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Authors

Mohd Ashraf Mohd Fateh and Johari Hashim

EARLY VIEW

Constructing Inclusivity: Strategies for Promoting Gender Equality in Developing Countries' Construction Sector

Mohd Ashraf Mohd Fateh^{1*}, Johari Hashim² and W.T. Hong³

¹*School of Construction & Quantity Surveying, College of Built Environment, Universiti Teknologi Mara (UiTM), 40450 Shah Alam, Malaysia.*

²Ho Hup Construction Company Berhad, Persiaran Jalil 1, Bandar Bukit Jalil, 57000 Kuala Lumpur, Malaysia

³ Centre of Excellence in Sustainable Building Design, School of Energy, Geoscience, Infrastructure and Society, Heriot-Watt University Malaysia, 62200 Putrajaya, Malaysia

*corresponding author: mohdashraf@uitm.edu.my

Abstract: The United Nations has included the importance of gender equality in Sustainable Development Goals (SDGs) Goal No. 5. Malaysia and other developing countries have long taken steps to promote gender equality and women's empowerment. Nevertheless, it cannot be denied that gender discrimination and gender inequality persist, especially in the construction industry. The lack of representation of women in the developing countries' construction industry appears to be a major challenge hindering progress towards achieving gender equality. The objectives of this research are (1) to identify the factors that perpetuate gender inequality in the Malaysian construction industry and (2) to recommend strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality. Data were collected from companies registered with the CIDB G7 status in Kuala Lumpur. Cluster sampling and quantitative method was used in this research. All the data collected were analysed using descriptive analysis with the assistance of the Statistical Package for the Social Sciences (SPSS). The research findings reveal that the main factors that perpetuate gender inequality in the Malaysian construction industry are gender stereotypes and perceptions. This research has also recommended that the main strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality are to improve work-life balance and supportive policies. This study has brought a new dimension to the study in the domain of gender equality, where the success of this study in achieving its aim, which is the development of practical strategies for improving work policies in Malaysian and other developing countries' construction industries, can be practiced by stakeholders involved to promote gender equality.

Keywords: SDG No.5, gender equality, gender stereotypes, gender discrimination, work policies

INTRODUCTION

The United Nations (UN), back in 2015, introduced 17 Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. These goals are framed by providing a comprehensive framework for countries and stakeholders to work together for a sustainable future, taking into account global challenges including poverty, inequality, climate change, and social injustice. Thus, it is a universal call for all countries to take part and contribute towards the goal.

Realising that gender equality is also one of the fundamental aspects of ensuring sustainable development, the UN has included this agenda in Sustainable Development Goals (SDGs) Goal No. 5: "Achieve gender equality and empower all women and girls." This goal was formulated with a clear target to achieve gender equality and empower all women and girls, addressing discrimination and disparities prevalent in various areas of life

(United Nations: Department of Economic and Social Affairs, 2022). This goal has identified the systemic discrimination and inequality faced by women and girls worldwide and promotes the need for participation and equal access to opportunities in all areas of life, regardless of gender. This was highlighted by Rosa et al. (2017) and Holdsworth et al. (2020) stating that there are positive effects of women's empowerment on economic growth, social well-being and environmental sustainability.

Malaysia, as a developing country, acknowledges the importance of gender equality and shows its commitment to addressing differences and discrimination based on gender, as highlighted in the Twelfth Malaysia Plan. Moorthy et al. (2022) reported that Malaysia is committed to empowering gender equality by increasing the involvement of women in the economic sector and the decision-making process. It reflects that the Malaysian government also gives high recognition to the issue of the importance of gender equality to drive sustainable development in Malaysia. However, according to Abdullateef (2021), women's participation is limited, and the Malaysian construction industry is still dominated by men. The lack of effective work policies that promote gender equality in the Malaysian construction industry has been identified as a significant cause for slowing down the progress of the Sustainable Development Goals (Navarro-Astor et al., 2017). This was agreed upon by Valitherm (2021), revealed that there is a lack of gender-sensitive policies and practices in the Malaysian construction industry.

Most of the existing policies and practices are geared towards men. This was echoed by Adeniji et al. (2022), reported various challenges faced by women in this sector, such as gender stereotypes, a lack of support, and limited career advancement opportunities in the construction industry. Findings by Navarro-Astor et al. (2017) and Valitherm (2021) summarised that significant barriers do exist and impact the development of women's careers in the industry. It leads to discrimination and unequal treatment faced by women. Kamaruddeen et al. (2019) stated that women go through various forms of discrimination, such as unequal pay, lower promotion rates, and limited access to training and development opportunities. Smith & Sinkford (2022b) added that there has been a lack of meaningful change in the gender equality policy arenas. Dhar (2018) also reported that Women's groups have consistently been raising critical questions of how equality, inclusion and participation would be embedded in a world structured around grave inequalities and exclusions.

The impact of this inequality gap in the construction industry in Malaysia is that it has become a stumbling block that hinders efforts towards the Sustainable Development Goals (SDG) related to gender equality. In the construction industry specifically, this situation of gender inequality is not only detrimental to women, but it also constrains the progress and sustainability of the construction industry itself, as these circumstances neither consciously nor unconsciously limit the pool of talent, skills, and perspectives required to meet the demands and challenges of the industry in the future. This was agreed by Bertay et al (2021) highlighted that gender equality is more than a moral issue; it is a vital economic issue. For the global economy to reach its potential, conducive conditions need to be created in which all women can reach their potential.

