

# Chapter 2

## Social Sustainability in a Gender-Biased Occupation



Radhlinah Aulin and Vera Rytter

**Abstract** This paper discussed construction industry's ongoing battle with gender equality. Growing awareness of social sustainability responsibility has led to the mounting importance of human resources in the organisations. One perspective involves the focus on gender equality. Today women's participation in the construction industry is still low except in times of acute labour shortages. This disproportionate gender distribution leads to the construction industry losing competent and skilled resources. The study aim is to identify challenges faced by women employed in the construction industry, factors that make them stay (pull factors) and factors that make them leave (push factors). To achieve this aim, a quantitative study was adopted. A web-based questionnaire was sent out via social media. The web-based questionnaire was open for 3 months, and a total of 124 women had responded. In general, the majority of results from the study are in agreement with the literature. The strong pull factors identified are as follows: interesting and challenging work and good work relations. The push factors are as follows: not the dream job, unsuitable job, poor working conditions/environment and offensive behaviour. The output of this study is the practical strategies on how to attract and retain women in the construction industry: improvement of image through marketing; exposure about the industry through education, female role models; eliminating macho culture, improvement of the working conditions and facilities; and flexible working times to accommodate those with family. With these recommendations, the industry can achieve better gender equality, and this, in turn, may transform it by encompassing a wider set of ethical considerations, including sustainable construction.

**Keywords** Social sustainability · Gender biased · Women · Construction · Retaining

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R. Aulin (✉)  
Division of Construction Management, Lund University, Lund, Sweden  
e-mail: [radhlinah.aulin@construction.lth.se](mailto:radhlinah.aulin@construction.lth.se)

V. Rytter  
Division Civil SE South, NCC Sverige AB, Örebro, Sweden  
e-mail: [vera.rytter@ncc.se](mailto:vera.rytter@ncc.se)

## 2.1 Introduction

Since the Brundtland Report in 1987, there has been an increasing awareness that the construction industry must support the sustainable development vision by including social considerations throughout the entire construction project life cycle. However, existing sustainability studies in construction are largely related to the environmental and economic aspects. Social sustainability has not always received as much attention as more focus is diverted towards the economic and environmental sustainability. It was only recently that a more conscious effort is given to the social dimension of sustainability (Rasouli & Kumarasuriyar, 2016). Many researchers claimed that the social sustainability dimension is a concept in chaos (Vallance et al., 2011; Murphy, 2012). Most definitions base social sustainability on people's needs leading to the well-being of society: diversity, integration, justice, gender equality, inclusivity, participation, quality of life and democratic governance (Sourani & Sohail, 2005; Peters & Allison, 2011; Almahmoud & Doloi, 2015; Rasouli & Kumarasuriyar, 2016).

Growing awareness of sustainability and corporate social responsibility has led to the mounting importance of human resources in most organisations (Amrutha & Geetha, 2020). One perspective involves the focus on gender equality. Today, there are occupations that are defined by gender such as women dominating the education sectors, health care and social work while men dominate a more physically demanding branch such as construction, firefighting and mining. In Sweden, below 10% of the construction workers are women. There exists a wide body of research on women's participation in construction industries around the world with a strong case made for equality and inclusivity. The continuing underrepresentation of women in the construction industry has been debated for decades that lead to political and economic concerns. However, in South Asian countries, women play an important role which consists of performing unskilled tasks for low pay (Wells, 2001). Although women make up at least 20–40% of India's construction workers, they are less recognised than male workers, receive lower pay, often exposed to safety hazards and subjected to sexual harassment. They are integrated into the building workforce at the bottom end of the industry, as unskilled workers or head-load carriers. Access to training is denied to them (Rahul, 2014).

