

Article

Analysis of Gender Diversity Initiatives to Empower Women in the Australian Construction Industry

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Abstract: Organizations play an essential role in fostering a diverse and inclusive work environment. Despite attempts to encourage gender diversity in the workplace, the construction industry in Australia remains one of the most male-dominated industries. Existing research tends to focus on identifying barriers to gender equality and women's career development, with limited exploration of organizations' current initiative implementation. To fill this research gap, this study aims to examine how organizations implement initiatives affecting gender equality and women's career development in the Australian construction industry. This study applied the women's empowerment framework and conducted a thematic analysis of diversity, inclusion, and equality policies, strategies, action plans, corporate reports, annual reports, and websites within the context of gender equality and women's career development in construction companies. Through a comprehensive analysis, the study identifies prevalent practices and initiatives related to gender equality initiatives in the construction industry, synthesizing them into six themes: flexible working arrangements, inclusive and anti-discriminatory culture, promoting career development, recruitment, and promotion, shared caring responsibility, and strategic commitments. The findings also revealed areas for improvement, giving recommendations on how to further empower women in the construction industry through enhanced gender diversity initiatives. This study sheds light on the current state of gender diversity and inclusion efforts within construction companies and provides practical recommendations for policymakers, industry stakeholders, and organizational leaders who seek to foster more inclusive and equitable work environments.



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1. Introduction

The construction industry, known for its male-dominated nature, is often criticized for its significant gender disparities. In Australia, the construction industry employs approximately 1.32 million people, representing 9.6% of the total workforce [1], while having the smallest share of payroll jobs worked by women (18.5%) among all industrial sectors. When considering only trade and non-traditional roles, this percentage drops to 13% [2]. It is projected that employment opportunities in the construction industry will increase by 5.8% by 2026 [3], but these job opportunities may not be equally accessible to both genders. According to the Workplace Gender Equality Agency [4], men are significantly more likely to hold managerial positions, while women are more likely to remain in non-managerial roles, such as clerical and administrative positions. The lack of women in managerial positions not only worsens gender divisions and inequalities but also exacerbates the predicted skill shortage [5].

To increase and maintain gender equality in the workplace, the Australian Government has put in place various initiatives in the past decades, especially targeted at companies in the construction industry. For instance, the National Association of Women in Construction (NAWIC) was established in 1995 to promote and support the advancement of women

in construction through education, networking, and advocacy [6]. In 2012, WGEA was established by the Workplace Gender Equality Act 2012 to support employers in removing barriers to women's participation in the workplace and encourage the elimination of gender-based discrimination in employment matters. Employers with 100 or more employees were mandated to report annually to WGEA about their achievements in gender equality [7]. More recently, as part of the Federal Government's Women's Leadership and Development Program, researchers at UNSW Sydney were granted over AUD 2 million to empower women to establish long-term career goals, progress successfully in their careers, and achieve leadership positions in the construction industry [8].

Based on the social learning theory proposed by Bandura and Walters [9], gender is a learned self-perception of being male or female, shaped by socialization, education, and societal expectations regarding the roles of men and women. Traditionally, the construction industry was considered male-dominated, with women having less power and facing more obstacles to achieving career development. As defined by Lau and Shaffer [10], career development is the process of fulfilling an individual's needs and desires in a career through achievements, accomplishments, and power acquisition. Achieving gender equality is closely tied to empowering women in the construction industry, as it not only promotes diversity and inclusivity but also enables women to fulfill their aspirations, aptitudes, and needs by shaping their own development trajectories without any limitations or barriers [11]. Empowerment refers to a state where individuals have the freedom to develop their skills and make choices without being constrained by identity or cultural norms [12]. In this state, the diverse aspirations, aptitudes, and needs of individuals are acknowledged, valued, and treated equitably. Several scholars have attempted to propose frameworks for empowerment. For instance, Zimmerman [11] explained that empowerment is a process that focuses on efforts to exert control at three interdependent levels: individual, organizational, and community. Similarly, Parenti [13] described empowerment in three aspects. The first is within the self, including confidence and other cognitive abilities. The second is relational, or the ability to influence others to follow their interests. The third is political, which refers to individuals or groups determining who has what and who influences whom. Gilat [14] also defined empowerment as being used to further the ability of individuals, organizations, or communities to "take action and gain greater control over their lives, seeking greater effectiveness, personal development, and social justice".

Oxfam, an international non-profit organization dedicated to reducing poverty and inequality, introduced a widely utilized framework for empowering women in the workplace, comprising three aspects: personal, relational, and environmental [15]. The personal dimension refers to the factors that enable individuals to perceive themselves as competent, including confidence, attitude, interest, capability, awareness and autonomy, mindfulness, and capability [16], while the relational dimension consists of factors that improve people's social connections, such as others' attitude, support, participation, leadership, commitment, and control [17]. More importantly, the environmental dimension refers to an encompassing system with broader social, economic, and political factors that significantly influence power relations and restrict access to resources and opportunities, including organizational procedures, policies and regulations, and culture [18]. To promote gender equality and support the career advancement of women, it is crucial for organizations and policymakers to actively participate in establishing a more supportive environment for women. Without their input, obstacles like gender discrimination and unequal access to opportunities would hinder women's career progression, regardless of their skills and qualifications.

As part of the environmental dimension in Oxfam's framework, policies and regulations, organizational procedures, and culture together form the basis for a supportive and inclusive work environment [19]. Policies and regulations are the formal institutional systems and procedures, described as the "rules of the game", that can greatly affect the organization's ability and scope to promote a specific agenda [17]. By implementing policies and regulations, organizations can take steps to improve organizational procedures, which are often entrenched in traditional practices and can be harmful if defined by gender

norms or other forms of exclusionary orders [15]. This change is possible because of the commitment to more flexibility and responsiveness in the organization's work through the devolution of power, enabled by policies and regulations [17]. However, according to Rowlands [16], the capacity for policies and regulations to foster profound change is limited due to more intrinsic cultural systems, which permeate and influence unspoken norms of behavior, codes of conduct, language, symbols, myths, social customs, and stereotypes. Organizations need to have a strong commitment to fostering cultural change within the workplace and promoting a diverse, inclusive, and equal environment.

There is a growing body of literature that recognizes the importance of organizational support in achieving gender equality in the workplace. For instance, Manesh, et al. [20] suggested that decreasing the disparity in wages based on gender in construction-related occupations could encourage the recruitment of female employees in the US. Also, providing female mentors or role models in the workplace could improve the industry's perception of women and enhance women's involvement in the Nigerian construction industry [21]. It is recommended by Rasheed, et al. [22] that allocating additional resources to raise awareness during recruitment can draw women to careers in the construction sector in New Zealand. In a recent systematic review conducted by Ghanbaripour, et al. [23], excessive and rigid work hours, gendered culture and informal rules, limited career development opportunities, and negative perceptions of women's abilities were highlighted as the main factors that cause a large number of women to leave the industry, a situation that has been described by Turner, et al. [24] as the "leaky pipeline". While previous studies have identified certain influential factors in the organizational aspect that could have a significant impact on gender equality and women's career advancement in the construction industry, there is a scarcity of studies focusing on the actual diversity, inclusivity, and equality policies and initiatives implemented by organizations in the workplace. This lack of focus highlights a significant research gap in identifying the aspects that have received the most and least attention from construction companies.

