Diversity Management and Best Practices in the Construction Sector

Final report

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Acknowledgment

The author is taking the opportunities to thank all the people who have patiently accepted to answer her questions and contribute to the making of the report.

The study has been conducted within the frame of the FLIBA project which aims at helping leaders in the construction industry to gain the necessary leadership skills to create more efficient and productive enterprises. FLIBA aims to develop the education programs in the construction industry across national borders and between local educational entities. The project has the following aims:

- Ensure a higher standard for recruitment and development of future building and construction industry leaders, through better education programs and facilities
- To provide education and facilities to allow current and future building and construction industry leaders to work more internationally

The project gathers three Scandinavian countries Denmark, Norway and Sweden. Besides the contribution of the partners involved, the project has received the financial support of the EU Program for Territorial Cooperation Interreg as well as support from the Municipality of Oslo, Akershus and Västra Götelands region.

The author of the present report does not aim at reaching a parity between different minorities in the sector, but at giving the possibilities to all qualified individuals interested in joining the trade to be able to do so without being victim of prejudices related to her/his belonging to any minorities.

Plan of the report

1. Introduction

In many industrialized countries there is a prediction that the construction industry will face a serious shortage of skilled workers in particular managers during the coming years. One way to compensate for this could be to increase the participation of minorities such as women or foreigners, who so far have been underrepresented in these positions in the sector. The concept of diversity management is precisely addressing the management of these minorities within companies by proposing to systematically plan and commit on to recruit and retain employees with diverse backgrounds and abilities.

However despite numerous initiatives for instance to increase the numbers of women in the construction industry, the rate of their participation, particularly in the trades and onsite construction management, has not grown significantly over time. Similarly whereas foreigners are well represented among unskilled workers, their participation as managers is so far rather limited. So once again we propose to reopen the black box of minorities in the construction sector, and to look at the barriers as well as at some initiatives or practices which could support a more balanced situation. The purpose of this report is to document some of the issues and possible solutions to improve the situation and in doing so to contribute to the development of the construction sector.

How to read this report:

- Chapter 2 presents the situation in the three countries regarding gender as well as more specifically the construction sector. Women representation in board is taking as an example to illustrate the similarities through diversities.
- Chapter 3 presents the barriers to women in the sector
- Chapter 4 proposes initiative to reduce the distance between the local male majorities and minorities

Methods

The study has been carried in two phases: the first looked at the legislation frame and investigated more specifically the representation of women in board of directors in the largest construction companies in the three countries as an indicator of women integration in the sector, this phase has been carried in collaboration with Christian Koch and took place during 2012. The second phase has focused on the barriers to mostly women and partially foreign participation in management position in the construction sectors and the identification of best practices which could inspire schools and companies in their effort to better integrate minorities, this phase was carried during 2013 and beginning of 2014.

To look at the challenges and initiatives related to diversity management in the construction sector, we have addressed these questions by reviewing the literature both international in particular USA and UK and Scandinavian according to the three countries involved in FLIBA. A desk research has been carried looking at construction companies' websites, diversity management websites including national and European initiatives as well as professional associations and magazines in Sweden and Denmark. For the second phase besides the literature reviews and desk research, 7 interviews have been carried with the members of Fliba network and 7 with professionals having an engineering background living in Sweden, 4 women (native of China, Poland, Iran and Sweden) and 4 men (native of Middle East, China Ethiopia and Denmark). Groups discussion regarding minorities issues as well as informal talk with students at Chalmers both male and female and Swedish and foreigners

(originating from east countries, Middle East countries, Island and even Mexico), have also been integrated in the report. Though these interviews have been very interesting and in many ways supporting the findings of the literature, there is no claim of the results being representative or having a statistical value. Their value resides in each individual representation and interpretation of the situation.

Gender segregation is very well documented including in the construction sector and many studies are listing the sex related challenges and male dominate culture of the construction industries (Barnard et al. 2010, Styhre 2011, the special issue of Construction management and Economic in 2013). The participation of ethnical minorities however is far less documented than the gender one. Besides most of the few studies addressing the diversity of ethnic minorities in the construction sector are focusing on the managerial issues regarding the challenges linked to cultural diversity for managers on the building site and not on how these minorities may or not access these managerial positions (Gale and Davidson, 2006, Dainty et al. 2007, Loosmore et al. 2012). Therefore if the challenges of ethnical diversity integration have been discussed during the interviews, the literature review has mainly focused on gender. However when looking that best practices for diversity management, both minorities are again addressed.

Diversity management

There has been an increase pressure for intensifying minorities' participation and in particular women into companies' management and direction board. Two main reasons justify this intensification. First women are assumed to bring different values and attitudes and therefore can improve company performance and profitability (Nielsen & Huse 2010). Second there is a shortage of qualified candidates as leadership gains increasing importance facing globalization, fierce competition and shorter lifecycles of building concepts. This pressure on company competences ask for increasing the recruitment potential. Diversity management is seen as the tool to solve this problem.

The concept of diversity management practices, as defined by Yang and Konrad (2011) encompassed a set of formalized practices developed and implemented by organizations to manage. This is mainly dealt by the Human Resources Management team and includes activities such as recruitment, reward, performance, appraisal, employee development and individual managerial competences in delivering competitive advantage through leadership and team work. By having a planned strategy, the integration of minorities should be facilitated. But more than just opening the door to minorities, diversity management to be efficient *should allow employees to bring their entire set of identities to work rather than requiring employees to suppress important identities in order to assimilate to the dominant organizational culture* and use *the entire sum of their demographic and cultural knowledge to bear on organizational problems* (Yang and Konrad 2011). The authors recognize that this describe an ideal state in organizations.

As a response to a too rosy picture of diversity management as an economic solution downplaying the real issues related to the minorities on the working place authors have gathered under the banner of Critical Diversity theory (Benschop 2010). Their main critic is that using a strong business rhetoric focusing on individual contribution, diversity management literature fails to address issues related to social inequalities, discrimination and exclusion and downplayed power issues and resistance.

Another issue is the definition of minorities. In many studies, minorities are defined and compared to a white, well-shaped, heterosexual and ambitious male, which as such may not

fit with male population as the whole. Initiatives towards equality often imply that minorities should be treated in the same way as this ideal man is (Barnard et al. 2010). This understanding of minorities assumes that this is the model to follow and that minorities should be assimilated to the dominant group regardless of differences between and within minority and majority groups. As stated by Ozbilgin & Tatli (2011), it is naive to treat women and men as homogeneous groups; while some women are likely to enjoy working in a male dominated culture such as construction, it is equally likely that some men in the industry find the culture problematic.