To encourage women's participation in the construction industry, the Swedish government has decided that by 2030, recruitment of new employees must include at least 25% women. This matches the UN development goals: 5 (gender equality), 8 (decent working conditions and economic growth) and 10 (reduce inequalities). Another positive note is that there has been an increase in women employment in the big construction companies. In the short term, the industry is tapping the local resource and filling the skills gap of labour shortage without outsourcing from outside the country (Ginige et al., 2007). Despite the number of recent recruitment initiatives, the industry has failed to make significant progress in recruiting and retaining more women.

### 2.1.1 *Aim*

To date, there is limited research examining the factors that enhance or impede gender-based recruitment and their retention in the industry including the construction sector. To identify strategies to tackle this persistent issue, it is important to have knowledge of the reasons why women choose to work in construction and better understand how to improve gender balances. Although this has been researched, there is a need for deeper insights into how to design strategies that effectively promote the inclusion of women in the construction industry. Such insights may benefit the construction industry to change the cultural stereotypes resulting in the reduction of the labour shortage and competence gap.

The study aim is to identify challenges faced by the women employed in construction industry, factors that make them stay (pull factors) and factors that make them leave (push factors). To achieve the aim, a quantitative study (with free text options) was adopted. A web-based questionnaire was sent out via social media platform ‘Teknikkvinnor’ (Technology Women). The group ‘Teknikkvinnor’ is a platform and meeting places for women in technology with a focus on career development and personal development. The web-based questionnaire was open for 3 months, and a total of 124 women responded.

## 2.2 Gender-Biased Occupation

Numerous research studies confirm an accurate picture of the current and historical challenges faced by women in a male-dominated working environment or vice versa. Today, many professions are still gender biased largely due to the career choices made during the education level. For example, 34% of men work in technology and production compared to 11% of women; on the contrary, 24% women work in health care, compared to 8% of men, according to the Swedish National statistic. The bias is apparent both horizontally—simplified as women working with ‘people’ and men with ‘things’ (Su et al., 2009)—and vertically, with men dominating superior positions across sectors (Blackburn et al., 2014). This is true even in relatively gender-equal countries, including Sweden. In 2014, The European Commission reports that the gender bias in the labour market leads to recruitment problems for employers, perpetuating the undervaluation of female-dominated work or vice versa and limiting individuals’ career opportunities. The Swedish National statistic reports that among the occupations most dominated by women (more than 85%) are pre-school teaching, nursing and health care. On the other hand, more than 90% of carpenters, plumbers, electrician, technicians, machine operators and truck drivers are men. The Act on Equal Rights for Women and Men in the Labour Market was substituted in 1992 for the Gender Equality Act. Today, even though women can choose to work in any occupation, the gender-biased occupations still characterise the labour market. The act has not changed the trend of women entering the workforce where they remain in certain occupational sectors such as education, health and service sectors, notably banking, insurance and the retail trade.

### ***2.2.1 Women in Construction Industry***

The definition for male-dominated occupation in an industry is where women's participation is below 25% (Bigelow et al., 2015). Today women's participation in the construction industry is still low except in times of acute labour shortages when women have received the opportunity to enter the industry (Clarke et al., 2015). In construction-related occupations, approximately 98% of all employees are estimated to be men (Bigelow et al., 2015). The number of women studying STEM (science, technology, engineering and mathematics) subjects has increased over recent years (Botcherby & Buckner, 2012): but this has been slow to translate into improved employment participation, a picture reflected across the European Union (EU). In Sweden, the same scenario is evident where only 10% of women who studied within the construction programme work in the construction industry, and this figure has been the same for the last 10 years (Sveriges byggindustrier, 2017). The distribution of women studying construction-related subjects is as follows: (i) college level, around 11% women; (ii) bachelor level, around 25% women; and (iii) at the master's level, around 50% women. In the labour market, 11% of the employees in the construction industry are women, and 23% of those work in a large company. A more equal or even higher distribution of women can be observed in the architect's office, specialist competencies and administrators within the construction sector.

