

The Obstacles and Challenges of Women Workers in the Construction Industry

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Abstract. Construction is an industry that contains activities to create or build facilities and infrastructure in a tangible form in order to achieve certain goals. It is known as a male-dominated industry with heavy work, which creates gaps and problems for the women who work there. The purpose of this study is to provide an overview of the obstacles and challenges of women when working in the construction industry. This study uses a qualitative approach with a literature review method. Article searches are performed through the Publish or Perish application on the Scholar platform. After screening through inclusion and exclusion criteria, there were 25 scientific articles from 9 international journals that met the criteria. The result is that the obstacles and challenges faced by women in the construction industry are classified into internal and external. Internal obstacles in the form of: mental readiness, lack of competence, not having a certificate of expertise in a particular field; while the external obstacles are: discrimination based on gender, sexual harassment, lack of organizational support, and disparity in workers' wages. Internal challenges in the form of: self-efficacy, openness, fatigue and work stress; while the external challenges are: high work pressure, long working hours, heavy workload, and masculine culture. To overcome these problems, it requires not only the efforts of each individual, but also the cooperation of all parties involved, especially policy makers in companies and government.

Keywords: Women workers, women's obstacles and challenges, construction industry

INTRODUCTION

The construction industry is a large industry that contributes to Gross Domestic Product and employment (Francis & Prosser, 2014). It is currently growing rapidly and is predicted to increase globally by 85% (\$15.5 trillion). It contains activities to create/build facilities or infrastructure in a tangible form carried out to achieve certain goals. These activities are interrelated with each other, such as procurement of goods or services, consultants, contractors, material development, project documents, procedures, human resources, technology, and government and private institutions.

On the other hand, the construction industry faces challenges in the form of an aging workforce, declining interest among young people in construction, and the trend in secondary education that produces unskilled workers (Francis & Prosser, 2014). So in developed countries, they recognize the need to encourage women to enter the construction industry (Menches & Abraham, 2007). Women are considered to be able to fill this gap, because they are the largest untapped source of labor in the construction industry and are only represented by less than 10% (Elliott et al., 2016). Attracting youth regardless of gender is critical in the construction industry if it is to build and maintain a sustainable workforce throughout the 21st century (Francis & Prosser, 2014).

Most of the women who work in the construction industry not only to maintain their existence in the public sphere or to demand the same rights as men. Research from (Bigelow et al., 2016) shows that some of the reasons women work in the construction industry are due to the encouragement from their families, economic responsibilities, career opportunities, and the need for them to be there. In terms of competence, the abilities of women and men are the same (Arditi et al., 2013). Women also have extraordinary talents in emotional intelligence, communication, and transformational leadership (Escamilla et al., 2016). Women workers are more committed to their work, are less absent from work, and do not ask for daily wages (English & Bowen, 2012). Even under-representation of women in the

construction sector leads to reduced country productivity, limited innovation, and worsening shortages of skilled labor, as happened in Australia (Arditi et al., 2013).

Kaewsri and Tongthong (2014) has conducted research on the attitudes of women needed for career advancement in the construction industry in Thailand. (Lu & Sexton, 2010)'s research uncovered the challenges faced by women managers in the construction industry. Then (Oladotun & Edosa, 2016) researched the competencies needed by women to be able to work in the construction industry. However, research regarding the obstacles and challenges for women workers as a whole when they just enter the workforce has not been carried out. So the purpose of this study is to provide an overview of the obstacles and challenges faced by women workers when working in the construction industry using the literature study method, so that it is expected to be a reference for young women who want to work there.

METHODS

This study is based on the Literature Review method by focusing on previous empirical studies of women in the construction industry. Literature review is considered an important method to explore the specific needs by which data and knowledge are assessed and synthesized into several conclusions.

Research Question

RQ1. What are the obstacles for women working in the construction industry?

RQ2. What are the challenges faced by women working in the construction industry?

RQ3. What is the role of each party in dealing with women's issues in the construction industry?