Regarding cultural diversity in the construction industries, Loosmore and al. (2012) indicate that construction workers take the cultural diversity of the industry for granted, are optimistic and positive about diversity and have cross-ethnic experiences which generally leave them happy for further contact. However they also find that, there is an environment of ambient racism and retain a set of assumptions regarding the desirability of ethnic uniformity over diversity. But their results suggest that firms should be cautious with so called best practice strategies which are promoted in the literature as they found out that many of these could reinforce rather than eliminate cultural difference. In doing so they can actively undermine attempts to build a cooperative workplace culture where different cultural groups can work in the harmony (Losmoore 2012). The perverse effects of positive discriminations have been studies by socio psychologists who show that by defining initiatives targeting the support of minorities in different context, there is a confirmation that these minorities do actually need help and consequently are less adequate to the given tasks. These results do not apply only to the surrounding of the minorities groups but to the members of the groups themselves (Steele, 1997).

This report adopts an institutional approach to minorities. This implies a perspective of gender as 'not only an individual property, but also as an institution embedded in the workplace, occupations, and occupational environments through formally defined rules, roles, and responsibilities and the way in which ….individuals think about their social world' (Terjesen et al 2009: 325). Gender is understood as 'socially constructed roles of and relations between women and men' (Bilimoria and Liang 2012:3). Hopefully such a perspective can help overcome stereotyping men and women, yet at a time also finding commonalities, for example in the building of professional identities (Dryburgh 1999, Faulkner 2006). Moreover equal opportunities can be viewed as a social order where men and women share the same opportunities and the same constraints in both the economic and the domestic realm (Bilimoria and Liang 2012:3).

The goal of taking such an approach is to underline that single initiative taken in specific context have very few chances to succeed as they are facing the heavy weight of social structures that have attained a high degree of resilience and provide stability and meaning to social life. As Scott (2009) describes it *these structures are transmitted by various types of carriers, including symbolic systems, relational systems, routines, and artefacts. They operate at different levels of jurisdiction, from the world system to localized interpersonal relationships*. The institutional mechanisms enabling or constraining the minorities' access to specific sectors are multiple and crosses over the different spaces: the individual space, socialisation spaces like school or media, and work space to mention the more important. For example, Terjesen et al. (2009) point at gender self-schema and status as characteristics of the individual. Or for the board of directors, the authors describe a privileged closed group with its own rules and ways of thinking. For the enterprises, their review focuses on group-level processes such as social identity, social network and social cohesion, gendered trust, ingratiation and leadership.

The institutional framework insists on the complex interplay and complementarity between these different spaces (Terjesen et al 2009, Scott 2002). So, it is likely, that initiatives to increase minorities' participation will not have many effects, if they are not distributed and shared across the different spaces and though the different institutions.

However being aware of all the difficulties and contradictions that diversity management may contain, the aims of this study is nevertheless to define best practices to help facilitate the path of these minorities in the construction sector.

The following chapter presents the three national contexts with a focus on the legal frame regarding equality, the situation of women in the construction industry in the respective country and finally discussed women representation in contractors 'corporate board as an example of gender segregation.

2. Situation in the three FlIBA countries

The Scandinavian countries have for a long time been portrayed to be leading in issues regarding equality including those encompassing top level management (Adams & Funk 2012, EU 2012, Grosvold & Brammer 2011, Matsa & Miller 2011). However the three Scandinavian countries engaged in the FLIBA project, Norway, Sweden and Denmark represent three institutional set ups that enable and constrain equality in a specific manner. Even if often considered as one homogenous region (Grosvold & Brammer 2011) the three legislative frameworks differ enough to assess the impact of legislative reforms and other institutional elements such as education. Norway is renowned for their law on quotas of gender representation in corporate boards, Sweden has had it's a long term equality legislation, and the Danish Government has only recently announced a legal reform of female corporate representation. These various legislative frames might explain differentiated results for the three countries. Moreover the last 15 years have witnessed the Nordic construction industry, including the contractors, doing a wave of mergers and acquisitions. This should also raise the issue of the possible future relevance of the national institutions compared to multinational and global ones.

The dynamics of gender and equality as they are understood here do not limit themselves to legislation or national specificities. Rather a range of mechanisms need to be encountered, including individual elements, schools, carrier patterns, company organization as well as broader social environment. And when the female representation at top level management in numbers is focused on here, it should merely be understood as an indicator of these complex interplays and not as an in build linearity from birth to boss.

National specificities

Sweden

Sweden is often referred to as the country where equality has reached the longest so far (Adams & Funk 2012). Swedish women entered the industrial labour market in the 1950ties, reached 60% employment in the 1970ties (where 90% of the men were employed). In 2005, 80 % of the Swedish women and 86% of the men were active on the labour market (Johansson & Lindquist 2008) which can be seen as an overall gender balance market (EU 2012).

The gradual and significant entry of women on the labour market was accompanied by the shaping of new institutions and formation of new inequalities such as on pay and positions. The high level of women of the labour market moreover gloss over the very uneven diffusion between sectors and professions as the construction sector would have 99% of their employees being men, and the profession 'office secretaries' being 94% women (Lindquist Wijk).

Central in the Swedish legal institution is the Swedish code of equal treatment. It has been issued in a number of versions since the seventies. An important enforcement arrived in 1991, and later reforms also encompassed harmonization with EU-law. A demand for employers issuing an equality plan became obligatory from 1991. The plan was intended also to encompass issues of internal recruitment, i.e. women's access to higher positions in the enterprise hierarchy. The plan was supposed to be revised every year and include monitoring of women's and men's employment positions. The public authorities' assumption was that

this approach would lead to self-control, i.e. that the companies themselves would actively strive for equality. The actual passivity of enterprises led to installation of gradual enforcement in the form of sanctions and external supervision, institutionalized in an equality ombudsman.