To fill this gap, this paper aims to review and synthesize the current policies, strategies, and initiatives related to gender equality and women's career development in the Australian construction industry. This study goes beyond prior research in three ways. First, by focusing on the currently implemented measures in the Australian construction industry, this study identified the common themes and patterns across different companies, providing insight into prevalent approaches. Second, this study conducted a thematic analysis to reveal gaps and areas for improvement in existing policies and strategies, guiding companies toward more effective and inclusive practices. Third, this study synthesized the findings to develop recommendations for enhancing decision-making processes related to gender equality initiatives, fostering a more diverse and inclusive environment in the Australian construction industry. By building upon these research aims, this study's broader goal is to examine the current state of gender equality and women's career development in the Australian construction industry. The findings contributed theoretical insights by developing a framework for understanding the multifaceted initiatives that shape gender diversity and women's career experiences in the construction industry. Also, the findings gained practical implications that can be leveraged to support the career trajectories of women in the organizational context.

2. Materials and Methods

This study aims to review and synthesize published narrative text from the diversity, inclusion, and equality policies and strategies, corporate reports, annual reports, action plans, and company websites of construction companies in Australia to identify organizational supports and initiatives in gender equality and women's career development. To achieve this aim and provide a consistent analysis of content across included documents, this study applied the thematic synthesis approach, which consisted of (i) collecting the data; (ii) coding the data; and (iii) conducting thematic analysis. Purposive sampling was used in this study, as this approach involves selecting specific groups or individuals who

can possess the information, experiences, or perspectives that are essential for addressing the research aims [25]. Members of the Australian Contractors Association (ACA) were chosen to be included in this study for several reasons [26]. First, ACA is one of the trusted voices for the construction industry in Australia, with 30 years of history. ACA's members consist of seventeen leading companies committed to aligning with ACA's goal of fostering a positive industry culture. Second, those companies have significant influence and resources to implement gender equality policies and initiatives and serve as role models for smaller businesses in the industry. Ultimately, by focusing on those companies, the industry-accepted policies and strategies can be covered in this study.

This study employed a comprehensive approach to gather publicly available documents related to gender diversity and equality from identified companies. First, a Google search was conducted for each company's name, supplemented by relevant keywords such as "diversity and inclusion", "annual report", "corporate report", and "women". Then, the official websites of the selected companies were systematically explored, navigating through various sections, such as "Diversity and Inclusion", "Careers", "Leadership", "Company Policies", "Corporate Responsibility", and "About Us", to locate any webpages or documents containing current gender diversity, inclusion, and equality initiatives. The retrieved documents were then downloaded and securely stored for future reference. The documents were carefully reviewed to verify their alignment with the study's objectives, assess the published date, and confirm the reliability of the sources. To ensure the relevance and quality of the collected data, a set of inclusion criteria was set, including (1) documents written in English, (2) documents published to the public, (3) documents accessible in full text, (4) documents published after the year 2020, (5) documents directly addressing diversity, inclusion, and equality initiatives, (6) documents outlining annual or corporate-level reports, action plans, or flexible-working policies, and (7) documents accessible through the company's official website or public repositories. Any outdated, incomplete, or irrelevant documents were excluded. In total, 17 diversity, inclusion, and equality policies, 17 annual reports, 10 annual reviews, 9 corporate reports, 5 action plans, 3 flexible-working toolkits, and 17 company websites were included. To meet the privacy requirements and protect the company's reputation, the companies included in this study will remain anonymous when reporting the results.

Next, the selected documents were read thoroughly, and content-based coding was conducted with the aid of Lumivero NVivo 14, adhering to established practices used in previous research [15,27]. The term "files" in NVivo refers to the various types of data you import into the software, serving as the raw material for data analysis. For example, text documents, audio files, images, videos, datasets, webpages, and social media data. In this study, text documents ($n = 61$) in PDF format and web pages ($n = 17$) were collected. By carefully reading through the selected documents, descriptive labels (codes) were manually added to segments of the selected documents that represent statements related to achieving gender equality and promoting women's career development within the company. These codes included, but were not limited to, "Mentoring program", "Scholarships", "Individual career plans", "Women networks", "Hiring practices", and "Flexible-Working Arrangements". To ensure the reliability and consistency of the coding, regular meetings were held among the research team. Any discrepancies or ambiguities in the coding were resolved through collaborative deliberations, and the coding framework was refined accordingly. The term "references" in NVivo refers to those coded segments within the data. In this study, a total of 365 references were created. The number of references revealed that certain factors were extensively focused, while others were much less mentioned. Table 1 summarizes the codes identified in collected documents. To categorize and interpret findings from selected documents, thematic analysis was then conducted by reviewing and grouping the codes under six themes, namely flexible working arrangements, inclusive and anti-discriminatory culture, promoting career development, recruitment, and promotion, shared caring responsibility, and strategic commitments. Figure 1 summarizes the findings in a hierarchy chart generated using NVivo's hierarchy

chart function. A darker color indicates more coded items and larger areas reflect a higher number of coding references. Text boxes containing information about the initiatives were manually added on top of the chart for a clearer representation of the findings.

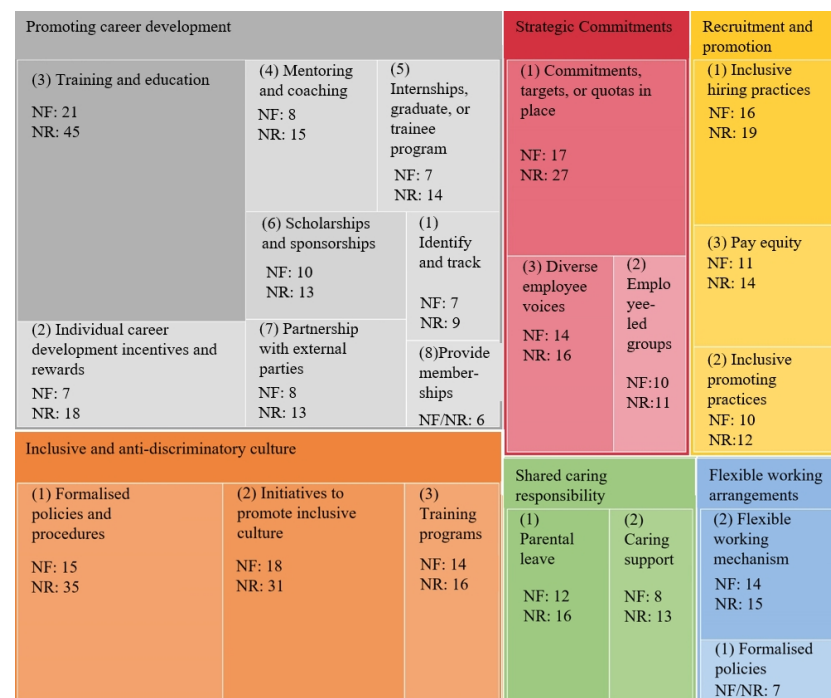


Figure 1. Hierarchy chart of codes. A darker color indicates more coded items and a larger area reflects a higher number of coding references. NF = number of files; NR = number of references.