## **2.3 Challenges for Women in Construction**

### ***2.3.1 Industry Image***

According to Ginige et al. (2007), an image, the mental picture, decides attitudes and behaviour of people, and it is built through a combination of both information gained from the environment and relevant past experiences. The construction industry is a good example of an industry-wide problem with 'image', which makes both men and women reluctant or uninterested in the industry. The predominant image of construction is that it is a male-dominated industry requiring physical strength and a good tolerance for outdoor conditions; inclement weather and bad language are cited as having a negative impact to women entering the industry. Other image-related barriers include the dominant male workforce; exclusive networks; informal recruitment; discriminatory sexist behaviour; bad language and sexist jokes; long hours culture; competitive and adversarial ingrained culture characterised by masculinity; conflict and crisis; challenging, dangerous and hostile environment; facilities; training; career progression; and the present level of their participation (Dainty et al., 2004; Amartunga et al., 2006; Aulin & Jingmond, 2011; Clarke et al., 2015). An interesting study conducted by Gale (1994) revealed that both sexes share a common image of the construction industry except for some image factors such as

job security, equal opportunities in the industry and consideration of environmental issues. An unavoidable image which is synonymous with the industry is its poor working environment (including both the physical and psychosocial) which makes it a less attractive choice for a career. Besides accidents at the workplace, reports about construction failure, poor quality, effect on the environment, time and cost overrun are some examples of the negative image of the industry.

### **2.3.2 Education**

Today everyone is entitled to education in whichever field they choose. However, all educations are far from equal. There are educations that still are gender dominated. It is evident that educational stratification leads to occupational segregation (Fielden et al., 2000). According to the Swedish National Agency for Education, in 2019, the number of women who follow the vocational construction programme (construction, electrical, plumbing,) courses at college level is 7%, while 55% of women follow the Natural Science programme (enabling them to further their studies at the university). One reason for the low interest is society still favours the white-collar employment to blue-collar or the socially acceptable employment when making career choices. At the university level, the education is diverse with various specialisations. The programmes that are most women dominated are 'Health care, Elementary Education and the Domestic spheres' (HEED, pedagogic and teaching, social science, law, and business administration). The technical and data programmes are male dominated.

Tellhed et al. (2016) explained the reason why men's low interest in HEEDs is not due to low self-esteem or how they perceive their ability in the field but due to participation and social affiliation. Gender bias is not only limited to nursing texts but found in the language and image of the nurse perpetuated within the classroom and clinical practice areas (Meadus & Twomey, 2011). In a study by Rytter (2020), majority of students who chose civil engineering programme based it on information from family and friends (45%), from education roadshow (21%), from the career guidance teachers during college (12%) and the rest from brochures and the Internet. Majority of these students made the choices based on their interest, good job opportunity and diverse education programme.

### **2.3.3 Career Opportunities**

The potential to develop career opportunities in the construction industry is not transparent both at the operative and professional levels. This includes, which qualifications or merits are required, to be successful. This is especially true for women who enter nontraditional occupations; their choices are based on strong influence from their family, friends and teachers (Agapiou, 2002). The decision of selecting a

career in the construction industry should be taken well in advance at schools' level particularly by those who intended to be a construction professional in the future. Lack of sufficient information can also mean that women who choose the construction industry often initially do not have a complete picture/knowledge of what the activity entails. However, when they understand what career opportunities there are and what the industry does, there is a risk that the industry does not meet their expectations. This leads to a reduction in commitment and a preference to move on to other professional roles outside the construction sector (Amartunga et al., 2006). Additionally, there is the conflict between work and family obligations. A study by Lingard and Lin (2004) showed that women in construction adopt an 'either or' approach to career and family. Women who choose to have a family develop lower expectations of the work experience, while women who expect to balance both family and career in the construction industry may experience significant difficulties.