The research's significance and gap was validated based on the issues raised. The objectives of this research are (1) to identify the factors that perpetuate gender inequality in the Malaysian construction industry and (2) to recommend strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality. The findings of the research provide useful insight that can contribute to the enhancement of gender equality within the context of Sustainable Development Goals that can be implemented in other developing countries as well. The research is in line with SDG No. 5, promoting gender equality.

LITERATURE REVIEW

Construction Industry

The construction industry plays a crucial role in shaping economies and societies around the world (Pamidimukkala & Kermanshachi, 2021). However, starting in early 2020, like most other sectors, the construction industry has faced significant challenges due to the COVID-19 pandemic. The pandemic has brought great disruption and transformed the construction industry. There are various challenges faced by both field and office workers in the construction industry, such as a decrease in productivity and delays in project timelines due to supply chain disruptions, labour shortages, and limited access to construction sites, as highlighted by Pamidimukkala & Kermanshachi (2023a) and Mohd Fateh & Sulaiman (2021). This has a substantial impact on the national and global economy and affects both parties, whether employees or companies. Many construction projects are halted or delayed, and many companies face financial pressure, which causes workers to experience layoffs and reduced working hours. Musarat et al. (2021) reported that the pandemic has created difficulties for contractors to complete projects on time and within budget. This has had a direct impact on workers, including women, who face the risk of reduced employment opportunities and income.

Even before the pandemic, the issue of gender inequality in the construction industry had already become a cancer. Women are often seen as underrepresented in this sector, with limited access to high-paying and managerial positions. Nguyen Van & Nguyen Quoc (2021) highlighted that this pandemic has affected groups involved in the construction industry, including women, but disproportionately, which leads to increased gender inequality. (Ogunnusi et al., 2020), (Alsharaf et al., 2021), and (Oo et al., 2021) added that female construction workers are more vulnerable to the risk of higher job insecurity and reduced working hours as a result of this pandemic. (Biswas et al., 2021) also supported the findings, highlighting that the pandemic has widened the gender gap in the construction sector, with women experiencing higher unemployment rates and reduced working hours. (Harrigan & Koh, 2015), (Alves & Shah, 2018), and (Guo et al., 2020) summarised that women face a higher risk of job insecurity, reduced income, and more limited job opportunities, compared to men.

Gender Equality in Malaysia

The pursuit of gender equality has been a major goal around the world for quite a while. Moorthy et al. (2022) highlighted that Malaysia has embarked on a significant step towards achieving commendable progress in the aspects of gender equality and women's empowerment. The important role of women in the country's economic development has been highlighted several times in the 11th Malaysia Plan. In the 11th Malaysia Plan on the 2nd Pillar, Improving the Well-Being of the People, it was clearly stated that there was a need to provide an integrated support system and a conducive environment to increase women's participation in economic and social activities while at the same time ensuring the well-being of the family (Department of Statistics Malaysia, 2020).

Through the policies formulated by the Malaysian government to strengthen gender equality, the situation of women in Malaysia has improved over time (United Nations: Department of Economic and Social Affairs, 2022). (Moorthy et al., 2022) added that these policies have contributed greatly to increasing women's access to education and women's awareness of their constitutional rights. Even some of the outdated laws and policies have been amended and re-enacted to eliminate any discrimination against women, which has helped Malaysia in the process of improvement in the aspect of gender equality. In order to express Malaysia's commitment to supporting gender equality in the SDGs, a new ministry focused on women's matters was established in 2001 under the name Ministry of Women's Affairs. and this ministry has improved over time in terms of the scope of its duties and is now

known as the Ministry of Women, Family, and Community Development by the year 2004.

Current Workplace Policies and Practices in the Construction Industry

Women's participation is limited, and the Malaysian construction industry is still dominated by men. Usually, administrative and clerical tasks are only given to women instead of technical and managerial positions, as stated by Shibani et al. (2021). (DOSM, 2022) reported that the labour force participation rate for women in Malaysia was 55.1% in the third quarter of 2021, but the participation rate of women in the construction industry was only 5.6%. This proves that hard work needs to be carried out by industry players to increase the participation of women and improve their representation in technical and management positions.

Several studies have been conducted to study the challenges and obstacles to women's participation in the Malaysian construction industry. Findings from Masuri et al. (2017) stated that women face challenges such as lack of recognition, lack of support from male colleagues, and limited opportunities for advancement in their careers. Valithern (2021) uncovered that the industry needs to improve the workplace environment to attract and maintain the participation of women. This was echoed by Adeniji et al. (2022), who looked into gender stereotypes, a lack of career advancement opportunities, and harassment. The results of the past studies recommend the promotion of gender equality and the creation of a gender-inclusive work environment through the provision of training and education programmes created by the construction industry itself. From the studies carried out, it can be generally concluded that, in the current situation, the policies carried out by the construction industry in Malaysia are still a work in progress in promoting gender equality.