Table 1. Factors mapping overview.

Themes/Initiatives	Number of Files	Number of References
Theme 1: Promoting career development	25	133
(1) Identify and track employees' career development needs	7	9
(2) Individual career development incentives and rewards	7	18
(3) Training and education	21	45
(4) Mentoring and coaching	8	15
(5) Internships, graduate, or trainee program	7	14
(6) Scholarships and sponsorships	10	13
(7) Partnership with external parties	8	13
(8) Providing membership to professional or industry associations	6	6
Theme 2: Inclusive and anti-discriminatory culture	23	82
(1) Formalized policies and procedures	15	35
(2) Initiatives to promote inclusive culture	18	31
(3) Diversity and inclusion education and training programs	14	16

Table 1. Cont.

Themes/Initiatives	Number of Files	Number of References
Theme 3: Strategic commitments	25	54
(1) Commitments, targets, or quotas in place	17	27
(2) Employee-led groups or networks	10	11
(3) Initiatives to capture and engage diverse employee voices	14	16
Theme 4: Recruitment and promotion	19	45
(1) Inclusive hiring practices	16	19
(2) Inclusive promoting practices	10	12
(3) Pay equity	11	14
Theme 5: Shared caring responsibility	12	29
(1) Parental leave	12	16
(2) Caring support	8	13
Theme 6: Flexible working arrangements	15	22
(1) Formalized policies and procedures	7	7
(2) Flexible working mechanism	14	15

3. Results

As mentioned in the previous section, a content analysis was conducted to identify the diversity, equity, and inclusion initiatives in Australian construction companies. By conducting a thorough review and analysis, the identified initiatives were grouped into six main themes (Figure 2). The analysis revealed that the promotion of career development was more commonly emphasized in the company reports and websites, while flexible work arrangements and shared caring responsibility were less promoted. The following sections will discuss in detail how the companies addressed each initiative.

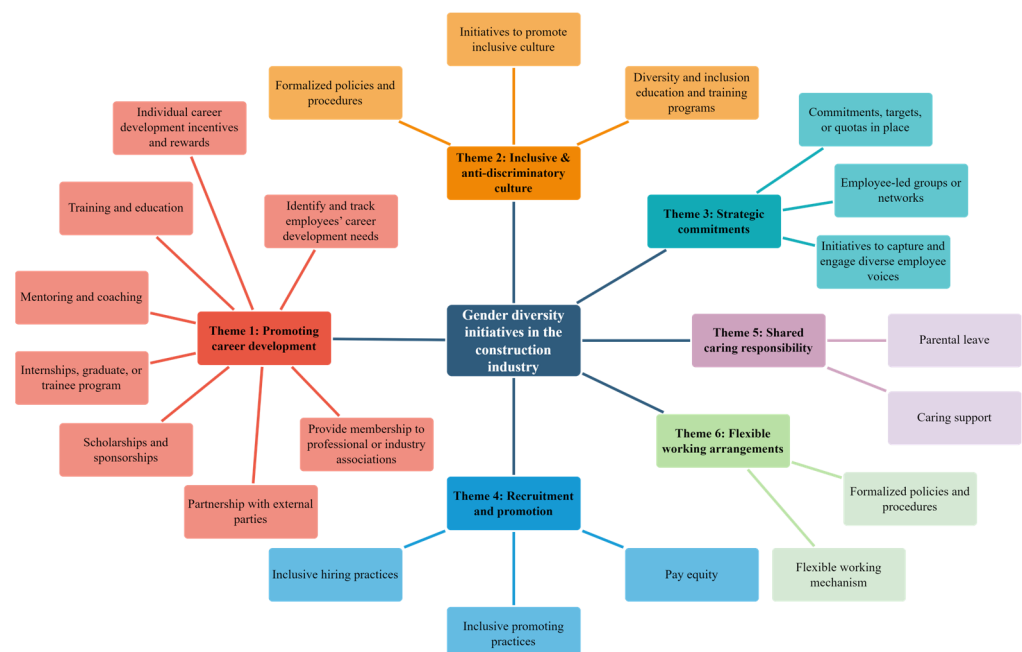


Figure 2. Proposed framework.

3.1. Theme 1: Promoting Career Development

3.1.1. Identify and Track Employees' Career Development Needs

Six companies (35% of the total) published their efforts to identify, track, and embed a focus on career development for employees by implementing two key approaches: a

formal performance review process and individual growth plans. Performance reviews were commonly used for evaluating an employee's work, accomplishments, strengths, areas for improvement, and overall contribution to the organization [28,29]. For example, Companies 5, 7, and 14 reported that they conducted annual reviews to evaluate the strengths and weaknesses of employees, provide feedback on their performance, and identify opportunities for skill development and career growth. In addition to the formal performance review, those companies committed to developing individual growth plans for their employees. For example, Company 8 stated in their policy that they would help employees' career advancement and "provide training and development plans in order to give people the best development tools to better realize their potential".

3.1.2. Individual Career Development Incentives and Rewards

In this study, seven companies (41% of the total) have implemented strategies to reward employees for their career development, achievement, and growth. Companies 1, 4, 5, and 14 indicated that they were committed to offering financial contributions towards external qualifications gained by their employees and funding their attendance at industry conferences and events. Some companies also reported their efforts to reward employees for their career development achievements. For instance, high-performance incentive schemes and loyalty schemes were offered by Companies 7 and 12 to reward employees for their time served in the business. However, career development initiatives and rewards were not offered to every employee within the company. For example, Company 1 mentioned that the financial support they provided was limited to certain teams or roles.

3.1.3. Training and Education

In this study, eleven companies (65% of the total) demonstrated commitment to training and educating their employees for their career development. The employees at Companies 1, 2, 3, 5, and 8 had access to a variety of training and education resources, including external support and internal academies, while Companies 4 and 7 not only provided access to training resources but also offered financial contributions toward external qualifications. In addition, Company 6 provided technical training workshops across a range of disciplines, and contract management training. They also had their own training academy to offer a pathway into the construction industry by arranging pre-employment training targeting participants with diverse backgrounds and experiences. It was indicated that the training academy had onboarded and inducted over 42,000 people with over 50,000 days of accredited training delivered, and many of the participants in these programs ultimately secured full-time employment with them. Additionally, Company 16 launched an 8-week program on LinkedIn Learning to enable their employees "to have access to more learning opportunities to help them to be productive, develop their soft skills, more effectively use productivity tools, and support their wellbeing". During this period, employees had unlimited access to choose from more than 17,000 courses covering business, creative, and technology topics, with personalized recommendations allowing them to explore the most in-demand skills based on their experience and access to expert instructors so they could learn from industry leaders.