Inclusion and Exclusion Criteria

Inclusion and exclusion criteria are needed to select and filter articles that will be used as research objects. In this study, the selected articles must meet the following requirements:

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Articles in English Language Published between 2012 – 2022 Using the keyword “Women in the Construction Industry” Search on Scopus	In the article there are no problems with women in the construction industry

Research Procedure

This research consists of three stages, namely the planning, implementation, and closing stages.:

1. Planning: at this stage, researchers conducted a literature survey to see phenomena in the field related to women workers in the construction industry.
2. Implementation: at this stage, researchers start looking for articles that meet the inclusion criteria using the "Publish or Perish" application. Then, the articles were analyzed using exclusion criteria. Articles that meet the exclusion criteria will be ignored, then the rest will be used and used as the main source to answer research questions.
3. Closing: at this stage the researcher interprets the data, draws conclusions, and compiles a research report.

RESULTS AND DISCUSSION

After doing a search using Publish or Perish, 52 articles were found that met the research criteria. Subsequently, the articles were filtered using a quality assessment with the following results:

Table 2. Article Search Results

Journal Name	Number of previous articles	Final article count
International journal of project management	1	1
Engineering, construction and architectural management	1	1
International journal of managing projects in business	1	0
Construction Management and Economics	15	8
International Journal of Construction Management	5	2
International Journal of Construction Education and research	10	6
Journal of Business and Psychology	1	0
International Journal of Training Research	3	1
Journal of Construction Engineering and Management	7	3
Journal of Management in Engineering	5	2
Journal of Professional Issues in Engineering Education and Practice	2	1
Journal of Workplace Learning	1	0
Total	52	25

The table above shows that the search results from the Publish or Perish application that meet the inclusion criteria are 52 articles from 12 journals. However, when selected through the exclusion criteria, 25 articles were obtained from 9 journals, and this number will be used to answer research questions.

After analyzing 25 articles that meet the inclusion and exclusion criteria, they can be grouped as follows:

Table 3. Analysis Result

The Obstacles		The Challenges	
Internal Factors	External Factors	Internal Factors	External Factors
Competence	Discrimination	Self-efficacy	High work pressure
	Sexual harassment	Work stress	Masculine culture
	Organizational support	Work-life balance	

Internal factors are factors that arise from within the individual. While external factors in this case are obstacles or challenges that arise from outside the individual. The following are the obstacles to women workers in the construction industry in terms of internal and external factors:

- Internal factors
 - Competence: Since its inception, the construction industry has been associated with masculine policies and skills, so research results (Styhre, 2011) shows that women are significantly under-represented in construction craft programs. They are seen as incompetent, lack the ability to use tools, have no natural understanding of buildings, and are not designed to lift heavy loads. So unlike men, women workers when they just enter the workforce must show that they are truly competent in order to be considered. Having certain competencies or skills can facilitate women to get equal work and help avoid some tedious tasks (Choudhury, 2013), (Jaafar & Othman, 2013).
- External factors:
 - Discrimination: The discrimination experienced by women originates from the masculine culture in the construction industry which unconsciously forces women to apply the male life cycle (Dainty & Lingard, 2006). The form can be in the form of unequal treatment; including wage disparities, and/or lack of positive opportunities for women to work (Bowen et al., 2014). This of course results in project failure and affects women's career advancement (Sunindijo & Kamardeen, 2017).
 - Sexual harassment: The existence of sexualization in the construction industry which is dominated by men is one of their ways to assert and maintain their dominance, including

sexual harassment (Naoum et al., 2020). Sexual harassment is their means to use their power over women through sexuality (Wright, 2013), including sexist attitudes both verbally and non-verbally. From research that has been done (English & Bowen, 2012) shows that women who experience sexual harassment will lose confidence, get tired of dealing with it, and create feelings of insecurity in the workplace.

- Organizational support: Research (Morello et al., 2018) shows that the existence of organizational support is very meaningful for women workers in the construction industry. Organizational support has the potential to shape attitudes, reinforce shared beliefs, direct behavior, and build motivation and performance expectations (Dainty & Lingard, 2006) (Francis, 2017). This can be reflected in the leadership style, behavior of managers and supervisors that can affect their stress level and commitment to the organization, as well as training and development of the organization (Samuel, 2015).