Some developed countries have already started to implement policies and practices to promote gender equality in the construction industry. The United Kingdom has implemented initiatives such as the Women in Science, Technology, Engineering, and Mathematics (STEM) programme to encourage women to pursue careers in technical and managerial positions in the construction industry, as reported by Abid et al. (2021). (Hongtao & Jennifer, 2020) highlighted that the Women's Business Enterprise National Council (WBENC) certification programme has been implemented in the United States to provide opportunities for women-owned businesses to compete in the construction industry. All policies such as these should be considered by the relevant parties involved in the Malaysian construction industry to promote gender equality.

There have been many studies that show policy changes that promote gender equality in the construction industry can provide several benefits, including increased productivity, job satisfaction, and the overall performance of the industry. (Moncaster & Dylan, 2019) highlighted that implementing a work policy that is friendly to gender equality is able to overcome the issue of a lack of skills in the construction industry and improve the reputation of the industry. Holdsworth et al. (2020) also added that gender diversity in the workplace improves organisational performance and employee well-being.

Gender Discrimination and Inequality in the Construction Industry

Discrimination and gender inequality certainly have a significant impact on the involvement of female workers in the construction industry. Female workers often face various challenges that limit their career advancement and opportunities. Among the factors that significantly affect the experience of female workers in the construction industry are gender stereotypes, discrimination, and harassment, as emphasised by Adeniji et al. (2022). These factors often lead to an unpleasant work environment for women and ultimately impact lower job satisfaction, decreased productivity, and higher turnover rates (Mohd Fateh & Zamri, 2022).

Navarro-Astor et al. (2017) recorded that lack of support from superiors and colleagues was also identified as another challenge faced by female workers in the construction industry. Female employees have limited access to mentoring and networking

opportunities, which are important for career advancement. The construction industry also often makes female workers have to deal with situations where inadequate facilities, such as mixed toilets and no changing rooms, make it difficult for them to work comfortably on construction sites. This was echoed by Valitherm (2021) and Nayak & Pandey (2021) who discovered that inflexible working hours, long working hours, and limited access to family-friendly policies and practices also affect the interests of female workers. Kumar (2013) reported that women are often seen in low-paying jobs. In fact, not only salary but also discrimination against women exists at the level of recruitment, selection of skilled jobs, and opportunities for self-advancement. As a result of the lack of access to opportunities for self-advancement in a career, this often leads to lower job satisfaction and self-motivation and ultimately allows women to decide to leave the industry to pursue other careers. This was agreed upon by Holdsworth et al. (2020), who stated that the decrease in productivity and profitability is also an impact of the lack of diversity in the industry, limiting creativity, innovation, and problem-solving abilities caused by the problems of gender discrimination and inequality.

In Malaysia, women also face similar challenges in the construction industry due to gender inequality. DOSM (2022) stated that the labour force participation rate for women in Malaysia was 55.1% in 2021, compared to 80.8% for men. This was echoed by Subramaniam (2021) reported that women's participation in the labour force has stagnated over the past 25 years. Besides, evidence of gender disparity in terms of earning prevailed, women earned 28% less than men and this shows very little change. This lack of gender diversity certainly limits the industry's potential for growth and innovation, leading to lower productivity and profitability. It is therefore important to address gender discrimination and inequality in the Malaysian construction industry to promote the goals of sustainable development and gender equality. Based on these issues highlighted, undoubtedly the impact of gender discrimination and inequality on the construction industry is significant, as it limits the industry's potential for growth and innovation.

Factors That Perpetuate Gender Inequality in the Malaysian Construction Industry

The issue of gender inequality plaguing the Malaysian construction industry has created a gap in opportunities and treatment between male and female workers. This issue is seen as a complex problem and is influenced by several interrelated factors. Among the elements of this great challenge are gender stereotypes and general perceptions, discriminatory practices, the site environment, and current work policies.

Gender Stereotype and Perceptions

Gender stereotypes and perceptions can be interpreted as an expectation, impression, or general prejudice of a group of people or society about roles, behaviours, and traits that are considered appropriate for individuals based on their gender, as stated by Tabassum & Nayak (2021). While Ahmed & Moorthy (2021) defined gender stereotypes as a set of notions and prejudices that relate to the roles of men and women in work determined by biological determination, just as the roles of men and women in society are also linked to gender. Some may have opinions with such rigid and stagnant notions, which is always a significant obstacle to the advancement of women's careers in organizations. Therefore, the word "gender stereotype" is also often used as a basic variable to analyse the biased assessment and discriminatory treatment that occurs to women in the work environment and slows down their career development, as highlighted by Moorthy et al. (2022). These stereotypes have contributed to the formation of a rigid doctrine, forming society's pattern of thinking and view of men and women in various contexts, including in the construction industry.

