

scope, delayed payment to contractor, poor monitoring and control and high inflation and interest rates. These results were also validated by the cases from CAA which indeed showed that these are the most important factors. Stakeholders in the construction industry are advised to minimise change in scope of work as it has the most effect on cost and time overrun. It is recommended that there should be improvement in project management; change from the traditional contract type to the design-build type; and improved cash flow on the part of the client so as to reduce payment delays. The results of this research should help construction practitioners, policy makers and researchers in the field of construction management.

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Issues Confronting Women Participation in the Construction Industry

Radhlinah Aulin¹, Monika Jingmond²

¹Lecturer, Division of Construction Management, Lund University, POB 118, 221 00 Lund, Sweden

Corresponding author email: Radhlinah.Aulin@construction.lth.se

²PhD candidate, Division of Construction Management, Lund University, POB 118, 221 00 Lund, Sweden

ABSTRACT

This paper raises the issues confronting the minority cohort's participation in the construction industry. Women in construction are seen as the wrong gender to be around for the construction occupations require not only manual dexterity but physical strength. Currently, the industry is employing less than 10% of the female in the workforce with even lower participation in crafts and trade. This paper discussed about the current women participation in construction focusing on the European Union (EU) 27 member countries. Additionally, issues and barriers preventing women entering and retaining in the industry was also debated. A strong finding from the paper is that it is not the technical skills that need proving but rather comprising their identity as women to meet the demands of the workplace and having the ability to fit into the accepted behaviour of the workplace. There is also concern among the women workers of having to balance between successful career and family lives. Lastly, the paper highlights suggestions to create a better path for women's participation and retention in this male-dominated zone. Among them are bringing more female role models at the lower education level to aspire career in construction, clearer equal opportunities at the workplace and stronger roles of the social partners.

Keywords: construction, participation trend, recruitment and retention, women

1.0 INTRODUCTION

Until today the construction industry with its extreme gender stratification is still conservative in its recruitment of women. The prevalent social conditions underpins the occupational segregation of the labour market into masculine and feminine jobs is as imperforate today as it was at the beginning of the century, with construction as the prime example. The majority of women working in the construction industry undertake administrative, technical and professional work while the intake at the operative level is very low and the data are scarce to non-existence, but in most countries these represent less than 1% of the workforce (Clarke et al 2005). Inevitably it can be concluded that construction is not only male-dominated but is devoid of female participation.

There are many studies discussing the reasons why female workers shy away from the construction industry as a whole and the craft sector in particular (Wangle, 2009; Chandra and Loosemore, 2004; Agapiou, 2002; Whittock, 2002; Fielden *et al.*, 2000). Among the common barriers are social acceptance of employment, sexually-inappropriate occupation, sexual discrimination, sexual harassment, physical incapability, unqualified for blue-collar jobs and labour conditions such as extreme weather, unsociable work-hours and exposure to hazards. Contrary, there have been few studies focusing on factors influencing women entry into construction and what their expectations are (Bennett *et al.*, 1999; Clarke *et al.*, 1999). One study showed that many students choose the path without full knowledge about the industry and its culture. Evidently, career choices of young people are influenced by many factors from events in early childhood to parents, peers and career advisers. A few had friends that

helped them to make the career decisions while others were influenced by family or friends already in the industry.

This paper reviews and discusses the issue and barriers that are preventing women participation and their retention in the industry. Additionally, the paper will also forward suggestions to encourage the female gender into construction. The method adopted for this article is an extensive review of literature on women in construction and analysis of labour statistic from LABORSTA.

2.0 ANALYSIS OF ACTIVELY EMPLOYED WOMEN IN THE EU CONSTRUCTION SECTOR

Many of the 27 EU countries today are reporting of several skills and labour shortages. Projects are more interested to seek external resources such as immigrant workforce instead of looking at the 'in-house' resources that is the female workforce to cover increased demand (Clarke, *et al*, 2005). This is happening despite the EU having a long standing focus on gender inequalities in Europe, embracing the principles of equal opportunities and gender mainstream as its social and employment policies.

