, including physical demands, Unequal Job opportunities between men and women, gender bias, lack of mentorship and training programs, work-life imbalance, and Unsociable work hours and harsh working condition. Moreover, only a few companies reported having active goals or policies to promote female leadership. The research concludes that there is an urgent need for sector-wide strategic interventions, including gender-sensitive recruitment policies, mentorship programs, flexible work arrangements, and targeted leadership training. These measures are essential not only for enhancing women's participation in project management but also for improving overall organizational effectiveness and equity in the Ethiopian construction sector.

Keywords: Women in Construction, Project Management, Gender Inclusion, Ethiopian Construction Industry, Leadership Barriers, Addis Ababa

1. Introduction

The construction sector is one of the largest global employers, accounting for around 220 million jobs as of 2023 (Powell et al., 2007; ILO, 2023). In developing countries, it plays a pivotal role in national development through infrastructure investment, contributing significantly to GDP and capital asset formation (Esayas, 2020). Construction Project Management (CPM) encompasses all project phases planning, execution, monitoring, and completion requiring expertise in design and construction processes as well as leadership skills such as coordination and communication (Archdesk, 2022; Hendrickson, 2010; Chen et al., 2009). However, gender disparities persist women are underrepresented in leadership due to stereotypes, limited mentorship, biased hiring, and constrained advancement opportunities (Kofi et al., 2022). Despite this, gender-diverse teams enhance innovation, productivity, decision-making, and organizational culture, with women leaders serving as role models (Richard et al., 2016; Gurjao, 2017). Yet even in Ethiopia's urban centers like Addis Ababa where national policies support gender equity, women remain minimally represented in construction project management roles (World Bank, 2020; UN Women, 2022). This situation highlights the need to explore the structural and socio-cultural barriers affecting women's progression in construction leadership.

2. Statement of problem

For several reasons, gender diversity is crucial in the construction sector while the industry gains from a variety of perspectives which encourages innovation, creativity, and effective problem-solving by promoting a more balanced representation of genders (Richard, et al., 2016). Although efforts to increase gender inclusion in the construction sector have gained momentum globally but women remain underrepresented in project leadership roles as existing studies in Ethiopia have addressed women's participation in general construction work, labor challenges, and gender mainstreaming with limited emphasis on managerial positions particularly in urban centers like Addis Ababa (Gene, et al., 2017; Wellington, 2010; Abraham, et al., 2017; Kidist, et al., 2023). Therefore, there is an absence of actionable frameworks and intervention schemes to enhance women's representation in project management. In order to close that empirical and contextual gap, this study looks at how involved women are in project management, what obstacles they encounter, and how to improve gender inclusion in leadership positions in Addis Ababa's construction industry.

3. Research objectives

This study examines women's participation in project management roles in Ethiopia's construction sector, highlighting the first objective, extent of women's participation in pm roles, the second objective, key challenges they encounter, and the third objective potential opportunities, and strategic approaches for advancement. Its findings are important for fostering gender equity and promoting inclusive leadership. By uncovering obstacles and recommending practical solutions, the research contributes to broader initiatives aimed at increasing female representation in leadership positions within the industry.

4. Literature Review

Conceptual Literature Review

Construction Industry is an industry that encompasses all tasks related to the construction, repair, and upkeep of infrastructure and buildings, involving experts like engineers, architects, contractors, and workers while a project Manager is professional responsible for overseeing the planning, execution, monitoring, and closing of construction projects. Women's Involvement Refers to women's active participation in planning, decision-making, and management roles while Gender Representation is the ratio and level of involvement of women compared to men in leadership and management roles within the construction sector. The Challenges and Barriers are Institutional, social, and environmental challenges hindering women's leadership while Advancement Approaches are Strategies, policies, and practices aimed at enhancing women's representation, retention, and leadership progression in the construction sector.

Challenges in Leadership Representation

Multiple systemic, organizational, and societal barriers contribute to the underrepresentation of women in construction leadership roles. Gender Bias and Stereotypes: Persistent perceptions of male competence in construction tasks limit women's career progression (Gene et al., 2017); Workplace Discrimination: Sexual harassment, exclusion from decision-making, and lack of support from colleagues further alienate women (Sheila et al., 2022); Work-Life Imbalance: Inflexible work arrangements make it difficult for women to balance professional and family responsibilities

(BigRentz, 2024). Lack of Mentorship and Training: Absence of structured career development programs hinders skill acquisition and leadership grooming (Richard et al., 2016).

Approach for career advancement

Nonetheless, the literature also identifies potential chances for women who work in the construction sector. These include contributions to improved construction quality, increased gender sensitivity, better project delivery timelines, and overall project management effectiveness. Advancing women in the industry requires targeted interventions, including gender mainstreaming policies, inclusive practices, and institutional reforms to dismantle structural and cultural barriers.