In 2008, the equality law was revised into a code of discrimination. The demand for an equality plan was relaxed to obligatory revision every three years and to enterprises with more than 25 employees. The equality ombudsman is supposed to carry out supervision of the enterprises active efforts to obtain equality, since 2001 together with regional authorities. However the supervision does not carry the resources, neither gives priority to equality at the workplace. Most resources for supervision are used following up on individual claims and most common is ethnic discrimination. Over the year threatening of issuing fines has been used a handful of times towards enterprises, which did not have an equality plan. Around half of the budget of the Equal Ombudsman is used for soft law measures like collaboration, training, and communication. Also an extraordinary equality program was issued 2010-2011 involving a program "board power" directed towards developing female managerial competences. Also EU funding and other means have been mobilized creating network of women interested in or active as managers.

Construction sector

Swedish construction is one of the most male dominated sectors in the country. Figures differs however, between employment groups, as in 2004, 99% of the building workers were men, 95 % of the skilled workers, 97 % of top management, 83 % of engineers and technicians, and 80 % of M.S.c Engineer and architects (Cettner SCB 2004).

The construction industry has traditionally recruited its managers amongst engineers, technicians and craftsmen. More recently an influx of business educated managers has occurred. The female part of graduated building engineers has for a long period been more than 20% (Cettner 2008). Royal Institute of Technology (KTH) had about 35 % women in 2000 (Oloffsson 2000). LTU had in 2008 30 % and KTH have in 2012 32 % women amongst M.sc. in engineering and architecture and 24 percent women amongst bachelor in Engineering. However most of the building engineers go to the consulting engineering companies. Moreover around 30% of the educated building engineers, women and men leave the trade immediately after their education and around 21% is employed with the contractors (Cettner 2008). If one takes the membership of the Swedish Association of Graduate Engineers as an indicator of employment 23,7% of the members are women, already significantly lower than the production of candidates indicated. Moreover investigations have shown that many plan to leave the sector even if they presently have a job there, asking for a better retention strategies for companies (Olofsson 2000).

The individual socialization as female or male engineers through the student years is substituted with the entrance into a clearly male dominated world for those who choose to be engaged with contractors. The carrier at contractors commences as site manager for small contracts and emerges into larger contracts and later into the main office. Styhre (2010) and Cettner (2008) both find a rather massive male dominated culture on Swedish sites. Cettner (2008) find that the women feel like pioneers, and that they are viewed more as women than as professional engineers they are subordinate and excluded from the inner circle Styhre (2010) describes the stereotypic male site managers and Olofsson how the male orientation permeates the physical side of the building site (Olofsson 2000). Styhre followed 19 Swedish male site managers working for three contractors, which do not employ any females in this position. His study reveals an ethos of the site manager, as somebody capable of enduring

any work situation, handling unanticipated events excelling in crisis management and who is celebrating the 'virtue' of overworking. Cettner (2008) finds broadly the same stereotype of the dominating males through interviewing five women who has acted as site managers, and finds that the women struggle finding a way out of a simple female stereotype. Styhre points out that the site management role are reproducing gender ideologies, imposing expectations on individual site managers, and erecting entry barriers for e.g. women or individuals not willing to forsake family life. Many of Styhre (2011)-s interviewees are very experienced site managers, with many years in the business behind them, and these managers voice their concerns over the site management work ethos as a concern for the coming generations. Cettner (2008) finds examples of harassment such as a client representative in a project which does not want to shake hands with a women representative of the contractor. Cettner also finds examples of open resistance from male colleagues towards female engineers.

The female engineers and site managers in Cettner (2008)'s study that move position into management in the head quarter all feel that this occurs due to occasions and events out of their own control (their manager's good will) and they even suspect that their role as minority plays a role. Two of Cettners interviewees chose to leave to contractors and go for job in consultancy, a tendency Cettner (2008) underpin by quantitative figures showing that 30% of both men and women leave the construction industry immediately after graduating. Also "Byggmesterbarometeret" confirms the qualitative analysis with quantitative figures. In a survey investigation of 2515 site managers, 200 female site managers contributed (equal to 8%). The study showed that half of the male site managers evaluates that prejudices of certain groups are active, this is directed towards immigrants, odd people, youngsters and new comers. The male site managers claim these prejudice does not encompass females, whereas 30 of the females have experienced prejudices and around 100 have experienced insults at work (Byggmesterbarometeret 2011).

The three largest listed public liability companies are monitoring and being monitored closely on their efforts for equality (entered in the mega group below). One of those has from 1996 to 2011 grown from 8 to 10% female employees, another has from 2004-2010 levered its female employment from 6 to 8% and the third from 10 to 11 % between 2004 and 2010. In 1996 the first mentioned company announced that the company strived at obtaining a more equal distribution of gender by recruitment of new employees, as part of their equalization plan. In 2011 the similar policy was re-phrased stating the company works actively to recruit and retain female employees (Annual report 2011).

If we now focus in on the end of the pipeline across the 37 biggest contractors measured on turnover in 2012, the figure shows the present status.

Table 1: Gender representation for the 37 largest Swedish contractors

NACE	No. of companies	Board			Board of Directors			CEO		
		Men	Women	%	Men	Women	%	Men	Women	%
41	8	52	9	14.75	40	8	16.67	7	1	12.5
42	7	43	9	17.31	41	11	21.15	7	0	0
43	8	34	4	10.53	26	5	16.13	8	0	0
NMC	14	92	12	11.5	59	6	9.2	13	1	7.1
	37	221	34	13.3	166	30	15.3	35	2	5.4

Norway

The Norwegian labour market is broadly speaking gender balanced. However women's income is approximately 62 % of men's income. And the female representation on are differentiated in sectors like for example 24% in manufacturing, 34% in financing (Parmann 2012). In 2006 and 2008 there was 7% in construction, even if the absolute numbers grew, the numbers of male employees grew even more.

After a long preparation phase, the Norwegian government implemented law of quota of female representation in corporate boards in 2003. The law prescribes steps of representation according to the number of members in the board, for example if the board have four or five members both sexes should be represented by two. In larger board the law prescribes a 40% representation. According to Storvik and Teigen (2010) the enterprises were given four years to meet the quota, data bases were established for listing prospective female board members and supporting the recruitment process. The Norwegian employers' association created a training program aimed at company employees. During the initial phase, companies did not widely implement the policy on a voluntary basis. the Norwegian law therefore came to encompass coercive elements and sanctions supporting the implementation in 2008. The most radical sanction is the forced dissolution of non-compliant companies an option which has never been used however (Langli 2010). Storvik and Teigen (2010:3) notes that

'Seven years after it was passed, the quota is widely accepted in Norwegian politics and society. The employers' association has not reported any problems and interviews with business leaders suggest that the policy is no longer controversial'

However other sources claim that the quota remains controversial.