Society's stereotype that gender is a factor that affects the ability of workers to carry out their roles in the construction industry has resulted in unequal opportunities being given

between male and female workers. In the context of the construction industry, gender stereotyping is not something new and strange; it has become an integrated norm, not only among the workers but also integrated into the core of the industry itself, that is, in companies related to construction as well. The stereotype that the construction industry is male-dominated has become the most dominant gender stereotype, as discussed by Akinlolu et al. (2020), who noted that the construction industry continues to be a very male-dominated sector with male overrepresentation. Adawiyah Awang et al. (2022) added that the construction industry is not a suitable place for women to thrive as a result of the ongoing stereotype that jobs at construction sites are generally dominated by men. In the construction industry, a strong perception that many tasks on a construction site are more suitable, worthier, and more effective if given to a certain gender only has led to gender inequality.

This gender stereotype has been driven by several views that are related to the construction industry, some of which are: gender is a factor that affects the ability of workers to carry out their roles in the construction industry; many tasks on a construction site are more suitable to be given to men only; and the construction industry is a dirty, difficult, and dangerous career, which is seen as more appropriate and more necessary to be dominated by men. It cannot be denied that the construction industry is a 3D (dirty, difficult, and dangerous) industry that the general public sees as a very difficult career branch and not suitable for women to venture into. Thus, this branch of career in the construction sector is maybe less attractive to women to venture into because it is a difficult and risky job and creates several problems, such as cultural problems, health and safety problems, and stress. Society in general also might have the perception that the construction industry is a dirty, difficult, and dangerous career, which is seen as more appropriate and necessary to be dominated by men.

Discriminatory Practices

Discrimination is also undoubtedly a synonymous factor that contributes to the problem of gender inequality in the Malaysian construction industry. The three phenomena mentioned below are among the things that often happen in the construction industry, which reinforces the view that gender discrimination does happen in the construction industry, namely during the hiring process, when most women who work on construction sites face unequal treatment compared to men, and when most management, work methods, and company policies favour men, as reported Nalitollela et al. (2020). The Minister of Women, Family, and Community Development of Malaysia, Datuk Seri Nancy Shukri, during a press conference after the opening ceremony of the Kiddocare Care Entrepreneurship Ecosystem Forum, Women's Economic Empowerment, in conjunction with the Asia-Pacific Care Economy Forum 2023, reported that the total female workforce in Malaysia is one of the lowest in ASEAN at 55.6% and still far from the 59% set by the government by 2025. The Department of Statistics Malaysia (2023) reported that out of a total of 1,159,600 workers in Malaysia involved in the construction industry; only 136,400 of them are female workers, who cover about 11.76% of the workforce in the country's construction sector. The lack of labour resources for women may be driven by the gender discrimination factor practiced in the construction industry. West et al. (2019) added that few companies practice discrimination based on gender in the process of hiring employees to work on construction sites.

Strupp (2023) mentioned that although the demand for labour resources in the construction field is high, the issue of gender discrimination in hiring is still active. The researcher also added that construction companies often require recommendations from others before they are interested in interviewing female workers for a position, which is an unbalanced and disappointing practice for women. On the other hand, most women who work on construction sites face unequal treatment compared to men in terms of training,

promotion, and salary increases. Zainal Abidin (2018) highlighted that male workers receive higher wage payments than female workers, although both have the same skills and level of education. Women are considered less productive and cause many problems for the organisation at work due to taking leave too often (such as maternity leave), and they are also seen as lacking in leadership skills.

Hegewisch & Mefferd (2021) reported that women workers experience different treatment in the hiring process, the allocation of working hours, access to overtime, and even in the termination process; unequal treatment is the main issue in economic stability in the construction industry. Azhar & Amos (2014) also reported that other discrimination received by female employees is not having enough organizational support and being required to carry out simple tasks more often than men. They also feel that they are not valued, have limited opportunities for career advancement, face pay differentials, struggle with their safety and health issues, and receive unequal training evaluations compared to their male colleagues.

Björklund (2023) highlighted that most of the company policies favour men over women in the construction industry. The negative effects are particularly felt by a certain group as a result of hiring policies that practice discrimination, whether it happens intentionally or unintentionally. Stamarski & Son Hing (2015) also disclosed similar findings, stating that the issue of gender inequality is a complex phenomenon in organisations that can be seen in human resources practices, especially in company policies, decision-making, and its implementation, which intentionally or unintentionally influences the recruitment, training, salary, and promotion of women.

Site Environment & Current Work Policies

The construction site environment in the construction industry is seen to be more inclusive for men than women. Adawiyah Awang et al. (2022) mentioned that the construction industry is seen as a 4D industry that is dull, dirty, dangerous, and difficult. In Malaysia, the risk of danger synonymous with the environment at construction sites also has an effect of discomfort on female workers and leads to stress at work, as reported by Ahmad Latiffi et al. (2020). While Nakabonge (2022) added that macho culture, male superiority, and strongly embedded masculine norms and beliefs in the construction industry have generated a gender inequality gap. Afolabi et al. (2019) argued that the attitude and atmosphere that exist in the construction industry should be considered unfriendly to women.