Moreover, developing leadership skills is one of the most common aspects in which companies provide training. According to previous studies [30,31], having leadership skills was one of the key factors related to women's career advancement in the construction industry. In this study, six companies (35% of the total) committed to leadership development by providing leadership training programs to their employees. Companies 11, 14, and 17 committed in their policy to providing leadership or other executive education training to help their employees improve their leadership capabilities. Similarly, to increase the representation of female leaders, Company 16 emerged with the "Female Leaders Program", supporting female leaders to advance their careers by exploring and determining aspirational career goals, expanding leadership skills, and building a personal brand to unleash their full potential. In their policy, Companies 1 and 12 highlighted the

importance of creating “inclusive leadership”, by promoting leadership models that foster an organizational culture inspired by the principles of diversity, equity, and inclusion. To achieve this goal, they developed leadership promotion programs that integrate assessment tools, skills improvement, mobility, team management, and career development.

3.1.4. Mentoring and Coaching

Participating in mentoring and coaching programs was found to significantly increase women’s career advancement [32,33]. Seven companies (41% of the total) reported such measures in their reports and websites to the public. For example, Company 1 developed the “Global Mentoring Program” for pre-management women to promote female talent and leadership in pre-managerial positions. In their annual report, Company 6 stated that they also implemented mentoring programs to support female participation. During this structured program, they provided development opportunities for both mentors and mentees, building and expanding their professional networks in the construction industry. Some of the initiatives in this program included regular meetings to discuss career goals, achievements, learnings, and opportunities; creating the Advancing Women in Construction forum to share and discuss potential barriers to female advancement in the sector, and implementing additional networking activities to increase female participation. Similar female mentoring programs were also held by Company 10 with over 50 women. Additionally, the employees from Companies 4, 5, 7, and 14 were not only given access to career coaching sessions and internal mentoring and coaching programs, but they were also able to access external mentoring programs.

3.1.5. Internships, Graduate, or Trainee Program

In this study, eight companies (47% of the total) invested in arranging talent development programs, showing their willingness to nurture and cultivate the skills and potential of their employees. Companies 1, 4, 5, and 7 reported offering internal secondments or internships in new business functions and external secondments or internships in new environments, providing opportunities for their employees to gain diverse experiences in the industry. Some companies also promoted on their websites their collaborations with universities in offering internship programs, ensuring a well-prepared and adaptable workforce for the future. For example, Company 3 stated that they have been partnering with the University of Technology Sydney since 2012 to offer short work placements (up to 4 weeks) or long-term (6 months) traineeships, which can result in full-time employment after graduation. To address the gender gap in the industry, some companies set targets for female participation in their graduate programs. For instance, Company 6 recruited more than 33% of female students in a two-year graduate program in 2021 and provided the students with on-the-job training in various roles and projects. They believed that this program could help support students in successfully transitioning from student to professional roles. Similarly, Company 16 offered an apprenticeship and traineeship program with 135 participants across Australia. They mentioned that upon successful completion of the program, the participants would be offered a full-time role, which indicated the company’s commitment to providing career pathways and opportunities for long-term professional growth and development.

3.1.6. Scholarships and Sponsorships

Eight companies (47% of the total) in this study committed to providing scholarships and sponsorships to support the transition from schools to industry. For instance, Company 1 partnered with Cultivate Sponsorship to deliver a 7-month program, matching senior leaders with emerging female leaders within the company. During the program, senior leaders actively supported, advocated for, and cultivated the networks, opportunities, and profiles of high-performing women, with the goal of accelerating their progression into leadership roles. Similarly, Company 2 also participated in Cultivate Sponsorships and Career Revive, a program by the Department of Employment and Workplace Relations, to

provide female engineers with support and opportunities to advance their careers. Companies 4, 5, and 7 also provided sponsorship of employees by senior leaders, while Company 3 started a partnership with UNSW Sydney to provide scholarship opportunities to female engineering students. In the annual report, Company 10 introduced its female sponsorship program, which “partnered an executive with talented females to increase female leadership potential”. In Company 12’s annual report, they stated that they developed the “Ignite and Mosaic” programs with 126 participants, which foster sponsorship of diverse talent by senior leaders to mitigate obstacles that impede the progress of underrepresented talent. Company 14 also reported their efforts in “widening the pool for female participation” by developing the “Jump Start” program. This program was developed by a group of young Multiplex female employees who were passionate about leading female graduates into a career in construction by delivering interactive workshops, panel discussions, site visits, and mentoring sessions.

3.1.7. Partnership with External Parties

Collaborating with external parties is another initiative implemented by some companies to promote career development. Previous studies found that external partnerships could provide access to resources that the company may not have internally, enhance the quality and diversity of training and development opportunities available to employees, and offer innovative approaches to career development [34,35]. In this study, only four companies (24% of the total) promoted their partnership with external parties in delivering programs or sessions. In Company 1’s diversity, equity, and inclusion policy, they stated that they promoted initiatives in collaborating with the “local community designed to break stereotypes and promote equity”, especially through programs to empower women in the construction industry. Company 2 also recognized the importance of reflecting the diversity and inclusion of their business partners in their workforce in their diversity and inclusion policy by focusing on diverse-owned business partnerships. In the annual report, Company 16 reported their collaboration with the Australian Resources and Energy Employer Association (AREEA) in encouraging students, especially female students, to consider a future career in construction. There were 20 employees from Company 16 who participated in 5 sessions as guest speakers and activity coaches with over 350 students. According to Company 8’s annual report, they also collaborated with Transport for NSW to conduct site visits, mock interviews, and one-week internship sessions.

3.1.8. Providing Membership to Professional or Industry Associations

According to previous studies, membership in professional or industry associations could promote women’s advancement [31], as those associations could provide networking opportunities to help women build important professional connections. In this study, fifteen companies (88% of the total) joined the National Association of Women in Construction (NAWIC) as corporate members. However, only five companies (29% of the total) indicated that they provide their employees with membership in professional or industry associations, namely Companies 1, 4, 5, 7, and 14. It is noteworthy that those companies did not list the names of the associations to which they provide membership. This information is important for understanding the extent of industry engagement and the potential impact on promoting professional development and industry networking among employees.

3.2. Theme 2: Inclusive and Anti-Discriminatory Culture

3.2.1. Formalize Policies and Procedures

In this study, all companies were required to have such policies; however, only twelve companies (70% of the total) disclosed their policies and procedures relating to gender equality and anti-discrimination to the public. Companies 1, 2, 5, 6, 7, 12, and 13 emphasized zero tolerance for intolerance or discrimination by implementing a comprehensive diversity, equity, and inclusion policy that prohibits discrimination based on “age, race, ethnicity, color, national origin, gender, sexual orientation, gender identity, marital status, family

responsibilities, disability, sensitive medical conditions, social origin, religion, political opinion, training, background, employment options, or any other condition". Similarly, in Company 17's diversity policy, they committed to providing to the "greatest extent a safe physical working space that ensures everyone is able to participate and to work to their full potential" and taking actions against inappropriate workplace and business behavior, including "harassment, intimidation, threat, coercion, offense, and bullying". Moreover, Companies 1, 4, and 14 implemented specific protections, such as protection from hair discrimination preventing retaliation against certain hair textures, styles, colors, or lengths, and a non-gendered dress code policy making individuals feel comfortable "bringing their whole selves to work". They also published formalized policies and procedures for supporting the inclusion of individuals with visible or invisible disabilities, preventing and responding to sexual harassment in the workplace, and managing racism in the workplace. Some companies also highlighted the need to "adapt and respond effectively to changing societal expectations". For instance, Company 8 was committed to reviewing the policy annually during management system reviews.