Since the quota regulation has been implemented there has been a lot of focus on female representation in the common shareholder company boards (ASA). The law covering a mere 400 companies, whereas public limited companies (AS) represent 200.000 companies and a female board representation at 17%. There are quite a lot of companies leaving the group of ASA. In 2001 the group encompassed 547 companies. In 2008 154 of these were left and 213 had changed status into public liability companies (AS) or ceased to exist (180). Langli (2010) refers to an investigation showing that only 7% of the companies leaving the ASA category did it only because of the quota law. Most of them left with reference to the bureaucracy involving being a listed company. In 2012, there are around 400 ASA- companies. Since the quota regulation has been implemented there has been a lot of focus on female representation in the common shareholder company boards (ASA). The law covers a mere 400 companies, whereas public limited companies (AS) represent 200.000 companies.

Construction sector

NTNU the largest education unit for engineers (and architects) produces around one third female candidates. The Norwegian government has taken initiative to mainstream the recruitment and production of female engineers. There is for instance a Committee for Gender Balance in Research is deciding decide whether certain study programmes should award one to two additional points to applicants of the underrepresented gender. Women entering civil engineering education for example benefit from this measure. By 2012 49 percent of the intake was women, and this was an increase of 22% compared to 2011.

NITO, the largest Norwegian engineers association encompass 22% organized women, an indication of the gendered labour market activity. In 2008 there was 10% women among administrative leaders in Norwegian Construction, there was 16% amongst the academic employees, 13% amongst the project managers,75% among the office and service employed and 1% among the craftsmen.

Below is entered the sample for the largest contractors in 2012:

NACE	Number of comp	Board			Board of Directors			CEO		
		Men	women	%	Men	Women	%	men	Women	%
41	12	67	13	16,25	43	12	21,8	11	1	8,3
42	7	38	8	17,4	31	11	26,2	6	1	14,3
43	7	34	5	12,8	23	1	4,2	7	0	0
NMC Norway	7	55	8	12,7	42	3	6,7	7	0	0
	33	194	34	14,9	139	27	16,3	31	2	6,1

Table 2: Gender representation at the 33 largest Norwegian Contractors

It is Civil engineering (NACE 42) and Construction of buildings (NACE 41) who exhibit the most women in all three categories (board, and board of directors), but the sample encompasses a mere representation of two CEOs. Specialised construction activities (43) and the Nordic multinational corporations (NMC) are placed lowest. The four companies of the ASA category all have boards with 6 to 11 members meaning should either encompass a representation of three women or a representation 40%. None of them are complying to the law in these respects.

Parmann (2012) finds that the female representation in boards for Norwegian stock exchange companies (ASA) is an average of 35%, that there is 4% CEO and 15% which are member of boards of directors. AS) represent 200.000 companies and a female board representation at 17%.

Matsa and Miller (2011) compares Norwegian to other Scandinavian companies and finds that firms affected by the quotas undertook fewer workforce reductions than comparison firms, increasing relative labour costs and employment levels and reducing short-term profits. Moreover they find that the boards appear to be affecting corporate strategy in part by selecting likeminded executives. Matsa and Miller (2011) suggest on this basis that female managers may be more stakeholders or long-term oriented than their male counterparts

(Matsa and Miller 2011). Ahern and Dittmar (2011) on the other hand find that the value of the companies fell and that the boards tended to become less competent.

Nielsen and Huse (2010) note that many investigations on the issue remain descriptive, quantitative and superficial. They use themselves a survey of 201 Norwegian firms of all sizes, without control group. Their findings support that the ratio of women directors is positively associated with board strategic control, with decreased level of conflict and with commencing board development activities improving the quality of board work. Nielsen and Huse (2010) contend that women's ability to make a contribution to the board relates to their different leadership styles.

Denmark

The development in Denmark when it comes to gender and gender representation in management is at best ambiguous. While there are a solid basis of labour market and employment for both genders the pay and representation stay asymmetric (EU 2012). In 2011 the association of managers in Denmark announced that they had reached 25% female membership amongst their 100.000 members (Lederne 2011). This can be compared to 12% in 1991. Holt (2006) found that the construction sector has 10% women employed with some subsector (bricklayers) virtually without female employees or managers. A SFI report for 2012 is giving the following figure for some of the construction trade.

Table 3: SFI report 2011

Trade	Women	Men
bricklayer		
2007	25	2531
2008	17	2431
2009	10	2052
carpenter		
2007	48	6281
2008	49	6761
2009	40	5986

The statistics are very similar for the different trades, at the exception of the representation of women among painters is above 40% (Clarke et al. 2005).

By May 2012, the Danish government announced it would implement legislation that will make it obligatory for the 1.100 largest companies to develop and follow a policy of increased representation of women on the corporate boards. The Danish/European law for public liability companies, listed public liability companies and other companies will be used as instrument. The concrete company policy aims would be voluntary, but should encompass measurable figures and a politic of growing numbers of women. The results would be externally monitored. The more detailed law reform is to be announced during the fall of 2012, and information on possible sanctions are not yet available.

Amongst engineers, which are a central recruitment group for managers in construction, the female membership ratio of the engineering association in 2012 was 20%. However this glosses over differences between different sub engineering areas such as building. Kamp (2005) found that in 2004, 22% of the engineering students were women, with indications of growth among building engineers, a growth which appears to have been recruited predominantly by consulting engineering and public units. In 2007 it was announced that the female ration of students had grown to 30%. Aalborg University reports that the female share of technical and natural science candidates grew from 10% in 1982 into 24% in 2006. Though, one has to be careful with general statistics as they can cover a much differentiated situation: whereas DTU in 2014, announced an average female of 25% among their students, 100% of Electrical Engineering were men and 78% Human Life Science Engineering were women. Besides other countries may have different distribution: Information technologies which are male dominated in Denmark (less than 10% women at DTU) is a female balance sector in France. Regarding construction, DTU for 2013 stated around 18% of female students for their master in Byggeteknologi and close to 45% for the ones in Bygningdesign.