### ***2.3.4 Recruitment and Retaining***

The recruitment process is a major challenge for many women who want to enter the construction industry as they feel its terms of employment are aimed at attracting men and not women (Adogbo et al., 2015). Equally important, an integral element in recruitment, is retainment. Retention of workers within an occupation is a measure of their satisfaction and 'fit' in the workplace. When being recruited, it is important to understand not only how they can gain access to that field but also whether or not they would remain there and under what conditions. Workers who quit may not like the job; they may be ill-prepared for or ill-informed about the job, or they may find that the workplace is very unwelcoming or alienating to them. In the construction industry, the barriers resulting in the lower retention of women at the workplace as identified by Green (1992) have changed little over time; they are still relevant today, such as inequities, the assignment of tasks on the jobsite, training and skills acquisition, promotion opportunities, sexual and racial harassment, deployment practices of contractors, the unwillingness of co-workers to teach them and the limitations on career advancement within unions and companies.

Therefore, it is important to untap the women workforce and the best job seekers that match the present and future needs of the industry. An important part of the industry strategy is employer branding—to attract and retain high-quality and talented employees (Sivertzen et al., 2013; Kucherov & Zavyalova, 2012). Recruitment of women in the construction workforce has been identified as a potential solution to overcome the skills gap while enhancing equal opportunities for women within the industry and to bring diversity to construction. Women workforce can provide able skilled labour to fill the gap (Ginige et al., 2007). Chhabra and Sharma (2014) suggested common organisational attributes such as compensation, career prospects and growth, job profile, brand name, corporate culture, employee empowerment, training and development, supportive and encouraging colleagues, innovative employer/novel work practices, humanitarian organisation giving back to society,

job security, recognition/appreciation, good supervisor and worker relationship, customer-oriented organisation and acceptance and belonging. These emphasise employers' attractiveness as the envisioned benefits that a potential employee sees in working for a specific organisation are image and branch equity (Berthon et al., 2005).

### ***2.3.5 Culture and Work Environment***

There is a substantial body of literature emphasising that women who choose to work in the construction industry are aware that it is male dominated with strong macho culture, with stereotype challenges such as discrimination and harassment (Amartunga et al., 2006; Adogbo et al., 2015; Naismith et al., 2017). Women holding a higher position may encounter mistrust from male colleagues and distrust from the operative workers (Aulin & Jingmond, 2011). Another challenge is balancing between family and career; this is not only exceptional to construction industry. However, as common knowledge, the construction industry is project-based with long hours, moving from project to project and having intensive deadlines. This may be a hinderance to women who would like to be successful in both her career and her family. This may result in them prioritising their family and leaving the industry. When working in construction projects, working conditions and working environment can be challenging. Furthermore, the whole workplace culture poses problems to women on site. For example, temporary sanitary facilities are usually unisex, often without privacy and generally not well maintained. On top of proving their technical skills, women workers need to have the ability to fit into the accepted behaviour at the workplace which can be even more problematic.

## **2.4 Results and Analysis**

The survey conducted managed to gather 124 responses. Majority of respondents are below 26 years old portraying that they are newcomers to the industry with less than 5 years working experience. Only 2% are in the oldest age range between 30 and 34 years old. The questions were divided into seven themes: image, education, career opportunities, recruitment process, culture and work environment.

The first question posed was the industry's image the respondent had anticipated upon being employed in the construction sector. Is it of no surprise that 80% of respondents answered male dominated and macho culture, followed by opportunity for career development (46%) and require strong mental strength (30%). Only 26% of respondents claimed that construction is synonym with tough working condition: dirty, dangerous, stressful and bad weather. In the open text, respondents state that the construction industry is exciting and challenging, secures future, stimulates project and benefits the society.