The site environment shows that the leadership role in a construction project is usually dominated by men, and there are too few female representatives in this position. This statement is in line with the opinion of Björklund (2023), who reported that indeed men are more likely to hold higher status roles than women, and because of that, many people think that men like to display agentic traits such as being dominant and women are more likely to display communal traits like helping. Therefore, men are more inclined to fulfil higher positions, and greater leadership roles because they are seen as more powerful and prestigious. Afolabi et al. (2019) also highlighted that women's professional development is greatly stunted in the male-dominated construction industry, which tends to (1) make it difficult for women to be appointed to leadership and management positions, (2) lower the role and contribution of women in the industry, and (3) create various rigid and discriminatory regulations that narrow women's career paths. Tabassum & Nayak (2021) findings revealed that women still receive the effects of gender stereotypes in an organisation regardless of their position. Thus, the effect is more noticeable when they hold management and leadership positions. This certainly further reduces the involvement of women in leadership positions in organisations.

Most of the current workplace policies in the construction industry are not seen as eager to address gender equality issues. Norberg & Johansson (2021) reported that there are

various calls in the form of laws and regulations to prevent gender discrimination. The efforts and initiatives are seen as not so keen to increase the number of women in the industry and make this industry attractive to all individuals, regardless of gender. Kyung-Hee Kim (2020) highlighted the tendency of women in their twenties and thirties to challenge themselves to learn skills in a sector that is traditionally considered an exclusive occupation for men. Therefore, it may be seen that the current policies related to construction work have not yet recognised this reality and accepted the demands of women construction workers.

Adawiyah Awang et al. (2022) revealed that one of the factors that makes the number of female workers decrease in the construction industry is the inflexible work environment, policies, and long hours. The lack of work policies on construction sites that promote work-life balance and gender equality has a greater negative impact on female workers than on male workers. Lekchiri & Eversole (2021) stated that the work policy and culture that have inflexible and long working hours have caused women to experience difficulties in balancing their roles in socio-cultural and work. Nakabonge (2022) emphasised that there is subtle discrimination practiced by company policies, especially during working hours. It is rare for companies to study changes to long working hours that would help women build careers around their responsibilities at home. Valitherm (2021) highlighted the obstacles faced by women in the Malaysian construction industry and mentioned that work-family life conflict is the most frequent obstacle. Azhar & Griffin (2014) and Andreas et al. (2009) underlined that the most critical obstacle faced by women in the construction industry, especially for those who are married, is maintaining work-life balance. Navarro-Astor et al. (2017) stressed that various conflicts regarding women's roles and needs to balance life and career are still a big problem that is seen exclusively for women. This was echoed by Caven & Astor (2013), who revealed that some women are stuck in the need to choose between career and family. Some women are worried about losing their jobs or being demoted after having children, and they will continue to lag in their career development after returning from maternity leave.

From these findings, it is clear that this construction industry is seen as more inclusive for men than women, and construction projects are usually dominated by men. All these show that the current workplace policies in the construction industry are not seen to be keen on addressing gender equality issues.

METHODOLOGY

The research methodology that has been designed for this study is quantitative. The quantitative method focuses on the collection of numerical data and its analysis using statistical analysis. Ali (2021) stated that one of the advantages of using a quantitative approach is that it can help researchers categorise, formulate, and describe observations systematically. The data collection was conducted through the utilisation of the questionnaire survey. The questionnaire that has been designed is mostly composed of closed-ended questions. Where the respondents respond with predefined answer choices. The respondents have to choose only one answer from a list provided to indicate their level of agreement with a given statement by using the 5-point Likert scale. Mezmir (2020) emphasised that closed-ended questions are effective for collecting quantitative data that can be easily analysed and compared across respondents.

The Google Form was used for the distribution of questionnaires. One of the advantages of using Google Form is that it can assist the researchers in streamlining the data collected by eliminating manual data entry and storing it safely in the cloud. The link invitation was distributed through digital communication mediums such as WhatsApp, Telegram, LinkedIn and email.

Cluster sampling was used for the research. Acharya et al. (2013) highlighted that it requires a larger sample size and scattered, thus it is suitable for the research. Based on the

report by the Construction Industry Development Board (CIDB) Malaysia (2024), it was highlighted that 1,805 main contractor companies with CIDB G7 status registered in Kuala Lumpur are still active. (DOSM, 2022) summarised that the average number of employees for each construction company in Malaysia is approximately ten (10) employees. Based on the information obtained, it can be concluded that the total population for this study is 18,050 respondents. Based on Krejcie & Morgan (1970), the closest population size to 18,050 is 20,000. Therefore, the sample size for this research has been set at 377 respondents.

The questionnaire survey was given to numerous individuals who work in various roles and levels in the construction industry, especially those directly involved in site work. Therefore, the selection of respondent criteria needs to be done carefully to ensure that the collected sample is comprehensive and representative. The criteria that have been set in this study include:

1. **Both genders (men and women):** These two genders were selected to gain a comprehensive perspective from both sides of gender-related issues in the construction industry. The input from these respondents is to ensure that this study is not biased towards one gender only and also to ensure that balanced and fair data can be observed and evaluated.
2. **Involved with construction projects in Malaysia:** This is to ensure that the data obtained is from respondents who have direct experience with and knowledge of the local construction industry. Those selected are largely certain to have extensive knowledge of policies, regulations, practices, and specific challenges unique to the nation's construction industry; which can certainly provide a more accurate and contextual understanding of the real situation in the construction industry in Malaysia.
3. **Working levels:** This study sets out to observe data from individuals at all levels of the organisational hierarchy. From top management to clerical workers. This selection is to ensure that a comprehensive and holistic set of data can be harvested to understand the actual situation and the factors that affect gender inequality in the national construction industry.