Even if most of the building engineers seek employment at the consulting engineering companies, some go to the contractors where the typically start as managers for small contract like the carpenter's work. The individual socialization as female or male engineers is then carried out in a clearly male dominated world. Kamp (2007) provides an insight among the operational site managers of a large contractor who had at the time of investigation an estimated 25% female employees at this position. Nevertheless the contractors' projects and operational level was still heavily male dominated. The female managers struggle to be understood and recognized as professionals, especially in the beginning of their career. They employ laborious and meticulous efforts to build a professional identity as woman and project manager, controlling their behaviour, language and appearance. And trying to obtain respect by being serious, fair and competent (Kamp 2007). These efforts explain probably why the female project managers do not envisage obtaining top level management or even board position (Kamp 2007).

The Danish construction industry has traditionally recruited its higher level managers amongst engineers, technicians and craftsmen. More recently an influx of business educated managers has occurred, patterns similar to the Swedish industry. A Danish investigation of the 2300 major companies, including 81 construction companies covering the period 1992-2001 (Kossowska et al 2005) showed an unchanged low level (from 3,8 % to 4, 6%) of female high level managers and members of boards of directors in construction. IFKA (2007) arrived at the same result, finding that 70% of the investigated 100 construction companies count between 0-15% of female managers. IFKA (2007) points at lack of systematic recruitment policies in construction companies as explanation for the low level of female managers, IFKA (2007) thus finds that a mere 2% of the investigated construction firms are systematically recruiting women.

In the figure below it can be seen that it is the sector Civil engineering (42) who exhibits the most women in all the categories (board, and board of directors, and CEOs. We also find the single female CEO in the Danish construction sector, active in a company grounded by her father. The sub sectors Construction of buildings (41) and Specialised construction activities (43) are placed lower and the Nordic multinational companies (NMC)) are placed lowest. This result is different from the common patterns of Norway and Sweden above which have higher figures and where the sector Construction of Building has a higher representation.

Compared to EU (2012) investigating the listed Danish companies and finding Danish women on the boards represent 16%, (January 2012) these figures are far lower. The EU-27 average is at 14%. In Denmark the biggest companies perform the poorest. The Nordic Multinational group exhibits a mere 6, 5 % representation in board and board and directors.

In table 4 is entered the female representation at the 21 largest general contractors in DK

NACE	number of comp	Board			Board of Directors			CEO		
		Men	Women	%	men	women	%	men	women	%
41	5	28	3	9,6	16	1	5,9	5	0	0
42	6	36	7	16,3	15	1	6,3	5	1	16,7
43	4	20	2	9,1	13	1	7,1	4	0	0
NMC DK	6	29	2	6,5	11	0	0	6	0	0
	21	113	14	11	55	3	5,2	20	1	4,8

Table 4: Gender representation at a sample of Danish Contractors

Kossowska et al (2005) found that the female representation at boards in construction has been falling from 1992 (15,4%) to 2001 (10,3 %). The sample above shows that in three sub sectors the decline have continued, yet the overall average (11%) show a small climb since 2001. Holt et al (2006) found that Danish construction encompasses the lowest female representation in executive boards and as CEOs (2%).

Kossowska et al (2005) using public statistical data, finds that large Danish companies with female board representation either perform better or equal to other Danish companies over the period 1992-2001. This must be considered as an unclear answer to the issue of possible linkage between women at board level and performance, merely showing that companies with female representation have not performed worse (!). This being said, we have not found any study trying to measure the role of male as a factor for success or performance.

The three Scandinavian countries are in many ways comparable. And actually the educational and labour market pipelines are providing the qualified women for the Danish, Norwegian and Swedish construction industry. In Norway and Sweden one can evaluate how the models of regulation for gender representation in enterprises have worked in construction In Sweden. it appears that it has been accepted for years and years that companies signalised that they will improve next year, yet without realising this improvement. Avery long period of obligatory enterprise policy for equality shows very slow growth and therefore rather poor results. The development in Norway towards equal gender representation is the strongest of the three countries, yet legally it is actually less different from the other Scandinavian countries that one might expect. The public regulation covers the ASA segment (listed companies) and this

is of less substantial importance for construction as there are four ASA, including the largest Norwegian owned contractor, however the symbolic soft institutional environmental influence remains.

Table 5: Comparative results

	number of companies	Board % Women	Board of Directors % Women	CEO %Women
Norway	26	14,9	16,2	6,1
Sweden	23	13,3	15,3	5,4
Denmark	17	11	5,2	4,8
NMC	27	11,1	8,2	3,7
sum/simple average	93	12,575	11,225	5

The three Scandinavian countries are in many ways comparable. Currently, the educational and labour market pipelines provide qualified women for the Danish, Norwegian and Swedish construction industry. How models for regulating gender representation in enterprises have worked in construction in Norway and Sweden can be evaluated. In Sweden it appears to have been accepted for many years that companies signalled improvement next year without realizing any improvement. A very long period of obligatory enterprise policy for equality shows very slow improvement and therefore rather poor results. The development in Norway towards equal gender representation is the strongest of the three countries, but legally the differences are actually less than could be expected. Public regulation covers the ASA segment (listed companies), which is of less substantial importance for construction, since it has only four ASA companies. One is the largest Norwegian-owned contractor, however, so some symbolic soft environmental institutional influence remains.

The initiative taken by the current Danish government can be seen as a combination of voluntary and softened obligatory elements. Companies are requested to develop a gender policy but not necessarily apply it. It is also proposed to cover only the 1100 largest companies. There are clear parallels to the Swedish legal framework, but it is difficult on the basis of the recent Danish (almost) decline in female representation to judge how Swedish-type soft policy would work in a Danish context. It barely works in Sweden. The Swedish set-up also includes a set of sanctions for non-compliant companies. Even though it has a symbolic function in Sweden, it remains to be seen whether it could be adopted in Denmark.

To summarise, in Norway, the level of representation in top-level management and boards of the construction industry is the highest in this investigation, yet lower than expected in view of Norway's international reputation. Although official law aims at higher female representation in boards, it only applies to a specific, small group of public limited companies.

The advancement of female representation in Sweden is slow, even after a long period of public legislation. The level of female managers and board members in construction in Denmark seems to be frozen during the period 2001-2012 at a level lower than the EU-27 average. The Nordic multinationals do not break with the three national patterns of male dominance; rather, male dominance is reconfigured in the multinational context.

The analysis also showed a pattern of different institutions of gender representation and recruitment. Although male domination prevails, the other institutions found – token and politically correct – represent a symbolic and substantial alternative to male dominance. In Norway, male dominance versus token and politically correct have almost equal weight.