The following are the challenges facing women workers in the construction industry in terms of internal and external factors:

- Internal factors
 - Self-efficacy: It's about one's own beliefs and expectations that influence behavior, motivation, and performance (Wagner et al., 2013). Research (Elliott et al., 2016) shows that actually women who enter the construction industry where it is dominated by men will be more resistant to obstacles and have greater persistence in career and academics (Rasheed et al., 2022).
 - Work stress: Research from (Sunindijo & Kamardeen, 2017) shows that high work pressure, long working hours, and excessive workload are the main causes of women's work stress. This is a consequence of them working in the construction industry. Job stress is caused by physical factors, organization, job demands, and job roles. Physical factors are related to working environmental conditions such as exposure to sunlight, rain, cold, temperature, inadequate ventilation, lighting, excessive noise, and unsafe working conditions. Poor workplace conditions increase work stress. Job roles encourage psychological injury due to conflicting demands, lack of company support, job security, and unclear job roles and responsibilities (Bigelow et al., 2015).
 - Work-life balance: Historically women were the primary caregivers of the family. The demands of working long hours and then doing household chores cause fatigue and mental health for women (Sunindijo & Kamardeen, 2017) which in the end they experience lower job satisfaction. So that this dual role can interfere with their career life in the construction industry and affect job satisfaction. Some women even prefer not to pursue careers or become seniors in order to maintain their work-life balance (Tijani et al., 2020).
- External factors:
 - High work pressure: Experiencing various work pressures such as having to work on certain targets in a short period of time has an impact on women's mental health, which ultimately has a negative impact on individual and organizational performance. The results of research (Bowen et al., 2014) shows that women tend to experience high work pressure than men in the workplace.
 - Long working hours: The construction industry expects its workers to work long hours, especially when it comes to achieving certain targets, and to do work with an uncertain or changing schedule, including on weekends (Sunindijo & Kamardeen, 2017). As if such a system has become a symbol in the construction industry. This actually results in decreased women's performance and productivity due to long working hours, stress, and psychological injuries.

- Masculine culture: Men assume that women are unable to do the jobs required in the construction industry, manage male employees, or balance work and family life. The management also considers that the jobs in the construction industry are not suitable for women. This creates fear for women as a minority to work with male workers so that they find it difficult and can interfere with their productivity. So some women are forced to adopt male behaviors to be accepted in masculine culture, such as clothes and attitudes, otherwise they will be marginalized.

The obstacles and challenges experienced by women workers in the construction industry are basically the result of the involvement of all parties. So the following is the role of each party in order to resolve these problems:

- Government: Encourage construction entrepreneurs to employ more women in order to reduce workplace discrimination, develop mentoring programs to support women and other minority groups working in the construction industry, provide education to companies to employ women, conduct coaching and strategies to follow up on women's support at workplace; it can be by making guidelines, information, policies and procedures, codes of ethics and etiquette so that they are clearer and understandable (Jenkins et al., 2018).
- Industry/Companies: providing assistance not only to women workers but also to male workers, conducting equal staff recruitment, conducting training and development programs, changing the friendship system and masculine culture to be more open to all genders, implementing construction company employment policies.
- Community: implementing education programs and instilling community awareness that focuses on self-engagement with girls so as to help normalize the construct of society.
- Schools: governments and companies can leverage and develop networks and relationships between school counselors, industry and the higher education sector to attract women in the workplace. Schools can also develop support and retention strategies for women, build skills training for all qualifications, teach adaptability of teamwork and communication.
- Women workers: have a good understanding of workplace adaptation, have technical competence, communication skills, willingness to learn, problem solving ability, and work together in a team.

CONCLUSION

The obstacles and challenges that occur to women in the construction industry can occur from within themselves and the environment. If this is not corrected, it will cause a lot of losses, such as reduced productivity, low job satisfaction, stress, mental health disorders, and the erosion of the existence of women in the construction industry. So to overcome this requires cooperation from all parties, be it the government, industry, society, schools, and women themselves. So it is hoped that the problems that have occurred so far can be resolved one by one.