Empirical literature Review

Historical and Global Context

Women have long contributed to construction through traditional roles and informal labor. However, formal engagement in technical and managerial positions remains limited due to societal stereotypes, lack of legal protections, and cultural norms (Winke, 2023; Hatipkarasulu et al., 2011). During pivotal events like World War II, women temporarily filled roles in construction, but these gains were often reversed post-conflict. Gender diversity improves innovation and decision-making in construction teams (Richard et al., 2016).

In developed countries like UK, women made up approximately 25% of the workforce by 2020, yet remain marginalized due to persistent recruitment patterns and a masculine industry image. Despite the efforts of professional bodies such as RICS, CIOB, and CIC to increase female participation, resistance remains. Reports indicate that 40% of women in the UK have experienced bullying or harassment by managers (UCATT, 2014), and similar challenges are echoed in Australia, where 51% of women reported gender based mistreatment. In Sweden, "women and ethnic minorities" remain underrepresented in key roles such as site management. In the United Kingdom, 13% of PM roles are held by women; in Australia, it's around 17% and the USA report 10–16% female workforce participation, with some growth in project management (PMI, 2023; RICS, 2018). However, these advances are offset by workplace discrimination and lack of mentorship. Women remain underrepresented in senior construction roles due to unconscious bias, inflexible work culture, and

safety concerns (Sheila et al., 2022).

In developing countries like Thailand, Bangladesh, and Sri Lanka, women's participation in construction is minimal, often confined to low skilled labor. In Addis Ababa, Ethiopia, women make up low number of the construction labor force, yet their engagement is constrained by gender based violence, wage disparities, and inadequate workplace safety and health protections. In Ethiopia, Ghana, and India, women make up a small percentage of construction managers often fewer than 5% (MoWSA, 2023; Kofi et al., 2022). Most women are in low-skilled labor roles, face wage disparities, and encounter barriers to training and advancement (UN Women, 2023).

Table 1 Comparison: Women in Construction - Developed vs. Developing Countries

Source: literature survey

Aspect	Developed Countries	Developing Countries
Overall Workforce Representation	Typically **10–16%** (e.g., UK 14–15.8%, Australia 14%, Sweden around 7.1%, Japan 3%)	Varies widely: **3–21%**, with some countries like Ethiopia showing up to **21.1%** in total labor force
Leadership / PM Roles	Higher but still limited: e.g., **UK 13% in PM**, Australia around 17%, Japan targeting 12%, Sweden <10%	Very low representation: <2–5% in PM or supervisory roles in most cases (e.g., Ghana, Ethiopia, India)
Nature of Roles Held	Broader range: includes **technical**, **managerial**, and **executive** roles	Primarily **laborers**, **helpers**, or **informal workers**; very few in technical/leadership positions
Workplace Challenges	**Cultural resistance**, **gender bias**, lack of mentorship, bullying/harassment (e.g., UK: 40–51% report issues)	**Wage discrimination**, **gender-based violence**, unsafe conditions, lack of access to training, cultural bias
Policy & Institutional Support	Stronger institutional mechanisms (e.g., RICS, CIOB in UK; company-level targets in Japan & Australia)	Often weak or under-implemented; some initiatives (e.g., Ghana's FTC, Ethiopia's WEDP) exist but have limited reach
Career Progression	Women face **glass ceiling** but still reach board/executive roles (e.g., 21% in UK boards, 16.2% in Japan firms)	Rare progression to senior roles; often stuck in low-skilled positions with no structured path to promotion
Key Opportunities	Gender equity laws, flexible work policies, industry outreach to young women, professional bodies' support	Donor-funded or NGO programs, industrial park employment (e.g., Ethiopia), basic technical skills training

Statistical Trends

Women make up around 21.1% of the general construction labor force in Addis Ababa. Only 1.2% occupy supervisory or PM roles (MoWSA, 2023). Globally, women comprise 30% of PM roles across industries, but only 10–12% in construction-specific roles (PMI, 2023).