The question is how many women are actively working in construction? According to the statistic extracted and analysed from Labour Statistic LABORSTA (2008), majority of the EU 27 countries employs an average of 10% female workforce (Figure 1).

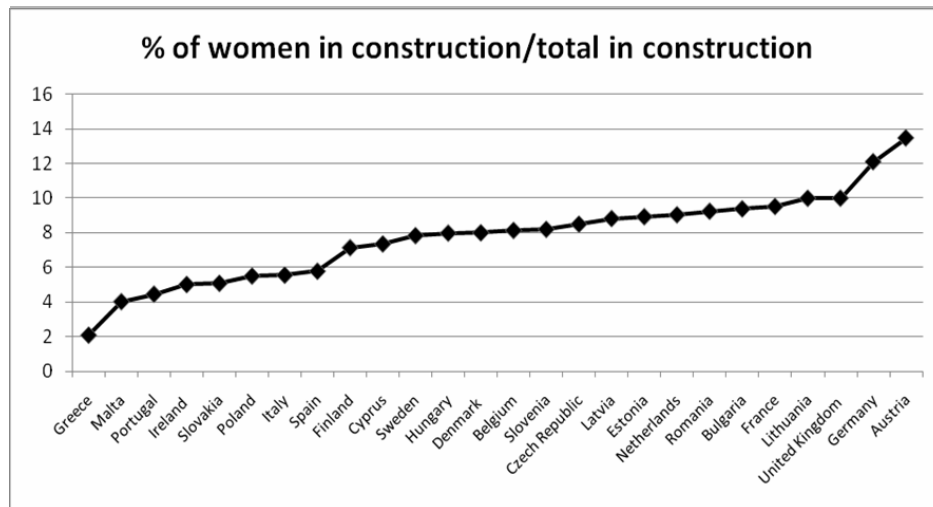


Figure 1 – EU27 women participation in construction 2008

Note: Prognoses were performed for the data for Netherland, United Kingdom, Malta and Denmark for 2008.

From Figure 1, only Germany and Austria has a higher participation of 10% of women in construction with 12% and 13.5% respectively actively employed. Contrary, Greece has the lowest women participation in construction with only 2% while Malta and Portugal has around 4% of women participation in construction. Majority of the member countries (15 countries) has between 5-9% of active women participation in construction. Countries such as Netherlands, Romania, Bulgaria, France, Lithuania and United Kingdom have between 9-10% of participation in construction. These data are further expanded into eight occupational sectors as according to ISCO-88 (International Standard Classification of Occupation). The data for 'skilled agriculture and fishery workers' are excluded due to zero participation. Table 1 presents the distribution of women occupation participation in construction across the EU27 countries.

Table 1a –Breakdown of women participation in construction, by occupation, EU27, 2008