The questionnaire survey was used to obtain data consistent with the two (2) objectives as previously discussed. The survey took approximately 5 to 10 minutes to complete. A brief introduction to this study was written to give better context and understanding before answering the questionnaire. This questionnaire is divided into three (3) main parts, as follows:

1. **Part A – Demographics of the Respondents:** This part focuses on identifying the demographics of the respondents and whether those who answered can meet the criteria that have been set or not. It includes gender, age, working with G7 contractors, designation, and years of experience in the industry.
2. **Part B - Factors That Perpetuate Gender Inequality in the Malaysian Construction Industry:** Ten (10) factors were identified based on the literature review. Using the 5-points Likert scale, the respondents decide which factors are more influential.
3. **Part C: Recommended Realistic Strategies That Can Be Adopted to Improve Work Policies in Malaysia's Construction Industry to Promote Gender Equality:** Nine (9) recommended strategy statements were presented to the respondents. All the statements were based on the findings of the literature review. Five-points Likert scale was used to determine the most common statements recommended by the respondents.

All the data collected was analysed using descriptive analysis, which includes frequency, means, and percentages. (Mishra et al., 2019) stated that descriptive analysis is able to provide a clear overview and comprehensive summary of the data collected. Statistical Package Science Software (SPSS) was used to analyse the data collected. SPSS was selected considering its recognized and widely used status in various research works. The findings obtained from SPSS can be visualised in the form of graphs, charts, and tables. This

not only helps researchers gain insight but also generates informative visual representations of data, helping in the effective communication of research results. Details of the findings can be found in the findings and discussion section.

FINDINGS & DISCUSSION

Response Rate & Reliability Analysis

The total distribution of the questionnaire was 1,756 respondents. However, only 673 responded. From the 673 responses received, filtering was done to ensure that only respondents who met the criteria were taken into account. Thus, only 360 respondents made it through the cuts, which translates to 21% of the response rate. Mohd Fateh et al. (2024) stated that for a self-administered questionnaire survey, that percentage is acceptable. Even though Krejcie & Morgan (1970) recommended 377 respondents but if the 360 respondents recorded are still representative of the population and selected through appropriate sampling methods, the results can still be generalized to the population as highlighted by Creswell & Creswell (2017). This was echoed by Fowler Jr (2014) outlined that missing out on 17 respondents in more homogeneous populations, the impact would be less significant.

Reliability analyses were conducted to assess the internal consistency and correlations between individual items and the total score for each scale. A reliability coefficient over 0.70 signifies strong reliability, as per prior studies. The reliability coefficients for all variables in this investigation exceeded the specified value. Table 1 displays a Cronbach's alpha value of 0.79, indicating great reliability for utilising this instrument in the study.

Table 1: Reliability Analysis of Instrument

Respondents Demographic

As shown in Table 2, 205 (56.9%) of the respondents are men. While 155 (43.1%) respondents are women. The gap between the two genders is not seen to be so wide, indicating that the data collected was relatively balanced on both sides of genders, thus the issue of bias in the survey was removed.

The highest response was received from the group aged between 31 and 40, which is a total of 178 (49.4%) respondents. On the other hand, the group of respondents aged between 51 and 60 years old is the lowest, bringing about 9 (2.5%) respondents to this study. The involvement of many young people in the construction industry shows that this industry is still on a good track since there are still many young people who are interested in venturing into careers in the construction industry.

Table 2: Respondents Gender and Age

Most of the respondents were engineers, quantity surveyors, and mechanical & electrical (m&e) coordinators, which is 125 (34.7%) respondents, followed by the site supervisors and safety site supervisors at the construction site, which includes 114 (31.7%) respondents. The lowest was the project manager and management level, which had only 16 (4.4%) respondents. Researchers also reach out to the human resources personnel, even though they are not directly involved in construction site work. Their input is relevant and necessary to obtain an in-depth view of the policies and procedures of the organisation involved. Table 3 summarises the respondent's designation. While Table 4 summarises the respondent's years of experience between males and females is relatively balanced. It also shows that there are also women who have lasted quite a while in the construction industry.

Table 3: Respondents Designation

Table 4: Respondents Years of Experience

Factors That Perpetuate Gender Inequality in The Malaysian Construction Industry

Based on the literature review, ten (10) factors that perpetuate gender inequality in the Malaysian construction industry have been presented to the respondents. All the factors have been classified into three (3) themes, namely, (1) gender stereotypes and perceptions, (2) discriminatory practices, and (3) site environment & current work policies. Table 5 summarises the factors that perpetuate gender inequality in the Malaysian construction industry.