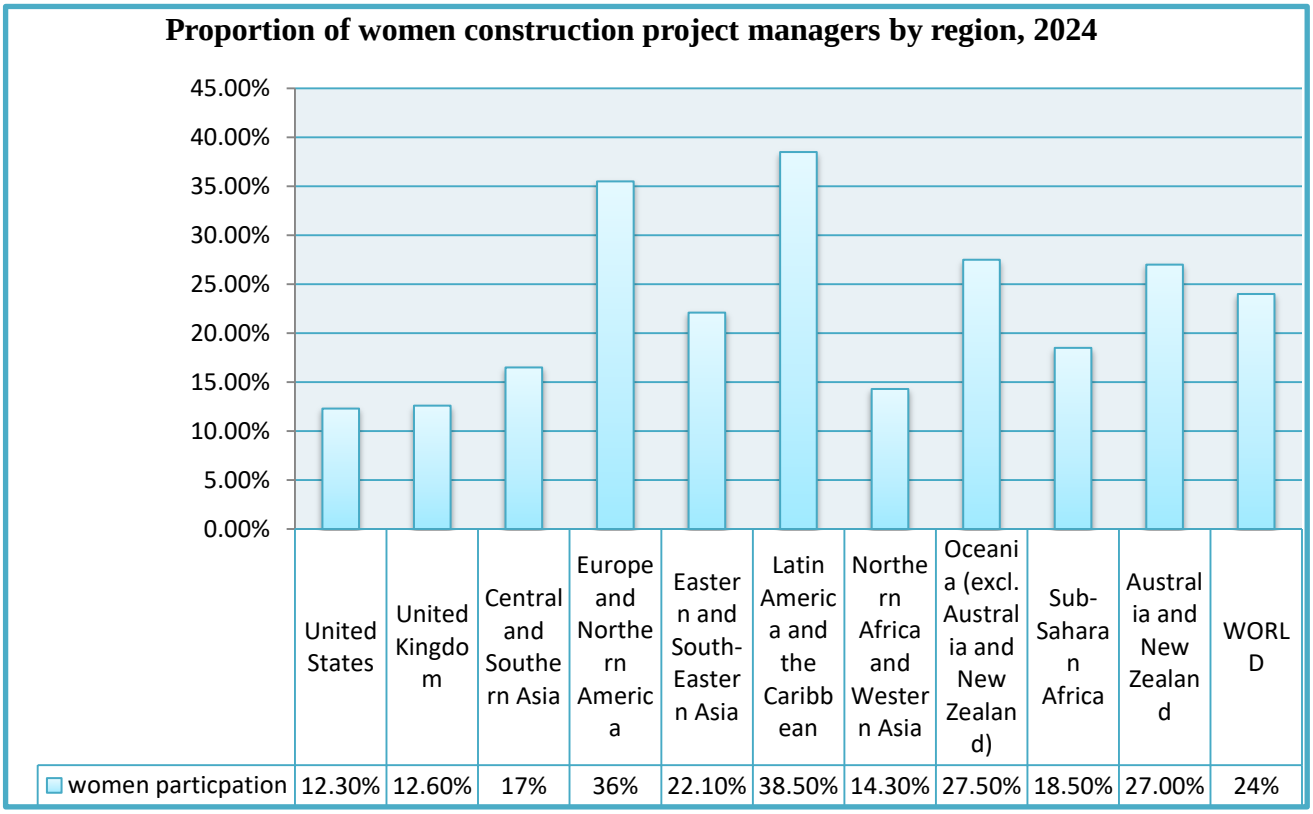

Figure 1 Percentage of women construction project managers by region, 2024

Source: UN Women and the Pardee Center for International Futures using IFs v. 7.97

Legal Framework in Ethiopia

Ethiopia ratified key gender equity conventions, such as Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), Sustainable Development Goals (SDGs) and the Maputo Protocol. Policies like the National Policy on Women (1993), the Ethiopian Constitution (1994), the Family Code (2000), the Criminal Code (2005), and Proclamation No. 1064/2017 exist but face weak enforcement. Despite these commitments, implementation remains weak. Industrial parks and road projects continue to exclude women from meaningful participation due to insufficient

enforcement of gender-sensitive planning but their influence remains limited in practice (UN Women, 2023).

Although much research has examined the general participation of women in construction, the specific involvement of women in project management roles within Addis Ababa remains underexplored, creating a distinct contextual and empirical gap that this thesis seeks to address.

5. Research Methodology

An exploratory and descriptive mixed-methods design was adopted. Quantitative data were collected through structured questionnaires, while qualitative data were gathered using semi-structured interviews and focus group discussions. The study population included registered construction professionals in Addis Ababa. Using Yamane's formula with a 5% margin of error, the sample size was determined as 394 out of a population of 25,000. Stratified sampling ensured inclusion across various roles. Ten female project managers were selected for in-depth interviews, and a focus group of 8 professionals was conducted. The Data Collection Tools were Questionnaire with Closed and open-ended items focused on demographics, employment status, perceived challenges, and organizational support structures. The second and third tools were Interviews and focused group discussion who explored lived experiences, barriers, and recommendations from female project managers. The Data Analysis methods used were Quantitative and Qualitative methods. Quantitative data were analyzed using SPSS for descriptive statistics, including frequency distributions and cross-tabulations. Qualitative data were subjected to thematic analysis, identifying recurrent themes such as workplace culture, mentorship gaps, and policy ineffectiveness. For Reliability and Validity test A pilot test involving 21 respondents yielded a Cronbach's alpha of 0.79, indicating good internal consistency. Methodological triangulation (questionnaires, interviews, and FGDs) enhanced validity.