	legislators, sr officer, managers	professionals	technicians, assoc professionals	clerks	service workers shop market sales workers	craft related trade workers	plant & machine operators assemblers	elementary occupations
<i>Figures are in %</i>								
Belgium	0,8	0,7	1	3,9	0,2	1	1	0,6
Bulgaria	0,3	2,3	0,9	2,4	0,2	1,1	0,1	1,7
C. Republic	0,5	1,5	3,6	1,9	0	0,5	1	0,4
Denmark	0,3	0,21	1,9	3,3	0,3	2,2	0,1	0,6
Germany	0,6	0,8	1,8	6,8	0	1,2	0,1	0,6
Estonia	0	0	4,1	0	0	3,1	0	0
Ireland	0,8	0,6	0	2,6	0	0	0	0
Greece	0,1	0,4	0,2	0,6	0	0,6	0	0,1
Spain	0,4	0,6	1,7	2,4	0	0,3	0,1	0,3
France	0,9	0,3	1,9	4,3	0,1	1	0,1	0,1
Italy	0,4	0,2	1,9	2,8	0,1	0,2	0,1	0,1
Cyprus	0	1,3	1,3	4,1	0	0	0	0,7
Latvia	0	0	3,1	0	0	1,5	0	0
Lithuania	0,6	2,7	1,8	0,8	0,4	2,7	0	1,1
Hungary	0	1,4	0,4	1,6	4,5	0	0,4	0
Malta	0	0	0	0,8	1,6	0	0,8	0
Netherlands	0	1,4	0,4	1,6	4,5	0	0,4	0
Austria	0,5	0,4	2,3	7,4	0,4	0,6	0,1	1,7
Poland	0,9	1,1	1,8	0,9	0	0	0	0,5
Portugal	0,8	0,3	0,6	2,4	0	0	0	0,3
Romania	0	2,6	2,3	1,8	0	1	0,4	1,1
Slovenia	0	1,6	1,6	1,6	0	0	0	0
Slovakia	0,4	0,5	2,9	0,7	0	0,3	0	0,2
Finland	1,0	0,5	1,0	2,0	0	1,5	0	1
Sweden	0,3	1	1,6	2,6	0,3	0,7	0	1
UK	2	0,5	1,2	6,1	0,4	0,4	0,1	0

From Table 1, it is apparent that clerk dominates the highest participation. Surprisingly, Estonia and Latvia has zero participation for this occupation. This could mean that clerk in construction is not recorded in this group but could have been included in other sectors. Austria (7,4%), Germany (6,8%) and UK (6,1%) has a high percentage participation of clerk. Majority of the member countries have between 1-4% participation in the technician occupation whose main tasks require technical knowledge and experience in construction. The craft and trade occupation include the following activities: building and related trade workers, excluding electricians; building finishers and related trades workers and Painters, building structure cleaners and related trades workers. This occupation sector displays data ranging from 0-3% participation. 70% of member countries have below 1% of female participation in the trade and craft sector. However, only Latvia and Estonia have more than

4% participation in this specific occupation. Women participation in construction in Eastern Europe remains high despite the weakness of the social partners (trade unions).

According to Clarke *et al*, (2005), research has shown that structure and mechanisms of gender exclusion differ across Europe depending on the productive system in place. In the highly regulated, skilled, and industrialized construction industries of northern Europe, in particular Germany, the Netherlands and Scandinavia, entry depends very much on formal qualifications and hence on the training system (Clarke *et al*, 2005). In the more craft-based and unregulated industries of southern Europe and even Britain, in contrast, where skills are often acquired on the job, employment is much more casual and the training system has far less importance as a 'gatekeeper' to entry (Clarke *et al*, 2005).

Howbeit, the statistic presented above represent the formal construction sector. There is the dark side of construction known as the informal labor market. Wells (2007) discussed the informal labor in construction in general while Chen (2001) discussed the conditions of women participation in the informal sector in the developing countries. According to Chen, women in this sector are over-represented worldwide. This informal sector is the primary source of employment for women in most developing countries. Existing data suggest that the majority of economically active women in developing countries are engaged in the informal sector (Wells, 2007). For example 97% of women working in construction in India are considered as informal labor (Wells, 2007). Hence, the proportion of women workers in the informal sector exceeds that of men in most countries. Women's share of the total informal workforce outside of agriculture is higher than men's share in some countries. The composition of the female informal workforce varies somewhat across regions. In many African countries, almost all women in the informal sector are either self-employed or unpaid workers in family enterprises. In many countries in Latin America and Asia, although the majority of workers are self-employed or contributing family members, at least 20 percent of women in the informal sector are casual wage workers. Compared to the male informal workforce, women in the informal sector are more likely to be own account workers, i.e., self-employed working by themselves, and subcontract workers (Wells, 2007; Chen, 2001).