The first factor that perpetuates gender inequality in the Malaysian construction industry that is the most frequent factor chosen by respondents is "*Gender Stereotype and Perceptions*," with a 4.37 mean score. The highest statement agreed by the respondents is, "*Society, in general, has a perception that the construction industry is a dirty, difficult, and dangerous career, which is seen as more appropriate and more necessary to be dominated by men. This has caused women to be less interested in pursuing a career in this industry.*" This subfactor has received the highest mean score compared to other subfactors. From the findings, it shows that "gender stereotypes and perceptions" are one of the most dominant and frequently highlighted. The society's view of the construction industry, which is seen as dirty, dangerous, and difficult, worsens the situation when it causes women to be less interested in working in the construction industry. This statement coincides with the study carried out by Adawiyah Awang et al. (2022), which mentioned that the construction industry is also known as a 3D industry, which is dirty, difficult and dangerous. Anuar et al. (2017) also added another element, which is dull and made this construction industry known as a 4D industry in their view. Braddy et al. (2020) described gender stereotypes as social assumptions made against individuals based on their gender, causing gender inequality to occur in many ways, including through salary and promotion opportunities. This was agreed by Tabassum & Nayak (2021), highlighted that many women receive negative effects as a result of gender stereotypes in their organisations regardless of their position. This statement shows that the work environment on construction sites is risky and challenging in terms of safety, health, and emotion. For this reason, women are less interested in participating in construction site work and, at the same time, perpetuate gender inequality in the Malaysian construction industry.

Secondly, the factor that perpetuates gender inequality in the Malaysian construction industry is "*Site Environment & Current Work Policies*" with a 3.97 mean score. The highest sub-factor in the category is "*The leadership role in a construction project is usually dominated by men, and there are too few female representatives in this position.*" The findings reveal that the composition and phenomena that occur in real life at construction sites where the highest positions in the construction field are dominated by men, compared to women. From the research conducted, it was also found that a total of 35 men were given high positions in the company, compared to only 11 women. This can also be attributed to the gender stereotypes that are prevalent in society that say that male workers have better leadership skills and can handle supervisory roles better and more effectively on construction sites compared to women. This statement is supported by Tabassum & Nayak (2021), stated that successful leaders have characteristics commonly associated with men; such as leadership, competitiveness, self-confidence, clear objectivity, aggressiveness, toughness, ambition, and a desire for responsibility. This was echoed by Apurva & Sharareh (2023), highlighted that the management structure, culture, and environment of the construction industry present challenges to women and have resulted in their being underrepresented in a male-dominated workforce.

The last factor that perpetuates gender inequality in the Malaysian construction industry is "*Discriminatory Practices.*" with a 3.54 mean score. The highest sub-factor in this

category chosen by the respondents was "most of the management, work methods, and company policies either intentionally or unintentionally favour men over women in the construction industry." This issue has sometimes become a common practice and policy in an organisation to the extent that, intentionally or unintentionally, it leads to gender inequality without anyone knowing it or trying to do something about it. Björklund (2023) reported that hiring policies that perpetuate gender inequality exist either intentionally or unintentionally and have negative effects on certain gender groups only. Stamarski & Son Hing (2015) also on the same page, highlighting that unbalanced and biased company practices and policies can be seen in human resource practices, which intentionally or unintentionally influence the recruitment, training, salary, and promotion of women.

Table 5: Factors That Perpetuate Gender Inequality in Malaysian Construction (N = 360)

Recommended Realistic Strategies That Can Be Adopted to Improve Work Policies in Malaysia's Construction Industry to Promote Gender Equality

Cambridge University Press (2019) interpreted the word realistic as sensible, appropriate, and possible to achieve. While Sarhan & Fox (2013) stated that a strategy becomes realistic when it can be carried out with the resources, under control, and unencumbered by obstacles. Researchers have listed three (3) main recommendations that meet the characteristics of sensible, appropriate, and possible to achieve, as well as being carried out with the resources, under control, and unencumbered by obstacles; by all stakeholders involved in the construction industry. All of these recommended strategies were selected based on evaluation and observation in the literature review. Table 6 summarises the recommended realistic strategies that can be adopted to improve work policies in Malaysia's construction industry to promote gender equality.

The first strategy recommended by the respondents is to introduce "work-life balance and supportive policies" with a 4.42 mean score. The most agreed strategy under this category chosen by the respondents is "the implementation of company policy of flexible work arrangements, such as remote work or flexible hours that encourage and sustain women's participation in the construction industry." This finding was in line with Stamarski & Son Hing (2015), who suggested the organisation introduce family-friendly human resources policies to ease work-family balance, which directly helps women at work. Deepening those recommendations, the organisations might consider implementing a flexible work arrangement that involves flexible schedules, telecommuting, compressed work weeks, or job sharing. This was agreed upon by Valitherm (2021), who emphasised that the implementation of flexible working hours and introducing work at home are important alternatives to attract new employees among women. A childcare programme or flexible working hours are important for women to meet work-family commitments, from the perspective of married women. (Pamidimukkala & Kermanshachi, 2023b) also added that an organisation may consider making adjustments to its working culture to make it friendlier to female employees and families. The reforms should include a mutually beneficial shift pattern as well as work sharing and flexible schedules.