In the Swedish context, polarization between male dominance and politically correct does represent a promise for the future; however, its long history gives little support for optimism. Nothing in the institutional constellation seems to be able to prevent backlashes in representation.

In the Danish context, women representation appears to be supported by a voluntarist institution, co-shaped and reinforced by the intersected domains of the individual, enterprise, boards and external environment. This institution legitimizes the requirement that women have to climb the career ladder alone. The increasing number of women engineers in construction contrasts with the few women at higher management levels. This tension is unlikely to create the institutional change by itself, but the presence of qualified talented managers at lower levels provides a strong basis for governmental reform to change the institution. However, such reform must be different than that presently proposed, a half-obligatory compromise solution.

The empirical investigation also contributed an understanding of the degree of globalization of gender representation institutions in the construction sector. The result was clear dominance of re-configured male domination, yet with an element of political correctness at the very top.

Insight was also gained into how national legal reforms play a smaller role in the complex interplay between institutions. Norway has the highest female representation in construction and the lowest impact and legislation, while the Swedish law has functioned for a long time with very modest results.

Finally, it should be noted that equality can be understood as equal representation, whereas the entire discussion and analysis here has revolved around representation by one, two or three females in large assemblies of men. So there is still room for improvements next year.

Obligatory initiatives

The obligatory means are typically public regulations intervening in the business domain, as other labour market regulation. Equal opportunity legislation has been in place in a number of societies, including the EU for quite a long time. In the later years the application of quotas of gender in board representation has increased as well as the debate about them.

Outside Scandinavia, many European countries such as Belgium, France, Italy, the Netherlands and Spain have introduced laws of gender quotas for company boards. France alone accounts for about half the increase in female European corporate board members over 2012 (EU 2012). The level has improved by 10% in one year, 2011, to an average of 22%, way higher than the Danish figures (Brunet and Dumas 2012). Similarly, the Netherlands law reform has improved female participation from 9% in 2009 to 19% in 2012 (EU 2012). The

voluntary and obligatory types of initiatives reviewed – each supporting the two institutions, the voluntary and the politically correct – may be well stabilized and normalized on restricted arenas (e.g. Norway, Storvik and Teigen 2010), but on larger European and US arenas they contested by research on their results and impact (Barnard et al. 2010, Bilimoria and Liang 2012).

As an overall status of these voluntary and obligatory initiatives, the outcomes are mixed and contested (Barnard et al 2010, Bilimoria & Liang 2012), but/and the slow expansion of women's representation in boards is one of the more disappointing development (Bilimoria & Liang 2012), whereas the expansion of obligatory quotas move the public debate and the research in new more promising directions

To conclude the construction sector seems to be more than other sectors resistant to the increase of women participation. Legal frames developed to increase this participation are not unequivocally giving quick and convincing results. As stated before if society wants seriously to attain a kind of parity between genders, isolated initiatives won't be enough to generate global changes. These changes need to be supported in the different spaces, but they are nevertheless a gesture in the right direction.

The point of the report is though not to attain parity between men and women in construction but to define under which circumstances women who want to enter the sector should be able to do it freely under the same conditions as their male colleagues. The next chapter looks at what are the common challenges and problems they face to do so.

3. Barriers to minorities in the construction industries

The following presents a summary of information gathered during both the literature search and the qualitative study. It starts with a detailed analysis of the situation for women in the construction sector and gives a short glance at the issues encountered by ethnical minorities. Though there are cultural and institutional differences between the three countries, they do share many similarities, so the issues are presented in common. The construction sector has also many features which are cross national and there are many similar findings in the studies on minorities in the Anglo-Saxon literature.

Women

There are many studies documenting the situation of women in the construction sector and why the female workers would avoid working in the industry as a whole and the trade sector in particular.

We propose to list the some of the most common barriers found during the study.

Education

The choice of trade career is usually made rather early; 15-16 years old have to decide for their professional path. Statistics show that girls interested in technical and scientific domains tend to stay in the school system and take a gymnasium education. Studies have reported that girls are systematically streamed away from science, trades and technology careers by the very educational pathways intended to expose them to opportunities in these sectors. They show that gender stereotypes are reproduced in high schools in students' interactions with teachers and career counsellors who tend to steer female high school students toward university rather than other forms of education. It is believed that since teachers and counsellors usually have a university education, they are positively biased toward this recommendation (CSC 2010).

There is a lack of information about the trade as many teenagers of both genders have never been on a building site. Lack of role model 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).

In Scandinavia, construction related professional schools tend to have a low reputation as often they welcome teenagers with an unsuccessful school profile and don't have apparent selective demands to the potential candidates. They may appear as the educations for the "looser". Moreover apprentice positions at practitiners may be difficult to obtain for minorities (interviews). These two issues may diminish the attraction of the sector.

Technical educations are often advertised in terms of what they can technically achieve. Very seldom are the qualities and competences of a profession or position advertised by profiling the more organizational and communicational competences. Over focusing on the technical skills may reduce female interest (Buser, 2011). Managing the building place for example requires much more social and communication skills then the picture of a bridge would let you think so (Buser 2013).

The working practices of the construction industry are characterized by long hours in geographically diverse locations, and the conventional view is that these characteristics disfavour female participation (Dainty and Lingard 2006; Aulin and Jingmond, 2011).

According to Worrall *et al.* (2010), the conjunction of these inflexible working practices is the most concrete barrier for women, as far as entering the construction industry goes.

Once enrolled in the education, being very few females in a group of male is seen at the advantage as the girls receive a lot of attention from boys. This "princess" treatment is shared around culture as one of the Chinese interviewed recognised having in her country benefited from the same attention (interviews). Teachers do recognise benefits for the class and the teaching of having even a slightly mixed audience (interviews). At university, gender differentiation is disregarded by the students as being non-existent. Teachers may have discriminating behaviour though not always in favour of boys (interviews).

Within schools, initiative supporting female students may not receive the expected support as it seems that the potential participants may not see the need or benefits in participating in such processes (interviews). Girls in schooling age seem to resist the reduction of their individuality to their gender.

Last initiatives to provide minorities with specific help tend to reinforce the belief that they have indeed a deficiency that is link to their minorities characteristics: girls are bad at math, they need help because they are girls, providing help for them as girls reinforce the belief that girls are not as well equipped as boy to do math. This reinforcement of deficiency is acknowledged by both the members and non-members of the minorities concerned (Steele 1997).

Barriers at work within construction

Barriers to women's access to industry careers persist in recruitment, apprenticeship training and employment and promotion.