3.2.2. Initiatives to Promote Inclusive Culture

Compared to having formalized policies and procedures related to gender equality and anti-discrimination, fewer companies provided detailed initiatives about promoting an inclusive culture. In this study, eight companies (47% of the total) published their actual measures to maintain an inclusive culture, categorizing them into three main areas: reporting policy implementation progress externally, providing rewards for inclusive actions, and supporting employees in reporting discrimination behaviors internally. First, some companies stated that they would monitor the implementation of diversity policies. For example, Company 2 was committed to monitoring compliance with their policy and reporting incidents of non-compliance via the group grievance mechanism set in the International Framework Agreement on Fair Labor Standards. In the annual report, Company 6 committed to seeking continual improvement in workforce reporting to track diversity participation. They also emphasized the reporting obligation to provide certain gender-related information to the Australian Government's Workplace Gender Equality Agency (WGEA) each year, including detailed gender-related data and policies for employer action on pay equity, gender equality strategies, flexible working arrangements, support for caregivers, and paid parental leave, as well as measures to address sex-based harassment and domestic violence. Similarly, in Company 11's gender diversity action plan, they stated that they would report progress to the Executive Diversity and Inclusion Council and the Board about key diversity metrics, such as their progress against "targets and gender diversity action plan, promotion by gender, recruitment and attrition by gender, and utilization of flexible working arrangements and parental leave". Moreover, to encourage inclusive behaviors, Companies 1, 4, 5, and 14 provided awards for behaviors reflecting internal value and organized regular team bonding initiatives. Similarly, Company 7 implemented allyship programs and assessed alignment with internal values as part of its performance review. Lastly, regarding discrimination in the workplace, Company 17 encouraged anyone who felt he or she had been subjected to discrimination to raise concerns and ensure appropriate procedures of investigation while protecting the identities of the persons involved. In the Appropriate Workplace Behavior Policy, Company 8 also implemented disciplinary measures when inappropriate behaviors were reported.

3.2.3. Diversity and Inclusion Education and Training Programs

Providing education opportunities and training programs was found to positively impact organizations' diversity and inclusiveness [36,37]. Ten companies (59% of the total) in this study reported delivering inclusive training programs. For example, Company 6 reported that 2694 employees undertook equal employment opportunity, discrimination, anti-bullying, and harassment training, while 186 senior staff completed unconscious bias training. Companies 3, 4, 5, 7, and 8 have developed comprehensive training programs

on workplace diversity for all their employees, fostering a culture that upholds principles of equality, diversity, and inclusion. In their annual report, Company 11 promoted the use of toolkits for managers to ensure consistent dissemination of information to teams in a personalized manner and emphasized the completion of sexual harassment and bullying training to empower employees to address such issues. Similarly, Companies 12, 16, and 17 underscored the importance of ongoing education for all employees, especially front-line managers, to receive induction training about diverse policies and procedures in the workplace. For instance, Company 10 launched the “Breaking Bias” program to train employees in recognizing and addressing unconscious biases in the workplace, fostering a more inclusive and equitable work environment. Company 12 provided employee training throughout the organization, including training managers in flexible working, while Company 14 provided mandatory education for all employees on appropriate workplace behavior, as well as other internal and external training opportunities.

3.3. Theme 3: Strategic Commitments

3.3.1. Commitments, Targets or Quotas in Place to Increase or Maintain Gender Diversity

In this study, almost every company (94% of the total) published their commitments, targets, or quotas in place to increase female representation. For example, Companies 1, 4, 7, and 14 published targets to increase gender diversity in the workplace, including the percentage of women in the organization, the governing body, and management roles. Similarly, on the company website, Company 2 committed to achieving a 25% female workforce by 2025 and a 5% increase in females in management roles by 2023, while Company 5 published commitments to reach 30% of women on the board and 20% in leadership positions. Both Companies 8 and 10 reported a target of achieving 30% of management roles held by women by 2030, with Company 10 already achieving this target in 2021. Company 11 aimed to fill 18% of senior roles with women by 2022 and 25% by 2025, with the goal of achieving gender parity by 2033. Company 12 is committed to enhancing gender diversity within its leadership cohort, with women currently occupying 27% of leadership positions. Meanwhile, Company 15 focused on increasing the number of female engineers across the business and nurturing female talent for management positions. Lastly, Company 16 set targets to achieve representation of women in various roles and an annual training hour goal by 2025. Additionally, Company 6 listed key diversity indicators, including the share of women in the total workforce, in different levels of management positions, and in management positions in revenue-generating functions.

3.3.2. Employee-Led Groups or Networks

Establishing employee-led groups was found to not only contribute to achieving gender diversity but also positively impact women’s career advancement in the construction industry. In this study, seven companies (14% of the total) reported having committees or groups responsible for maintaining an inclusive workplace. Companies 6 and 11 established a diversity and inclusion executive council to inform, shape, and deliver diversity and inclusion strategy, acting as a decision-making body and reporting to the government. Meanwhile, Companies 7 and 14 formed employee-driven diversity and inclusion committees and employee-led groups to champion and support women in the workplace. Company 8 emphasized the importance of maintaining a respectful dialogue with workers’ representatives and trade unions to uphold a collaborative and inclusive working environment. Company 12 formed employee resource groups governed by Regional Diversity Councils to track issues and identify opportunities for further progress in diversity and inclusion. Additionally, their People and Culture Committee held regular meetings and reported diversity and inclusion-related issues to the board. In Company 15’s diversity policy, they reported having a diversity and inclusion committee and organizing regular forums to engage and consult with employees and stakeholders on diversity and inclusion.

3.3.3. Initiatives to Capture and Engage Diverse Employee Voices

Most companies (76% of the total) in this study implemented initiatives to gather employees' perspectives on achieving gender diversity in the workplace. For instance, Company 1 conducted employee engagement surveys, while Company 3 expanded its efforts to include interviews and pulse surveys. Additionally, Company 5 introduced new initiatives such as listening groups, suggestion boxes, emails, and forums to gather employee feedback. Companies 7 and 14 organized regular "ask me anything" forums with senior stakeholders, fostering open communication. Also, Companies 8 and 10 hosted networking events to increase the visibility of women in the company. Company 11 committed to regular communications from senior leaders, including Q&A sessions and the use of internal social media channels. Lastly, Company 12 engaged all employees on gender equality issues through consultative committees, focus groups, and surveys, demonstrating a commitment to inclusivity and employee input.