REFERENCES

- Aneke, E. O., Derera, E. & Bomani, M. (2017). An Exploratory Study of Challenges Faced by Women Entrepreneurs in The Construction Industry In South Africa. *International Journal of Business and Management Studies*, 9(2), 35-51. Retrieved from <https://dergipark.org.tr/en/pub/ijbms/issue/36089/405218>
- Arditi, D., Gluch, P., & Holmdahl, M. (2013). Managerial competencies of female and male managers in the Swedish construction industry. *Construction Management and Economics*, 31(9), 979–990. doi: <https://doi.org/10.1080/01446193.2013.828845>
- Barreto, U., Pellicer, E., Carrión, A., & Torres-Machí, C. (2017). Barriers to the professional

- development of qualified women in the Peruvian construction industry. *Journal of professional issues in engineering education and practice*, 143(4), 05017002. Retrieved from [https://ascelibrary.org/doi/abs/10.1061/\(ASCE\)EI.1943-5541.0000331](https://ascelibrary.org/doi/abs/10.1061/(ASCE)EI.1943-5541.0000331)
- Bigelow, B. F., Bilbo, D., Mathew, M., Ritter, L., & Elliott, J. W. (2015). Identifying the Most Effective Factors in Attracting Female Undergraduate Students to Construction Management. *International Journal of Construction Education and Research*, 11(3), 179–195. doi: <https://doi.org/10.1080/15578771.2014.1002639>
- Bigelow, B. F., Bilbo, D., Ritter, L., Mathew, M., & Elliott, J. W. (2016). An Evaluation of Factors for Retaining Female Students in Construction Management Programs. *International Journal of Construction Education and Research*, 12(1), 18–36. doi: <https://doi.org/10.1080/15578771.2015.1085927>
- Bowen, P., Edwards, P., Lingard, H., & Cattell, K. (2014). Occupational stress and job demand, control and support factors among construction project consultants. *International Journal of Project Management*, 32(7), 1273–1284. doi: <https://doi.org/10.1016/j.ijproman.2014.01.008>
- Choudhury, T. (2013). Experiences of women as workers: a study of construction workers in Bangladesh. *Construction Management and Economics*, 31(8), 883–898. doi: <https://doi.org/10.1080/01446193.2012.756143>
- Dainty, A. R., & Lingard, H. (2006). Indirect Discrimination in Construction Organizations and the Impact on Women's Careers. *Journal of Management in Engineering*, 22(3), 108–118. doi: [https://doi.org/10.1061/\(asce\)0742-597x\(2006\)22:3\(108\)](https://doi.org/10.1061/(asce)0742-597x(2006)22:3(108))
- Elliott, J. W., Thevenin, M. K., & Lopez del Puerto, C. (2016). Role of Gender and Industry Experience in Construction Management Student Self-efficacy, Motivation, and Planned Behavior. *International Journal of Construction Education and Research*, 12(1), 3–17. doi: <https://doi.org/10.1080/15578771.2015.1016137>
- English, J., & Bowen, P. (2012). Overcoming potential risks to females employed in the South African construction industry. *International Journal of Construction Management*, 12(1), 37–49. doi: <https://doi.org/10.1080/15623599.2012.10773183>
- Escamilla, E., Ostadalimakhmalbaf, M., & Bigelow, B. F. (2016). Factors Impacting Hispanic High School Students and How to Best Reach Them for the Careers in the Construction Industry. *International Journal of Construction Education and Research*, 12(2), 82–98. doi: <https://doi.org/10.1080/15578771.2015.1077296>
- Francis, V. (2017). What influences professional women's career advancement in construction? *Construction Management and Economics*, 35(5), 254–275. doi: <https://doi.org/10.1080/01446193.2016.1277026>
- Francis, V., & Prosser, A. (2014). Exploring Vocational Guidance and Gender in Construction. *International Journal of Construction Education and Research*, 10(1), 39–57. doi: <https://doi.org/10.1080/15578771.2012.744371>
- Jaafar, M., & Othman, N. L. (2013). Assessing the capability of women construction project managers based on liberal feminist theory. *International Journal of Construction Management*, 13(4), 35–52. doi: <https://doi.org/10.1080/15623599.2013.10878228>
- Jenkins, S., Bamberly, L., Bridges, D., & Krivokapic-Skoko, B. (2018). Skills for women tradies in regional Australia: a global future. *International Journal of Training Research*, 16(3), 278–285. doi: <https://doi.org/10.1080/14480220.2018.1576329>
- Kaewsri, N., & Tongthong, T. (2014). Favorable Female Attributes in Relation to Career Challenges of Women Engineers in the Thai Construction Industry. *International Journal of Construction Education and Research*, 10(3), 222–236. doi: <https://doi.org/10.1080/15578771.2013.856825>
- Lekchiri, S., & Kamm, J. D. (2020). Navigating barriers faced by women in leadership positions in the US construction industry: a retrospective on women's continued struggle in a male-dominated