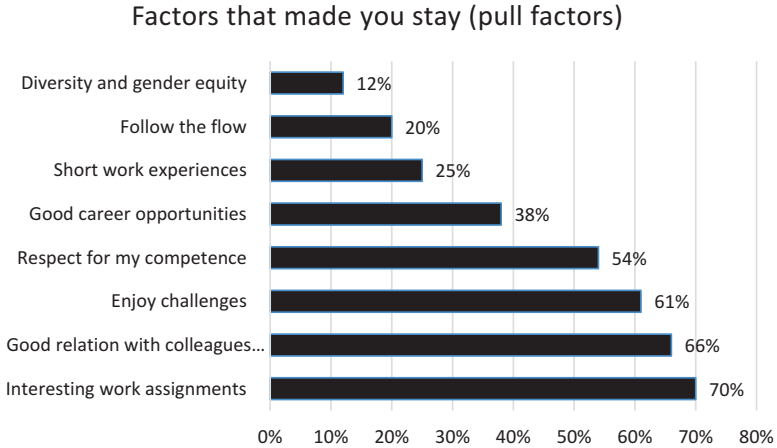
In this study, majority of respondents (73%) chose to follow the engineering programme (with focus on construction) because of interest, while 45% do it because of the good job opportunities. Only 18% made the choice because of family or friends. In the following question, 73% of the respondents agreed that their employment was based on their competencies. The questions posed during recruitment interviews were based on standard formulas. None of the respondents felt gender discriminated during the interview process. Nevertheless, 10% felt that they were being employed because of their gender and the company is filling their quotas to portray gender equality in the organisation. Interestingly, almost 10% of the respondents were asked if they have children or intend to have children in the future. Another interesting question posed by the interviewers is how the recruitment process could be improved to attract more women into the branch. The size of a company does make a difference. Bigger companies usually have gender equality policy in place and work actively to comply with it.

Responses regarding culture and work environment show a disturbing picture that unhealthy working climate still exist: 83% of the respondents were not respected by their male colleagues/management, 62% experienced poor working environment, 41% suffered sexual harassment, 29% faced discrimination and 20% had difficulty balancing career and family. Only 6% experienced any physically demanding work, and this is reflected by the role of the respondents which is not as operatives. In the free text section, few respondents claimed that prejudices existed due to gender, were ignored by colleagues, belittled and even needed to prove their competence. The newcomers were often addressed condescendingly and unappreciated at the workplace. Many experienced offensive jokes, sexist comments or rude words at the workplace including presence of sexist objects such as press mugs, posters with sexist motives and Viagra in restrooms. One question (free text answer) posed to the respondents asked if they have benefited by being a woman at the workplace. The responses were that they were respected, accepted and received assistance when needed from everyone including from the operatives' level and the management level. They agreed that being a woman can have its advantages in a male-dominated occupation. For example, it creates a better working climate and a calmer work environment; they stand out in the company (because there are so few of them) and have better career opportunity.

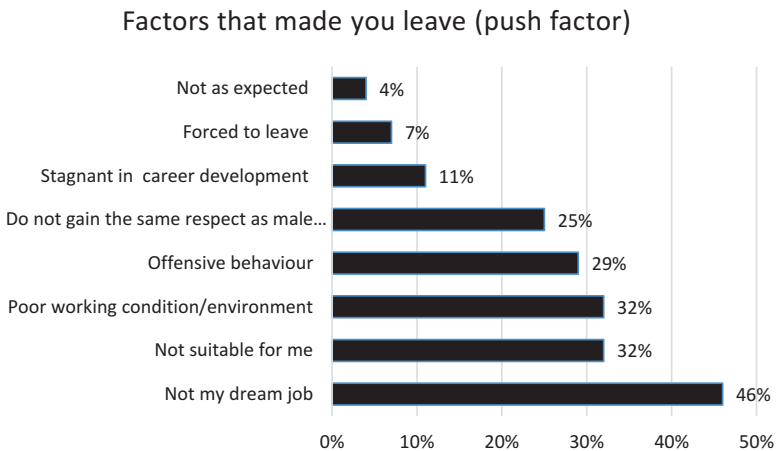
One third of the respondents have had experience working on construction sites, and half of them are still working on sites. An interesting question posed to those that are still active is what factors attract them to stay (pull factors) in the industry and to those that left (push factors) is what made them leave. The response for this question is illustrated in Fig. 2.1 presenting the pull factors and the push factors.