3.4. Theme 4: Recruitment and Promotion

3.4.1. Inclusive Hiring Practices

Eleven companies (65% of the total) in this study implemented a variety of strategies to enhance diversity and ensure inclusive hiring practices. Companies 1, 4, 5, and 7 established diverse interview panels, diverse candidate shortlisting, skills-based assessments, standardized interview formats, criteria, and scoring. Company 14 took it a step further by incorporating annual training for managers on inclusive hiring. Company 2 committed to "employing the best qualified people based solely on job requirements, competencies, and alignment with the company culture". Company 6 focused on hiring based on competency, experience, and qualifications, committing to unbiased and discrimination-free decision-making. Similarly, Companies 8 and 13 highlighted in their policies that employment was merit-based and evaluated on job-relevant skills and abilities, stressing the illegality and prohibition of biased decisions based on unrelated personal attributes.

3.4.2. Inclusive Promoting Practices

In this study, eight companies (47% of the total) emphasized having inclusive promotion practices. Company 1 emphasized the need to increase gender diversity, particularly advocating for the advancement and leadership of women in management roles and other areas where they were underrepresented. They also committed to ensuring that "selection, performance, remuneration and benefits, training, promotion, and other professional development practices" would be grounded in merit and ability, prohibiting any discriminatory practices. In Company 1, of all the employees who received a promotion last year, 29% of them were women. Meanwhile, Company 6 implemented a group-wide job board to help employees discover job opportunities across different companies within the group. Company 7 also reported progress, with 28% of promotions in the last 12 months being women. Company 11 took a proactive approach to considering women for promotions and inclusion in talent programs. Company 12, in its annual report, committed to enhancing the visibility of internal career opportunities by using modern technology not just to list job openings but also to actively notify their junior talent about available roles.

3.4.3. Pay Equity

Pay equity was found to negatively impact women's career advancement in the construction industry [38]. Nine companies (53% of the total) highlighted their efforts to ensure pay equity within the company. In Company 1's annual report, they committed to reducing the gender salary gap, adopting Environmental, Social and Governance (ESG) performance indicators in variable compensation, and ensuring a fair living wage. To minimize the risk of a pay gap developing, they used a transparent approach to pay, promotion, and reward processes and criteria. Company 4 added more strategies for achieving pay equity, such as communicating when salary is negotiable, making additional contributions to employee pensions, and superannuation above statutory requirements.

Company 5 did not require candidates to declare current or previous salary information during the interview process, while Company 7 used scored skills-based assessment tasks for recruitment and promotions to ensure fair and adequate remuneration. Moreover, Company 11 committed to closing the “like-for-like gender pay gap”, by ensuring equality of pay outcomes for people on parental leave and dedicating funds in the annual salary review to address pay gaps. However, only Company 14 reported that they allow sharing or making available, on request, role-based salary information in the company.

3.5. Theme 5: Shared Caring Responsibility

3.5.1. Parental Leave

Organizational support in balancing family related responsibilities has long been a significant factor affecting gender diversity and women’s career development. For example, according to Bryce, et al. [39], women in construction had to postpone their childbirth plans due to the impact of children on their availability to work. To support employees’ childbirth plans, Companies 1, 4, 5, 6, 7, 10, 12, and 14 offered 12 to 18 weeks of paid leave to employees with more than 12 months of service before the birth of a newborn or adoption of a child. To take a step further, Company 15 provided a parental support toolkit to employees outlining various entitlements such as paid parental leave, partner parental leave, special maternity leave, unpaid parental leave, purchased leave, government-funded parental leave pays, and taking leave for prenatal appointments. However, as suggested by Company 8, taking parental leave had significantly impacted women’s career development. They reported that last year, 1706 men and 422 women were entitled to take parental leave within Company 8. However, only 37 men and 25 women actually took parental leave. Among them, 37 men and 17 women returned to work during the reference period after taking parental leave. Following their return to work after parental leave, 27 men remained employees of the organization 12 months later, while only 8 women were still employed by the organization after the same period.

3.5.2. Caring Support

Companies 1, 4, 5, 7, and 14 offered various caring support programs for employees, including childcare subsidies, a lactation or pumping room for individuals who were breastfeeding, return-to-work incentives following parental leave, and a return-to-work support program following parental leave. Company 12 took a step further and offered a range of support services, including coaching for employees returning from parental leave, communication channels, internal support networks for parents, information packs, parenting workshops for both fathers and mothers and referral services for employees with family or caring responsibilities. Additionally, Company 15 offered an Employee Assistance Program through Acacia Connection for all employees and their families, providing confidential counseling appointments. They also guaranteed employees who took parental leave the right to return to their previous position. If that position was no longer available, the company would make efforts to transfer them to a suitable alternative position with similar status and pay.

3.6. Theme 6: Flexible Working Arrangements

3.6.1. Formalize Policies and Procedures

In this study, six companies (35% of the total) promoted their formal policies and procedures about flexible working arrangements. For example, Company 1 stated in their policy that “all employees can make an agreement with their manager” for a flexible work arrangement. They introduced two types of flexible work arrangements: core flexibility, which for employees requires long hours of remote work, and elective flexibility, which may affect the employee’s employment conditions. In the flexible working policy, Company 12 showcased an employee’s flexible work arrangement in the flexible-working toolkit, with the aim of encouraging other employees to recognize the advantages of a more adaptable and balanced approach to work. They also integrated their approach to flexibility into

client conversations and surveyed employees on whether they had sufficient flexibility at work.

3.6.2. Flexible Working Mechanism

As one of the most important factors contributing to women's career development and retention in the construction industry [37], ten companies (59% of the total) implemented several mechanisms for flexible working. For example, Companies 1 and 7 implemented measures to support the work–life balance of their employees, including provisions for career breaks, back-to-work programs, flexible work hours, and remote work. All employees had access to job-sharing arrangements, part-time contracts, and casual remote working options, with some employees having the opportunity for flexible start and finish times and permanent remote working options. Additionally, employees at Companies 4, 5, and 14 were able to arrange a compressed working week, rostered days off, and time off in lieu of overtime. Company 8 took an additional step by granting unlimited smart working options to all employees, allowing them to better attend to family responsibilities. Company 10 encouraged employees to “flex their way”, offering flexi-parenting, flexi-shifts, flexi-part-time, flexi-work, flexi-breaks, or flexi-leave. Company 11 launched a flexibility toolkit and implemented flexible work practices training for all managers, while Company 12 offered the same flexible work practices for both managers and non-managerial employees. Company 14 developed a flexibility program and proposed a “flexible flexibility” approach, allowing each team to design flexibility solutions that best meet their needs. Additionally, Company 15 offered home-based work options for both permanent and casual roles.

4. Discussion and Recommendations

This paper presents the findings from a thematic analysis of the corporate report, annual report, company policies and procedures, and company websites in the Australian construction industry. Drawing on the women's empowerment framework, this study aims to synthesize concurrently the wider range of organizational culture, practices, policies, and regulations related to gender diversity and women's career development in the construction industry. The findings shed light on crucial factors in the process of achieving gender diversity in the workplace in the construction industry. By consolidating findings related to each aspect, eight recommendations were identified and summarized as significant findings from this study. It is worth noting that while these eight recommendations are addressed across the six themes, some of them are interconnected and can be linked to more than one theme.