3.0 ISSUES CHALLENGING WOMEN IN CONSTRUCTION

Studies indicate that the construction industry's traditional, blue-collared, male-dominated, craft-based culture represents a significant barrier to women recruitment, participation and career progression. The following are issues and barriers opposing the women participation:

- (i) The assumptions that root the frequent argument are that woman is physically not strong to endure this strenuous task. When entering the gender segregated occupations, these women need to prove their competence despite their qualifications and experiences (Clarke *et al*, 2004).
- (ii) On top of proving their technical skills, women workers need to have the ability to fit into the accepted behaviour of the workplace which can even be more problematic. In her study on both the physical and psychosocial working environment among the Swedish construction workers, Olofsson (2004) stated that most women seem to agree that they can cope with the physical part of the job, while many claimed that they need to be psychologically strong to be on a building site. The women on site feel that they need to be as good as the men. They also need to fit into the accepted behaviour of the workplace which can even mean comprising their 'female' identity (Clarke *et al*, 2004).
- (iii) Women inexplicably run a greater risk than men of work-related musculoskeletal disorder (MSD). Studies have shown that women were twice as likely as men to leave the industry because of complaints of pain and injury. This may also be linked with low job-control and high job-demand which can lead to MSD (Wangle, 2009). Women have been reported to be in this situation with low job-control and high job-demand than men. Many female workers overlook this safe limit and perform task that in the long run can lead to MSD just to avoid being stereotype by the male colleagues (Olofsson, 2004).

Important variables for health and good work environment such as control over work, influence, meaningfulness, support and professionalism seems to be negatively influenced by gender personal offences.

- (iv) Furthermore the whole workplace culture poses problems to female workers on site. For example, temporary sanitary facilities are usually unisex, often without privacy and generally not well maintained. Unclean facilities can result in disease as well as urinary tract infection. Female workers also complain about the ill-fitting personal protective clothing (PPC) and personal protective equipment (PPE) that are not to size or does not fit which eventually can compromise personal health and safety. A study by OSHA (1999) (Occupational Safety and Health Administration) revealed that most tools, equipment and clothing are not designed for a women's physique. The same study by OSHA also state about inadequate information on the extent to which female construction workers are exposed to reproductive hazards in the workplace (Olofsson, 2004; OSHA, 1999).
- (v) Resentment against women was manifested in overt and covert discriminatory behaviour towards them (Dainty *et al*, 2000). These actions ranged from overt gender harassment and bullying where women workers face the problem of not reporting verbal jargons and attitude for fear of being rejected by their male colleagues (Söderberg, 2009). In a study performed by Novus Opinion in Sweden, it is not only the jargon that is making the situation difficult but also distrust towards female leaders (Axelsson, 2010). 49% of the female leaders feel an attitude obstruction against them by the male workers and colleagues are making their job difficult which eventually leads them to leaving the industry (Axelsson, 2010). Alarming, in the informal sector, women in construction are some of the worst victims of discrimination (Chrisna du Plessis, 1998).
- (vi) The type of covert discrimination women workers face are in the form of maintenance of a cultural long working hours and enforced geographical instability. This contributes to the issue of balancing between having a successful career and family-oriented lifestyle (Dainty *et al*, 2000).
- (vii) Restricted promotional opportunities within the organizations showed that promotions 'within companies' had tended to occur within divisions preventing lateral staff mobility between operating divisions in order to maintain sub-cultural environment, to restrict opportunities for women and maintain existing hierarchy and work practices (Dainty *et al*, 2000). Women were seen as threats to the limited promotional opportunities available within the organizations.
- (viii) In a study performed by Hossain and Kusakabe (2005), the major barrier identified by women engineers in Thailand and Bangladesh is the recruitment process which favors the male workers. Employers prefer to keep the organization male-dominated even for tasks such as cost estimation, mapping and documentation. Women were excluded while hiring. Employers' prejudice that construction is unsuitable for women is manifest in the recruitment process where employment are often informal and through personal contacts (Dainty *et al*, 2000).
- (ix) Apart from organizational practices, country's traditional religio-cultural assumptions, norms and gender ideologies were hindering women participation. Only recently has this participation in some countries such as Bangladesh increased due to economic necessities allowing women to work to support the family (Hossain and Kusakabe, 2005).
- (x) In Sweden, the students had to choose the career choice at the age of 14-15 years old. At this tender age, girls are more influenced by peer pressure, career advisors, teachers and parents about the career choice favoring the white-collar employment to blue-collar or the socially acceptable employment (Wangle, 2009; Olofsson, 2000). Lack of role model, poor career advice, gender biased recruitment literature, peer pressure and poor educational experiences have all been cited as militating against women's entry to the industry which affects the career aspirations and development (Dainty *et al*, 2000).