On explication among practitioners is that there is no women to hire and therefore no need to give specific attention to them (CSC 2010). Another is that women are not physically strong enough to endure the construction work. Olofsson (2004) shows however that most women claim they can cope with the physical part of the job, but what many recognize is that it requires being psychologically strong to be on a building site.

According to Arditi and Balci (2009), there is an informal recruiting process within the construction industry that disadvantages women. Dainty and Lingard (2006) found that women, in comparison to men expressed greater concerns regarding the problematic employment process and expressed clear frustrations towards the informal recruitment processes within their respective companies. The construction industry is viewed as a "personality industry" where personal contacts are the prime source for recruitment, downplaying personal skills and education (Dainty and Lingard, 2006). The same study points out at stereotypical expectations of personal priorities such as women being more attentive to a good work-life balance than men as barriers to recruitment. Worrall (2012) shows that women in construction tend to be overlooked when career advancement opportunities arise.

According to Worrall (2012), younger women, i.e. 25-45 years old, struggles with sexist attitudes, perceptions and behaviours. They also state that women face "old boy" networks and cultures, something Dainty and Lingard (2006) confirms with 30% of the women in their survey feels that the "old boys' network" is alive and well in their organization. Women expressed a need to fit in to the accepted behaviour of the workplace, which can even mean comprising their 'female' identity (Clarke *et al*. 2004). What Dainty et al. call undoing their gender.

The interviews also underline that women think they have another set of criteria when reflecting on their careers. They see their priority given to job interest and satisfaction rather than to promotion and position which they tend to attribute to males' ambitions.

Dainty et al. (2000) find anger and resentment towards women being manifested in overt and covert discriminatory behaviour. These actions include explicit gender harassment and bullying both verbally and in physical attitude. Women exposed to such treatment may not report it of fear of being scorned by their male colleagues (Söderberg, 2009). Axelsson (2010) reports that in Sweden, 49% of the female leaders have experienced obstructive attitude by male workers and colleagues and 36 % of women managers have felt selves harassed. Situation which may eventually leads them to leaving the industry.

Another aspect is the physical organisation of the building site and male dominated office where no private space is reserved for women. For example, temporary sanitary facilities are usually unisex, often without privacy and generally not well maintained. Female workers also complain about the ill-fitting personal protective clothing and personal protective equipment not to size or not fitting which eventually can compromise personal health and safety (Aulin and Jingmond 2011).

Ethnical minority

All of the interviews have been hold in Sweden, but literature once again tend to demonstrate that though there cultural differences, segregation mechanisms tend to be reproduce whatever the context .

The interviewees reveal frustration from foreigners in term of integration and possibilities in Sweden but they also demonstrate strategies to adapt to the situation.

General to both sex is the feeling that one being foreigner starts a bit lower in terms of skills and competences in entering professional discussions or negotiations. Many women and foreigners have heard the "*nobody is here"* when a visitor enters the office and that no native male worker is at sight. Ethnical and gender difference are social marker which seems to disqualify, common to many interviewees is the feeling that you have to do more than members of the majority to convince your interlocutor. This feeling of disqualification is shared by students who even if they are fluent in Swedish find it difficult to find summer jobs or employment in Sweden in the construction industry.

Another disturbing aspect is the paternalistic behaviour of maybe a bit older men with foreign women, who feel *like being treated like a child by their interlocutors* regarding both their social and professional competences in the company (interviews foreign women).

Being systematically associated to you country or continent of provenance and having to face the prejudice associated with it is also a tiring experience. Sentence starting by in *Africa or in China you …* does not reflect the possible diversities and contrasts that these after all rather large and populated places may offer. The closer to Sweden the more precise the stereotypes, Germans or Danes are associated as well with stereotypes link to the perception of their countries of origins.

One interviewee who has lived 15 years in Sweden compare *is staying in the country to being a visitor in somebody house, you never feels totally at ease but people are very helpful and try to help you and provide you with what you need but mind you if your start behaving as your are home than friendship is over and your are asked to leave.*

The interviewees coming from other continent see their successful professional integration as being lucky. They mention friends or acquaintances, who with the same background and potential have not succeed to make a leaving according to their expectations in the construction industry.

To summarise for both minorities equality in the building sector seems not yet to be attained.

Voluntary initiatives and best practices

Voluntary initiatives

Companies and individuals across the world have taken a number of voluntary initiatives to improve equal opportunities. This encompasses developing a corporate governance code (EU 2012), either by complying with an existing code or by creating it internally. Internally voluntary efforts encompasses company programs such as leadership development (Hopkins et al 2008), mentoring programs, flexible work hours and on-site childcare, which could help employees in advancing their careers as well as achieving work–life balance (Michailidis et al 2012). Raiden and Caven (2011) find widespread informal practices in their UK construction investigation. As pointed out by Barnard et al (2010) there is a risk when designing such efforts to fall back to essentialists notions of gender, for example assuming that child care would be the women's responsibility, a finding similar to Raiden and Caven 2011 and thereby reproducing stereotypes.

External voluntary effort would typically encompass networking. Recruitment for board and strategic management memberships is often described as a network activity where existing member of the boards recruit their contacts and protégées (Heemskerk and Fennema 2009). Networks of (male) managers with for example similar educational background would thus obtain social cohesion, often described as the 'old boys network'. Heemskerk and Fennema (2009) find that the social cohesion in the Dutch business elite declined between 1976 and 2001 and norms of corporate governance have become blurred. As a result, one could expect a more diverse recruitment for the elite might occur. Such development could be supported by female managers forming networks, the creation of recruitment databases etc. In a Dutch context however Heemskerk and Fennema (2009) experience the intervention of a law reform, making female representation in boards obligatory, leaving it redundant to speculate whether the more open network would voluntarily have acted in new ways. Barnard et al (2010) point out that even if women's networks are important, the making of the networks are considered laborious and engineering professions might not consider it as part of their job. O'Neill et al (2011) demonstrate how networking is part of a voluntary institution as the strategic managers interviewed placed responsibility for women's career advancement upon the individual. However the situation was no different with the women employees interviewed. Both groups choose to overlook the firm's male-dominated culture and other organizational constraints. One could hope that if the number of women increases the culture rapidly changes, but this refuted by Gale (1994) who argues that those who have chosen careers in a particular workplace culture may have interest in promoting and maintaining it against change. Besides the author adds, that some women may have chosen careers in construction because in some ways they like the culture, implying that they are also part of maintaining it.