4.1. Theme 1: Promoting Career Development

Recommendation 1: Providing tailored support to women at different career stages. This study provides evidence that companies in the construction industry are placing emphasis on women's career development. Some companies conduct annual progress reviews and develop individual growth plans to help employees identify the areas to be improved. This aligns with previous research suggesting that providing employees with incentives and rewards can significantly increase their motivation to engage in career development training or events [39]. Additionally, the implementation of transition programs, such as graduate or trainee programs, has been found to effectively increase women's career advancement [37,40]. Previous studies have also highlighted the importance of the pathways that women use to enter the industry, as these can impact their career progression in later stages [41,42]. However, the findings revealed that most companies did not publish a detailed procedure for conducting the performance review and creating individual growth plans, which could lead to inconsistency and ambiguity in the evaluation process. This lack of transparency may also hinder employees' understanding of the review process and their ability to actively engage in their own professional development. In addition, some companies implement various initiatives to support women's career development, such as providing incentives and rewards, graduate programs, mentoring programs, and

training opportunities. Yet, it is noteworthy that many of these initiatives tend to be overly broad and may not adequately cater to the diverse needs of individuals. For example, implementing a generic mentoring program aimed at supporting women in all career stages may not effectively address the specific career development needs or challenges faced by women at various stages of their careers, as women's career priorities often evolve as they progress through future career stages. Hence, construction organizations are suggested to provide tailored support to women at different roles and career stages. A study by Fernando, Amaratunga and Haigh [37] indicated that there were variances in women's capability, personality, and career aspirations, and the one-size-fits-all support program may be ineffective. Many other studies also highlighted the need to consider the unique circumstances, strengths, and areas for the development of each individual and provide personalized support for women's career development [31,43,44]. In fact, while a few companies in this study did provide more personalized support, such as career coaching, individual mentoring, and advice on flexible working arrangements, many companies lacked this kind of tailored support.

Recommendation 2: Focusing on the effectiveness and follow-up of career development programs. In addition to the above, the findings revealed that companies in the construction industry offered training programs in various aspects, such as leadership, anti-discrimination, and inclusive communication. In accordance with this study, previous studies have demonstrated that providing training and education could significantly improve women's career advancement in construction [37,45]. However, the findings found that many companies were dedicated to promoting the development and implementation of training programs, yet only a few reported on the actual effectiveness of these programs. According to Diamantidis and Chatzoglou [46], a lack of post-training assessment would cause a missed opportunity to evaluate the effectiveness of the training, identify areas for improvement, and measure the impact on individual and organizational performance. Different companies provide various training programs, but without measuring their effectiveness, it is difficult to determine which one is the most preferable. For instance, previous studies have yielded inconsistent and contradictory conclusions regarding mentoring programs. This inconsistency may be due to different mentor types and qualities. The effectiveness of training can be examined by pre- and post-assessments, feedback and surveys, post-training evaluations, and follow-up assessments. It is recommended by Mehale, et al. [47] that training programs should be evaluated to improve employee performance and increase investment returns.

4.2. Theme 2: Inclusive and Anti-Discriminatory Culture

Recommendation 3: Taking a more proactive approach to policy implementation by developing a strong organizational culture. All the companies in this study established formal policies and strategies for diversity and inclusion and invested in improving women's retention and advancement, highlighting a good intention to build an inclusive and supportive environment. The findings support evidence from previous studies that having formalize policies and procedures in place is vital to creating and maintaining an inclusive and anti-discriminatory culture [48,49]. However, this study found that compared to policy requirements and organizational commitments, fewer actions and strategies were developed. The findings are in accord with previous studies indicating that organizations often struggle to fully implement and adhere to their stated policies and commitments [50,51]. The current measures primarily focused on reporting the progress of policy implementation externally, rewarding inclusive actions, supporting employees in reporting discriminatory behaviors internally, and providing training on workplace diversity. Although these measures can help implement the policy to some extent, having a strong organizational culture of gender diversity may be the determining factor in whether the policy can be effectively implemented. According to Madu [52], a strong organizational culture is defined as a set of values and beliefs that are strongly adhered to and widely shared within the organization. Having a strong organizational culture that promotes gender diversity can significantly

benefit policy implementation by increasing employee engagement, commitment, and motivation to effectively support and execute gender diversity policies. This, in turn, can improve the quality of decision-making processes, foster innovative solutions and strategies for effective implementation of gender diversity policies, and cultivate a positive reputation that can attract top talent, enhance brand image, and create a more supportive environment for policy implementation. In contrast, a weak organizational culture of gender diversity would hinder the successful implementation of policies, as the company would need to depend on rules and regulations to direct employees' behavior, leading to a gap between intentions and actual practices within the organization. As stated in a recent review conducted by Ghanbaripour, Tumpa, Sunindijo, Zhang, Yousefian, Camozzi, Hon, Talebian, Liu and Hemmati [23], women perceived that they were receiving a lack of organizational support and career opportunities in construction. Future studies are recommended to investigate the factors that contribute to a strong organizational culture in gender diversity.

4.3. Theme 3: Strategic Commitments

Recommendation 4: Developing measures to address and report the concerns raised by women's voices. This study aligns with the findings of previous research, which have underscored the vital role of organizational commitments in achieving gender diversity in the workplace [17,53]. Capturing and engaging diverse employee voices within an organization has also been highlighted as an important factor [54]. Despite the well-established employee-led groups reporting gender inequality concerns, the findings revealed that a limited number of organizations have been proactive in addressing these issues and sharing their experience and knowledge with the industry. For instance, what were the issues raised by women? How were the issues resolved? What were the measures implemented? The record can not only help the company prevent similar oversights but also increase knowledge sharing within the industry. Previous studies reported a significant percentage of women who had negative experiences at an extreme level, even though they had reported their concerns to the manager or the company [55]. This issue can also be attributed to the weak organizational culture in gender diversity as mentioned in Section 4.2, which fails to address and rectify instances of discrimination and harassment effectively.

4.4. Theme 4: Recruitment and Promotion

Recommendation 5: Recognizing accomplishments, granting awards, and promoting female role models in leadership roles. Ensuring a fair and unbiased recruitment process has been shown to contribute significantly to women's career development in the construction industry [38,39]. Prior studies have also emphasized the importance of organizational practices that provide fair and merit-based promotion opportunities as a key factor in increasing the representation of women, particularly in leadership positions [36,40]. Consistent with the literature, this study found that women were struggling to attain leadership roles. For example, Company 5 reported that 20% of their total employees were women, 15% of the senior leadership were women, and 0% of women were in the organization's governing body. Similarly, Company 6 reported that only 7.9% of their management positions in revenue-generating functions were held by women. This finding confirms that more measures are needed to support women in career advancement, especially in reaching leadership positions within the company. Very few companies promote female role models in leadership roles, let alone develop mentorship between those role models and women in the early career stages. As suggested by Perrenoud, Bigelow and Perkins [48], the lack of female role models results in poor career advice and negatively impacts women's long-term career path in their current company. This finding was also reported by Bryce, Far and Gardner [39], that the majority of their interview respondents did not have a senior female role model at work with whom they could seek guidance. Further studies need to be carried out in order to develop effective initiatives to acknowledge the contribution of

senior female role models, provide mentorship opportunities, and ensure women in the early career stage feel supported.