4.0 SUGGESTIONS FOR THE WAY FORWARD

The construction industry culture needs to change if it is to escape from the current image, conflict and masculinity. The following are some suggestions forwarded:

- (i) Managing issues and variables affecting career aspirations and development while concurrently focus on factors that influence women's entry into construction (Bennet *et al.* 1999).
- (ii) Centre on ensuring equal opportunities exists for women working within the sector and ensuring them to remain within it (Dainty *et al.*, 2000). Present a clear path for career opportunities regardless of gender thus providing equal opportunities among employees (Dainty *et al.*, 2000).
- (iii) The role of the social partner such as the European Trade Union Confederation (ETUC), the private-sector employers' organization (UNICE) and public-sector organization is valuable in regulating employment and equality issues (Clarke *et al.*, 2004)
- (iv) The recommendations for recruitment of women into construction must hub at the elementary and secondary schools and conversing with students about the prospects offered within the industry. A study performed by Wangle (2009) showed that successful partnership between Hawaii's Women in Technology Program with educators and guidance counselors open opportunities for talented female students to be recruited by employers.
- (v) Another suggestion made by Wangle (2009) is the improved communication and coordination between secondary schools and post-secondary schools construction management degree programs by educating female students about potential career in construction. This type of peer support or mentor protégé relationship seems to be essential to attract and retain women in construction.
- (vi) Clear advertisement for female apprenticeships program providing on-the-job training with benefits.
- (vii) Agapiou (2002) in his study presented suggestions how to retain women's participation in construction from the women's perspective. Majority agree that they have to learn 'to fit' in to the worksite culture by being able to take a joke and being broad-minded, do not pretend to be man – ask for help if required, find alternative ways of performing tasks and learn to deal with smart remarks by getting on with the job and minding their own business.
- (viii) Allowing flexible work schedule and work-hours as suggested by the Swedish Construction Federation in its policy which is a positive encouragement for female workers to stay.
- (ix) Employers must also be sensitive to providing better facilities on site for female workers including PPE; toilets and changing rooms.

5.0 CONCLUSIONS

There have been inconclusive studies on whether the construction industry is actively seeking ways to successfully recruiting women (Wangle, 2009). This confusion may be attributed to the lack of training and hiring programs for women in construction or neglect in creating a working environment where women are treated with the same respect to men. The outgoing pension group are creating a labour shortage making it a necessity for the industry to improve its male-dominated image and reach out to the untapped labour resources.

Women were found to have progressed at a lower rate in the industry while confronting many obstacles and barriers. A range of interrelated structural and cultural factors defined in this gender disparity in career development, together with the interactive strategies of men and women in coping with career constraints and exploiting career opportunities. To encourage women participation in construction, they must be provided with support and encouragement for non-traditional choices at an early age. Women must be aggressively recruited into training programs with the aim of configuring the curriculum and skills training to assimilate them into non-traditional employment (Wangle, 2009). After securing a career in construction, the construction organisation must continue to support this cohort group especially those with family obligations, by developing flexible work schedule and work-hours. Hence, the industry must make the first

move by actively seek women for job opportunities and creating a working environment where women will stay and be treated with respect.

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