Only 12% were concerned about gender equality at the workplace (Fig. 2.1). As each construction project is never the same, it is no surprise that 70% chose to stay due to the interesting work assignments (Fig. 2.1). Good relationship with male colleagues/management, enjoying challenges and being respected for their competence were positive factors that respondents graded high for reasons to stay on. As for the push factor (Fig. 2.2), the dominant reason is that it is not their dream jobs (46%) and 32% respondents find the job unsuitable and poor working conditions/environment. Most of the respondents do not work full time on construction site. Some are





**Fig. 2.1** Factors that attract you to stay in the industry (pull factors)



**Fig. 2.2** Factors that made you leave (push factors)

consultants or project managers and spend a couple of days a week out on construction sites. Others make site visits and inspections or attend meetings and visit construction sites from time to time. Some respondents have answered that they stay because they simply thrive and find it fun. One respondent wrote:

Love being part of a team where we build something physical that others can use. And that no days are the same. New problems always arise that we have to solve. Can be stressful for some but others like me are driven by it.

In summary, the survey results agreed with the literature about the industry image. The respondents are aware of the image, tough working conditions and the macho culture that exist before and after entering the industry (Wells, 2001; Ginige et al., 2007; Adogbo et al., 2015). One positive result from the study/survey showed that

there exists opportunity for career development in the industry which contradicts Wells (2001) study that says otherwise. Role model could be one potential strategy to attract more women in the industry as mentioned by Bigelow et al., (2015). Regarding education, the results showed that the respondents are missing a female role model or female mentor when choosing programmes at college/universities. Respondents agreed that a mentor programme during work could help the newcomers to have better information about career development and career path. Amartunga et al. (2006) highlighted that having no clear information on career development can make women employees leave the industry.

Besides having role models, respondents claimed that networking for women in this industry can be seen as a support system for the newcomers. The survey results showed that almost 74% of the respondents were employed based on their competencies. Equally important to state that at least 10% felt that they were recruited because of their gender where companies needed to fill their quotas and abide with the gender equality policy. All respondents are in agreement that the recruitment process and the advertisement were gender neutral which contradicted the study by Amartunga et al. (2006). Regarding the question on building a family and having children, majority of respondents are in agreement that companies need to be more open and flexible on this matter. On the question about working environment, majority of respondents claimed that they need to work harder to gain the same respect as their male colleagues, encounter sexual harassment, face sexist jargons and offensive attitude. One-third of the respondents had experienced some form of discrimination as stated in the literature. An interesting result from the survey is that some respondents felt that being a women can be an advantage. They were being accepted, received more help and gained more respect. Another advantage was that they are easily remembered during meetings as there are only a handful of women on construction projects. It is easier to forward their ideas and thoughts. Majority of respondents stated that even the male colleagues agreed that presence of women on projects/offices improved their attitude, they were nicer and they avoided use of sexist remarks. From the survey results, the pull factors, contributing to respondents staying on project sites are: interesting work description, not one project is alike, daily challenges, problem solving, good relation with colleagues/management, receive mutual respect from colleagues/management, good career development and diversity. While the push factors that made some respondents leave are; it was not their dream job, it didn't suit them, poor working conditions, poor working environment, offensive behaviour and not receiving the same respect as their male colleagues. These are in agreement with the literature.

## 2.5 Recommended Practical Strategies

The survey results match three UN development goals: 5 Gender equality, 8 Decent working conditions and economic growth and 10 Reduce inequalities. To enhance the results, a recommended practical strategy is presented in Table 2.1.