6. Results and Discussion

Demographics Majority respondents were aged 26–35 while the Educational level: 98% had bachelor's and master's degrees around 72% has more than 5 years' work experience in construction sector and only 9.6% of PM roles held by women.

The Representation of Women less than 10% of project management roles are held by women. The majority are found in administrative support positions. Compared to previous decades, there has been marginal improvement in representation, but leadership remains elusive.

The most frequently cited challenges were Physical incapability (86.2%), Unequal job opportunities between men and women (84.4%), Gender bias and stereotypical expectations (80.6%), Absence of formal mentorship and training programs (47.7%), work and family responsibility imbalance (78.9%), Lack of flexible work arrangements (12.3%).

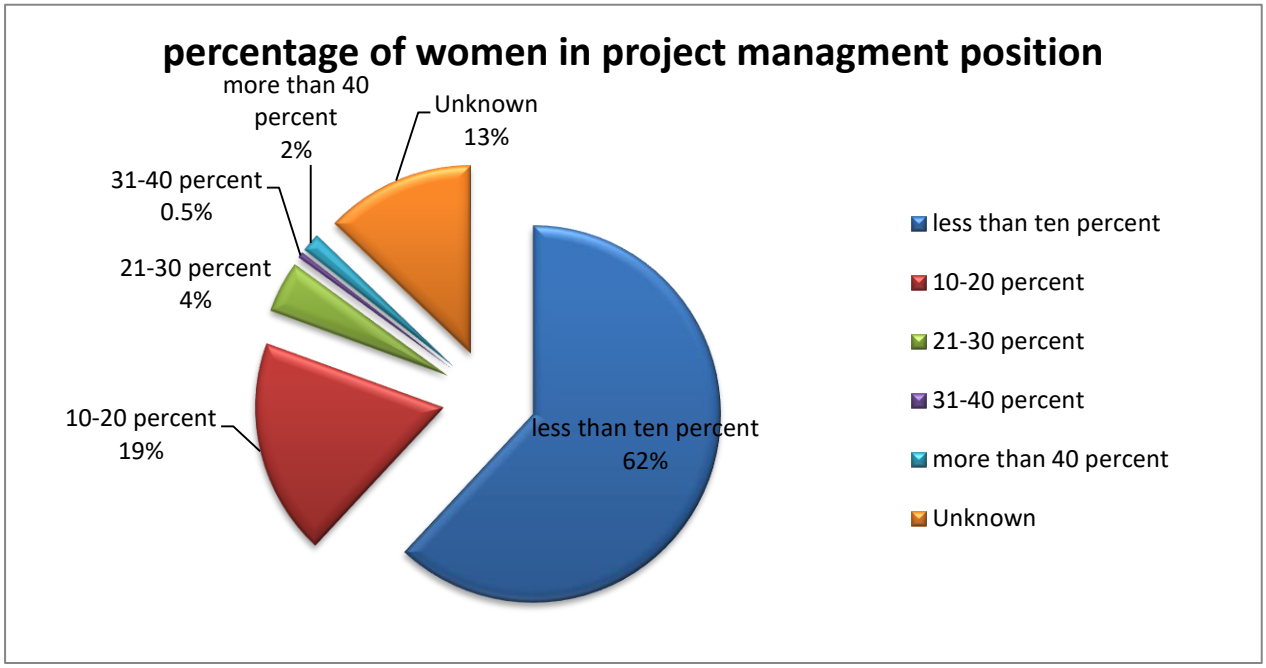

Figure 2. Percentage of women in project management position

Source: own survey, 2025

Few companies have implemented diversity policies as the Intervention Practices. Of those that have, only 12% had gender-sensitive recruitment goals. Interviewees emphasized the importance of Institutionalizing mentorship programs, Promoting female leadership through internal talent pipelines, offering work-life balance initiatives, providing targeted capacity-building workshops.

The findings confirm existing literature; systemic gender bias, coupled with organizational inaction, curtails women's leadership. While cultural norms play a role, institutional inertia and weak policy

enforcement are the main barriers. Women in project management showed higher performance but lacked structured support to advance.

7. Conclusion and Recommendations

As a conclusion, the Ethiopian construction sector remains heavily male-dominated, particularly in project management roles. While national gender policies exist, enforcement and sector-specific adaptation are lacking. Effective strategies must go beyond rhetoric and involve proactive institutional reforms.

From the result the following Recommendations are given; Enforce gender-sensitive hiring and promotion practices, Institutionalize mentorship and leadership training programs, Support work-life balance through flexible schedules and parental leave, Incorporate gender equity indicators into public project procurement, Build accountability mechanisms to monitor policy compliance

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