Kalve and al. (2006) examine the effects of seven common diversity programs—affirmative action plans, diversity committees and taskforces, diversity managers, diversity training, diversity evaluations for managers, networking programs, and mentoring programs—on the

representation of white men, white women, black women, and black men in the management ranks of private sector firms. Each of these programs may well increase diversity. To date however there has been little evidence one way or the other. Whereas there has been a great deal of research on the sources of inequality, there has been little on the efficacy of different programs for countering it. And they conclude: *"best practices" are best guesses. We know a lot about the disease of workplace inequality, but not much about the cure* (2006).

4. Suggestions for integration

The following is the result of the study made in the frame of Fliba. Inputs to build this list are coming from the interviews with the different actors of the Fliba projects, the answers of the 7 interviewees, groups and informal discussion and the results of the literary review as well as construction companies own practices either taken directly from their websites or publicised by different medias.

The suggestions are divided in two groups: the first concerns education, the second the working place and the companies. To provide benefits, best practices should be locally contextualised for example the Star women network at NCC is working well in Sweden but far less successful in Denmark. Local conditions and interests should therefore co-shape the design and implementation of these practices.

The roles of professional associations, unions and public regulations are not discussed here.

Education

Opening the building site and valorise the trade education

For many both boys and girls the building site is an anonymous place, the trades related to the sector are unknown. Informing about the sectors in schools and organising visit on site could be a way to create interest for the construction.

> **Solution**: Professional educations as well as the possible career in the trade should be valorised and advertised for.

Business as usual

So far many schools 'initiatives to attract girls to technical education have been carried by having specific seminars/open days at school/university, given them more of what they got already in school, such as initiatives to make technologies and science more fun or to create a girls friendly environment by using specific environment and colours

Similarly, universities give more to the schools 'kids /gymnasium students of what they already have had, kind of ignoring the work done in previous education. The focus is on technological artefacts, the things you do, but not on jobs as practices and competences. For civil engineers, the focus is on what they build not on what the job to build is about. On building sites, engineers are busy talking to people the whole day. The social, organisational and management aspects of the building site are nevertheless not apparent when schools advertise on their engineering educations

Universities over-focus on their own competences and underline the academic quality of education as well as their technical development potential. In doing so, they forget that 95% of their students are not staying in the university after their education. They exhibit a kind of identity problem as they forget that they produce professional civil engineers to concrete

working place. The focus is on their own practice and understanding of what engineering and research are, and not so much on what the daily reality of the profession.

> **Solution**: initiatives to attract more girls could for focus on the job as such and the different competences, skills needed to do it. Joint action where enterprises and education institutions should gather to advertise for the professions, visit on the work place instead of visit of university…

Specific actions for minorities

Minorities supportive actions may be understood as discriminating: I need help because of my gender, my skin colour or my country of origin. Initiatives to provide minorities with specific help tend to reinforce the belief that they have indeed a deficiency that is link to their minorities characteristics (girls are bad at math, they need help because they are girls, providing help for them as girls reinforce the belief that girls are not as well equipped as boy to do math). Positive discrimination is still discrimination; young adults may react against this singularisation. Ex girls network in KEA, princess and attention

> **Solution**: generic support towards specific issues (language, gender, culture) should be integrated in the general curricula and not appear only as a specific support for the "minorities" as these initiatives legitimate the differentiation-discrimination process…. The solutions could address these issues by giving support under cover, math support to all of them who need help.

> **Solution:** Mentoring works well for all

Repetition of genders' stereotypes

There is a polarization male female in term of what each gender can and are good at: ex boys are good at physical activities; girls good at writing and making things nice so they can write reports…

> **Solution** : work in term of competences of what is needed to be a good professional and what competences or skills are needed to become one; a carpenter still has to present an offer to his client and should be able to formulate it in proper language

Stereotypes of genders done by the teachers

As teachers we may reproduce the sexual/ minorities' stereotypes within being aware of it, boys tend to, girls tend to, middle-east students tend to- This is done sometimes based on our experiences. By doing so we may contribute to the self-fulfilling prophecy types of reaction. By expecting specific types of behaviour we may contribute to them to happen. I expect a foreign student to perform less well than native students and therefore modify my supervision and lower my expectation with her/him, by doing so I contribute to a less qualified final result.

> **Solution:** be fair to all students**,** and treat their problem as individual not related to their being part of specific minorities

Role models

The percent of women and foreigners in professional schools and universities are very low, besides homogenous society are not very good at integrating the new comers as the sectors is said to be built on networks based relations

Teaching staff should be representing the same diversity as the one expected from the students

Not only in terms of representations but also in term culture (more evident in professional education than at universities)

> **Solution:** be aware of diversity, if impossible in the teaching staff, invite successful professional belonging to minorities to come and present their work (but not publicized that they are invited because of their belonging to a specific minority).

Construction sector

Work life balance

The working practices in the building site are said to be demanding, long working hours and diverse locations not fitting with work-life balance, which is conventionally viewed as more important for women. This situation is by now a characteristic for many sectors, besides new male generations may also have new demands regarding work-life balance

> **Solution**: study on the building site shows that working hours may not be as extensive as the myth is saying. Usually professionals manage several projects at the same time; it should be therefore possible to work on a part time basis (with few or one project).

> **Solution:** management position in the construction sector does not imply to work on the building site, better information on the different jobs covered by the profession should help to differentiate activities.

The second issue is related to employment and promotion processes, the construction industry is said to be a "personality industry", personal contacts and relations are more important than skills and career-related experiences.

> **Solution:** create and maintain network initiatives within enterprises and between professionals among minorities, ex Stella in NCC SE

The third issue is the discrimination taking place at construction sites; verbal abuse, lack of respects etc… from both crews and colleagues.

> **Solution**: to inform and prepare minorities to discrimination and segregation mechanisms instead for pretending that these are not existing.

> **Solution**: rigorous politic of non-discrimination on the building place.

> **Solution**: Normalization of women presence ex NCC DK specific site outfits for women as well as women facilities on site.

Carrier path for women

There are very few researches about carrier and success of women and minorities for that matter in the construction sector and even less information about competitive definitions of what a successful career maybe if not measured in term of position power and salaries.

> **Solution:** instead for having women complying with male ambition, why not having a society debate about work-life balance and define commonly new ways to define success.

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