The next recommendation with a score of 4.38 is to launch "Gender-Neutral Policies and Career Development." The majority of respondents stressed that "the implementation of a company policy of zero tolerance to any form of gender-based discrimination and harassment in the construction industry will create a safer and more inclusive workplace for women." Baruah & Biskupski-Mujanovic (2021) reported that 88% of female construction workers surveyed had experienced sexual harassment at work. The construction site is often carried out autonomously or with minimal supervision and often in dark corners, trenches, and small or isolated spaces, raising safety concerns, especially for female workers. The finding suggested that the security risk for these women workers should be reduced by

certain actions and practices, such as creating an atmosphere of a bright workplace or creating a policy of working in pairs.

Eliminating violence against women requires deeper and more proactive involvement from all social structures and relevant stakeholders. Furthermore, Hegewisch & Mefferd (2021) stated the necessity of addressing the unequal treatment, harassment, and discrimination experienced by women. This was echoed by Kalidasan (2023), suggested that a review needs to be done on the organization's fair employment practices and policies. Any policies related to sexual harassment and gender discrimination need to be updated based on the Labour Act in the respective country. The policies need to be in line with other federal, state, and local employment laws. Son Hing et al. (2023) believed that when an organisation tries to prevent sexual harassment, they must provide support and trust to male employees who may be afraid of false accusations, causing them to avoid mentoring women, which further contributes to gender inequality. This is to ensure that all genders believe that the sexual harassment policies and practices implemented are fair to reduce sexual harassment, prevent backlash, and ultimately facilitate gender equality.

The last recommendation highlighted by the respondents was "*Government and Industry Initiatives Levels*," with a 3.75 mean score. The "*implementation of the company's policy of equal pay, incentives, and benefits for equal work and responsibilities, regardless of gender*," was the highest statement recorded in this category. This finding is in line with SDG No. 8: decent work and economic growth, where there is a call to all. His study once again cited another target from the Sustainable Development Goal (SDG), which is Goal No. 8: decent work and economic growth. Under this goal, there is a call to all stakeholders to create equal opportunities and treatment in the workforce, including fair wages and good working conditions for all regardless of gender, age, and ability. This was agreed upon by Smith & Sinkford (2022); who highlighted that a lack of uniforms and support for childcare, eldercare, and caregiving serve as major barriers to gender parity in leadership and the career advancement of women. Kyung-Hee Kim (2020) reported that the first clause of Article 8 (wage) in the Act to Support Gender Equality in Employment and Work & Family Balance in Korea stipulates that employers must provide equal pay for work of equal value in business. The key performance index of the workers must be determined by task performance, such as skill, effort, level of responsibility, operational conditions, and so on. This regulation needs to be enforced to prevent women working in the construction industry from experiencing wage discrimination. Based on these findings, it is indeed a thoughtful recommendation to foster awareness for construction companies in Malaysia to implement the company's policy of equal pay, incentives, and benefits for equal work and responsibilities, regardless of gender.

Table 6: Recommended Realistic Strategies That Can Be Adopted to Improve Work Policies in Malaysia's Construction Industry to Promote Gender Equality (N = 360)

Government is instrumental in the formulation and implementation of gender-sensitive policies seeking to promote equality in the workforce. At national levels, many governments have ministries or departments responsible for women's issues, which take a lead role in formulating policies related to promoting gender equality. The Malaysian Ministry of Women, Family, and Community Development has been indispensable in taking initiatives and formulating policies for the advancement of the cause of gender equality (Malaysian Ministry of Women Family and Community Development, 2009).

Non-governmental organizations played a key role in advocating for gender-sensitive policies and supporting women through various sectors. These organizations work at the grassroots level with resources, training, and advocacy aimed at empowering women and addressing systemic gender inequalities. According to All Women's Actions Society (2019)

the All Women's Action Society (AWAM) is one of the leading NGOs in Malaysia that advocates women's rights and gender equality. The main concerns of AWAM are Violence Against Women, Gender Discrimination, and Promotion of Women's Participation in Decision-Making Processes. The group cooperates with government bodies and other NGOs in a drive for legislative changes and raising public awareness about gender issues.

CONCLUSION

In conclusion, this research holds significant value as it provides useful insights and practical strategies that can contribute to the enhancement of gender equality. This research reveals that gender stereotypes and perceptions are the main factors that become the barriers and obstacles that slow down progress towards gender equality. "Society, in general, has a perception that the construction industry is a dirty, difficult and dangerous career, which is seen as more appropriate and more necessary to be dominated by men. This has caused women to be less interested in pursuing a career in this industry." has been chosen as a description of the main factor. In addition, this research also recommended a realistic strategy for developing or improving work-life balance and supportive policies in the construction industry, as in Malaysia, to ensure that the SDG No.5 goals for gender equality can be achieved. The findings highlighted that the strategy under the theme of Gender-Neutral Policies and Career Development, which elaborate into "The implementation of a company policy of zero tolerance to any form of gender-based discrimination and harassment in the construction industry will create a safer and more inclusive workplace for women". This research has proposed practical strategies that can be implemented within Malaysia and other developing countries' construction industries by drawing upon previous studies on women's career development.

Building upon the findings of this study, future researchers are encouraged to perform a comparative analysis on a comparison between the Malaysian construction industry and other countries, which certainly have differences in the socio-cultural context, understanding, practices, policies, and so on. This will certainly give the study a broader scale of analysis and data discovery, resulting in a more interesting study.

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