**Table 2.1** Practical strategies to attract women to stay in the construction industry

Factors	Recommendations (ownership and responsible for implementation) <sup>a</sup>
Image	<p><i>Marketing</i></p> <p>Marketing the social factors in the construction industry and what the industry contributes to society to create well-being for people<sup>b</sup></p> <p>Highlighting gender equality and how construction companies work to achieve it<sup>b,c</sup></p> <p>Highlighting women who are active in the industry<sup>b,c</sup></p> <p>Highlight the more positive aspects of the industry<sup>b,c</sup></p>
Education	<p><i>Primary education and below</i></p> <p>Gender neutral information about construction through education materials<sup>d</sup></p> <p><i>College</i></p> <p>Educate teachers about what and how the industry contributes to society<sup>d</sup></p> <p>Provide more visits/lectures by women from the construction industry<sup>d</sup></p> <p>Generate greater cooperation between schools and construction companies<sup>b,d</sup></p> <p>Organise education campaigns by construction companies<sup>b,d</sup></p> <p><i>Technical college and universities</i></p> <p>Inform students in construction-related educations about the reality of working life<sup>b,d</sup></p> <p>Provide more visits/lectures by women from the construction industry<sup>b,d</sup></p> <p>Organise network meetings between students and women active in the construction industry<sup>b,d</sup></p>
Female role model	<p>Increase the opportunity for mentorship for women who are new to the industry. Mentors can provide information and materials to help increase the ability to advance in the career<sup>b</sup></p> <p>Create and highlight role models that women can relate to<sup>b</sup></p> <p>Illuminate the women who work in the industry today<sup>b</sup></p> <p>Construction companies to spread knowledge about diversity and inclusivity<sup>b</sup></p> <p>Employ more newly graduated women<sup>b</sup></p> <p>Ensuring equal pay<sup>b</sup></p> <p>Construction companies to invest in skills development so that the women in the industry today are motivated to stay<sup>b</sup></p> <p>Female networking<sup>b,d</sup></p>
Culture and work environment	<p>Eliminate macho culture and discrimination<sup>b-d</sup></p> <p>Tougher measures against discriminatory behaviour and the use of sexist jargons and enforcement of these measures<sup>b-d</sup></p> <p>Management to play an active role as a driving force towards gender equality and anchors it among employees<sup>b</sup></p> <p>Educate employees on gender equality, diversity and inclusivity<sup>b</sup></p>
Decent working conditions	<p><i>Workplace design</i></p> <p>Nicer and cleaner office environments<sup>b</sup></p> <p>Separate changing rooms and sanitary facilities for women and men<sup>b</sup></p> <p><i>PPE</i></p> <p>Adapt tools to women's physiques and bodies<sup>b</sup></p> <p>Workwear design to suit for women<sup>b</sup></p> <p><i>Working time</i></p> <p>Introduce more flexible working hours<sup>b</sup></p> <p>Clear implementation of parental leave<sup>b</sup></p> <p>Construction companies to investigate the potential for introducing flexible work<sup>b</sup></p>

<sup>a</sup>Ownership and responsible for implementation

<sup>b</sup>Construction companies, unions, The Swedish Construction Federation

<sup>c</sup>Media (digital and non-digital)

<sup>d</sup>Schools, college, universities

## 2.6 Conclusions

Results from the survey clearly showed that the construction industry still faces challenges to promote recruitment of women and retaining this workforce. A continued promotion of the notion of a male-dominated industry must cease, in order to encourage greater inclusion of women. The notion that the industry is gender biased that differentiates between men and women will continue unless changes are made in everything from behaviour and attitude to names and occupational terminologies. The changes are to focus on the pull factors on why women want to stay and to improve it, while mitigating the push factors. This paper presents practical strategy on how to attract women to stay in the construction industry which are follows: improve image through marketing, increase exposure about the industry as early as during the primary school, provide female role models at work and even at college/universities, rigorously implement and enforce policy and regulation regarding discrimination and offensive behaviour (verbal and graphic), improve working conditions and facilities and introduce flexible working hours to accommodate those with family. With these recommendations, the industry can achieve better gender equality that will transform the industry encompassing a wider set of ethical considerations, including sustainable construction, secure employment and better work environment. These practical recommendations will allow the construction companies, the unions, The Swedish Construction Federation, schools, college and universities and media to fulfil the three UN development goals: 5 (gender equality), 8 (decent working conditions and economic growth) and 10 (reduce inequalities) to achieve social sustainability in construction.

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