- industry. *European Journal of Training and Development*, 44(6/7), 575-594. doi: <https://doi.org/10.1108/EJTD-11-2019-0186>
- Lu, S. L., & Sexton, M. (2010). Career journeys and turning points of senior female managers in small construction firms. *Construction Management and Economics*, 28(2), 125–139. doi: <https://doi.org/10.1080/01446190903280450>
- Menches, C. L., & Abraham, D. M. (2007). Women in Construction—Tapping the Untapped Resource to Meet Future Demands. *Journal of Construction Engineering and Management*, 133(9), 701–707. doi: [https://doi.org/10.1061/\(asce\)0733-9364\(2007\)133:9\(701\)](https://doi.org/10.1061/(asce)0733-9364(2007)133:9(701))
- Morello, A., Issa, R. R. A., & Franz, B. (2018). Exploratory Study of Recruitment and Retention of Women in the Construction Industry. *Journal of Professional Issues in Engineering Education and Practice*, 144(2), 1–10. doi: [https://doi.org/10.1061/\(ASCE\)EI.1943-5541.0000359](https://doi.org/10.1061/(ASCE)EI.1943-5541.0000359)
- Naoum, S. G., Harris, J., Rizzuto, J., & Egbu, C. (2020). Gender in the Construction Industry: Literature Review and Comparative Survey of Men’s and Women’s Perceptions in UK Construction Consultancies. *Journal of Management in Engineering*, 36(2), 04019042. doi: [https://doi.org/10.1061/\(asce\)me.1943-5479.0000731](https://doi.org/10.1061/(asce)me.1943-5479.0000731)
- Oladotun, A. J., & Edosa, O. M. (2016). The Needs for Professionalism and Competency in the Construction Industry. *International Journal of Built Environment and Sustainability*, 3(3), 1275–1278. doi: <https://doi.org/10.11113/ijbes.v3.n3.142>
- Rasheed, E. O., Yu, J., Hale, S., & Booth, N. (2022). The Impact of External and Internal Sources of Motivation on Young Women’s Interest in Construction-Related Careers: An Exploratory Study. *International Journal of Construction Education and Research*, 18(2), 159–178. doi: <https://doi.org/10.1080/15578771.2020.1826610>
- Regis, M. F., Alberte, E. P. V., dos Santos Lima, D., & Freitas, R. L. S. (2019). Women in construction: shortcomings, difficulties, and good practices. *Engineering, Construction and Architectural Management*, 26(11), 2535-2549. doi: <https://doi.org/10.1108/ECAM-09-2018-0425>
- Samuel, O. B. (2015). The Effects of Organisational Culture and Stress on Organisational Employee Commitment. *Management*, 5(3), 96–106. doi: <https://doi.org/10.5923/j.mm.20150503.03>
- Styhre, A. (2011). The overworked site manager: Gendered ideologies in the construction industry. *Construction Management and Economics*, 29(9), 943–955. doi: <https://doi.org/10.1080/01446193.2011.588955>
- Sunindijo, R. Y., & Kamardeen, I. (2017). Work Stress Is a Threat to Gender Diversity in the Construction Industry. *Journal of Construction Engineering and Management*, 143(10), 04017073. doi: [https://doi.org/10.1061/\(asce\)co.1943-7862.0001387](https://doi.org/10.1061/(asce)co.1943-7862.0001387)
- Tijani, B., Osei-Kyei, R., & Feng, Y. (2020). A review of work-life balance in the construction industry. *International Journal of Construction Management*, 0(0), 1–16. doi: <https://doi.org/10.1080/15623599.2020.1819582>
- Wagner, H., Kim, A. J., & Gordon, L. (2013). Relationship between Personal Protective Equipment, Self-Efficacy, and Job Satisfaction of Women in the Building Trades. *Journal of Construction Engineering and Management*, 139(10), 04013005. doi: [https://doi.org/10.1061/\(asce\)co.1943-7862.0000739](https://doi.org/10.1061/(asce)co.1943-7862.0000739)
- Wright, T. (2013). Uncovering sexuality and gender: an intersectional examination of women’s experience in UK construction. *Construction Management and Economics*, 31(8), 832–844. Doi: <https://doi.org/10.1080/01446193.2013.794297>