Recommendation 6: Increased potential job opportunities for women in the industry due to technological advancement. In this study, companies also reported their commitment to fostering innovations with emerging technologies. For example, Company 1 implemented the Internet of Things, Virtual Builder, 4D Planning, Intelligent Earthworks, Reality Capture, Virtual and Augmented Reality, and automation and simulation in some of the projects. Company 6 was also heading on a digital journey and adopted Active 4D Planning process, which enables teams to collaboratively build a project's 4D program directly from a 3D Building Information Modelling (BIM) model. According to Wang, Mussi and Sunindijo [15], the adoption of advanced technologies in the construction industry could help to break down barriers related to women's physical strength and gender stereotypes. However, the potential benefits of using advanced technology in terms of gender equality have been ignored in organizational policies and strategies. Future research should focus on the career opportunities and challenges brought about by the technology-induced game-changing environment. It should also aim to propose strategies and recommendations to help both men and women transition into this evolving era.

4.5. Theme 5: Shared Caring Responsibility

Recommendation 7: Initiating efforts to retain women after recruitment. The findings are in line with those of previous studies, underscoring the crucial role that organizational support can play in recruiting and retaining women in the construction industry [45,48]. Most companies in this study reported their efforts to recruit more women for their companies. For example, as discussed in Theme 3 (Section 4.3), most companies have set quotas to increase female graduate intake to 20–30% of the total recruitment. While this measure might be beneficial for achieving a targeted share of women in the total workforce in the short term, its effectiveness in the long run may be limited. A recent study in the U.S. from Hickey, et al. [56] found that women had higher turnover rates compared to men, while men were nearly four times more likely than women to become managers inside a single company throughout their careers. This is consistent with the findings, which highlighted that out of 25 women who took parental leave, only 8 remained employees of that company 12 months later. Although organizational support in providing parental leave and caregiving assistance could help women to some extent, their careers still face obstacles in returning to work after maternity leave, which might lead to leaving the company, or even the construction industry. This echoes a previous study that found that taking career breaks could significantly and negatively impact women's career development, as they often face difficulties returning to work after their maternity leave, forcing them to change roles and employers [40]. Hence, future research should focus on enhancing the effectiveness of measures aimed at assisting women in balancing family caregiving responsibilities and work and helping retain and empower women in the construction industry. One of the key aspects involves developing flexible working arrangements, which will be discussed in the following section.

4.6. Theme 6: Flexible Working Arrangements

Recommendation 8: Supporting flexible working arrangements across all positions, regardless of gender or position. Implementing flexible working arrangements was identified as one of the key contributors to women's retention in the construction industry [45,57]. The findings revealed that there were fewer initiatives focusing on providing adequate support and resources for work–life balance. A previous study highlighted the difficulties in achieving work–life balance as a significant challenge for women in the construction industry, which negatively impacts their career advancement and their willingness to stay in the industry [23]. It was found that flexible working hours were often offered for specific roles and positions, sometimes not available to women. Some companies were also selective in providing flexible work practices training, offering it only to managers or

specific roles. This approach could perpetuate existing gender disparities by reinforcing gender stereotypes and limiting opportunities for women to benefit from flexible work arrangements. Since women are underrepresented in managerial and technical positions, providing training exclusively to managers in flexible work practices may result in a lack of full understanding or effective implementation of these practices due to gender barriers. This situation could lead to women in certain roles being excluded from accessing flexible work options, resulting in unequal treatment, and potentially hindering their career progression and work–life balance. Additionally, some companies have reported that they allow candidates to discuss flexible working arrangements with them during recruitment interviews. However, this initiative may not be effective, as most candidates may be worried about failing interviews or being disadvantaged if they do so. This is consistent with the study by Opoku and Williams [29], which reported that flexible working hours were not always offered to women, and those who did work flexibly faced career penalties, such as being passed over for promotions. To ensure gender equality and fairness, it is important for companies to provide flexible work opportunities across all positions, regardless of gender or position, so that everyone can benefit from such arrangements. Furthermore, companies should optimize workflow by streamlining processes, reducing unnecessary tasks, and improving efficiency.

5. Conclusions

Overall, the above eight recommendations contribute to both theory development and practical implications. First, by applying the empowerment framework, this study uncovered six common themes within the environmental dimension that companies in the Australian construction industry have adopted, namely flexible working arrangements, inclusive and anti-discriminatory culture, promoting career development, recruitment, and promotion, shared caring responsibility, and strategic commitments. Companies were more focused on promoting workers' career development through training and mentoring programs, while fewer initiatives were provided to offer flexible working arrangements and ensure shared caring responsibilities. Secondly, through thematic analysis, this study highlighted several deficiencies in the current industry practice, shedding light on potential future improvements. For example, many companies lack measures to evaluate the effectiveness of their strategies and initiatives. Most initiatives and strategies implemented do not take into account the differences between women in various career stages, which may negatively impact the effectiveness of the measures. This poses challenges in identifying successful strategies and initiatives, making it difficult to develop best practices that can be adopted industry-wide to promote gender equality. Finally, by gaining a comprehensive understanding of the diverse approaches taken by different companies, this study calls for greater collaboration and knowledge-sharing among organizations to develop effective and inclusive strategies for promoting gender equality in the workplace.

This study does have limitations, and some of these can provide directions for future research. First, the initiatives outlined in this review may not be exhaustive. Future research on gender equality initiatives and strategies in other industries linked to or resembling the construction industry may provide valuable perspectives. For instance, technological advancements in the era of construction 4.0 may present opportunities to challenge gender stereotypes and enhance the industry's image [15]. Second, as this study was primarily focused on the Australian construction industry, the findings can only be extrapolated to developed countries with comparable economic and cultural contexts, such as the US, UK, Canada, and New Zealand. Due to national disparities such as culture, economy, religion, and beliefs, the findings may not be applied to other countries with significant differences in socioeconomic background. Nevertheless, employing the method and framework proposed in this research can offer guidance for future exploration in other countries or on a global scale. Furthermore, this study employed a cross-sectional research design, which was subject to certain limitations in terms of time, resources, and financial constraints. It is recommended that future research adopt a longitudinal design to examine

the identified trends over an extended period and further elucidate the findings revealed in this study. While this study demonstrated the positive impact of the current gender equality, diversity, and inclusion initiatives, future studies should focus on developing robust, validated metrics to quantify the effectiveness of gender diversity programs. Such measures could include employee satisfaction and engagement scores, representation of women in leadership roles, career advancement rates, and retention statistics. Last but not least, this study focused on Members of the Australian Contractors Association (ACA), which contains mainly large companies with more resources in promoting gender diversity, equality, and inclusion. While the companies chosen in this study serve as role models for other smaller businesses in the industry, the issue of gender disparity in the industry may be more pronounced to smaller construction companies, as they often have fewer resources and investments available. Future studies could investigate the specific challenges faced by these smaller businesses in addressing gender disparity and explore potential strategies or interventions that could help narrow the gap in the industry.

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