Unraveling the Driving Factors behind the Exodus of Female Construction Professionals from the Construction Industry

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Abstract

The construction industry, accounting for 9% of Tanzania's workforce and boasting a growth rate of 7.9% in 2019, remains predominantly male-dominated despite its vital economic role. Within this sector, professionals encounter various barriers that impede their ability to achieve a healthy work-life balance, a challenge exacerbated for women who bear additional responsibilities for family care. Consequently, many women opt to exit the industry due to the inherent challenges posed by the nature of construction work. This study delves into the factors driving female construction professionals to exit the construction industry and provides recommendations to foster their retention within the industry workforce. A total of 20 factors were identified from literature, and data was then collected from 43 construction practitioners using structured questionnaire, and 10 semi-structured interviews. Quantitative analyses employed descriptive (central tendency) and inferential statistics (one sample t-tests), while directed content analysis was used for the qualitative data. From the findings, the most significant factors encompassed work-life balance, gender stereotypes and discrimination, prolonged working hours, work-related stress, and the prevalence of male-dominated work environments. Advocated solutions included achieving gender balance, enhancing job training, refining work-life balance, facilitating role models and mentors, and implementing tailored career development programs for women.

Keywords: *Construction Industry; Driving Factors; Female Construction Professionals; Tanzania*

Introduction

Apart from being the world's largest employer, providing employment to a large number of skilled and unskilled workers, the construction industry is a critical sector in any country's economic growth and a major contributor to any country's GDP. However, the CI has been identified as a sector unsuitable for women due to the nature of most of its work being physically demanding also the industry

is regarded as a 4D industry with a negative public image of being dull, dirty, dangerous, and difficult, resulting in few women participants (Nalitolela et al. 2020).

Tanzania in recent years has witnessed growth in the construction industry. This includes both private projects such as residential and commercial real estate as well public projects such as construction of roads, railways, bridges, water systems, telecommunications, and air transport networks to name a few. The industry has a constant need for skilled people, yet the number of women in the CI is low and has increased little, despite efforts by construction companies and government to promote gender balance and diversity (Cass, 2020). Various efforts have been done by the government to increase the number of professional women in the CI however, the level of involvement of women in construction is still low. In 2005 the number of women participating in construction activities was low by 22% as compared to men (Kikwasi, 2005) while Nalitolela et al. (2020) argued that issues of inequality and women underrepresentation in construction are found in the industry, despite its continuation on being one of the key sectors in the economy.

Due to Tanzania's cultural diversity, some women are socialized to believe that they do not belong to non-traditional careers such as construction and are advised to rather follow 'soft skills' careers. Their primary duty is to be nurturers of the family with their sole dedication in taking care of their husbands and children while their spouses are going to work. Putting women's roles in such stereotypical boxes is one of the reasons women fail to remain in the CI.

According to Msangi (2018), barriers facing women quantity surveyors in construction include; sexual harassment, lack of professional development, discrimination, negative perception on women capabilities, work life balance and isolation of job onsite. These and many more could be reasons as to why most of women quantity surveyors choose to not to remain in the CI. Nalitolela (2019) analyzed barriers facing employers in recruiting professional women in building construction companies in Tanzania. The study found that some of Barriers faced by employers on recruitment of professional women in the CI were; image of the industry, lack of good staff development plan and negative perception of female capabilities from other company stuff.

One of the most difficult barriers in the construction workforce is the industry's failure to recruit and retain women. Construction is still classified as a non-traditional occupation for women by the U.S. Department of Labor Women's Bureau (2012), which is reflected in the historical employment statistics. Although increasingly more women have found employment in the CI since the 1980s, this growth is not substantial and the proportion of women in the industry has not meaningfully changed (Arcand, 2016; Bureau of Labor Statistics 2016, 2019a; Goss Graves et al. 2014). A study by Turnbull (2016) stated that women leave the CI at a much higher rate than men while Alfred (2022) also submitted that in Tanzania female construction professionals have a tendency to leave the industry. So, the current study seeks to achieve the following objectives:

- To examine factors driving female construction professionals working in the Tanzania Construction Industry to leave the industry.

- To recommend practical solutions to deal with the factors.

Literature review

Tanzania Construction Industry

The CI is a sector of the economy that transforms different resources into constructed physical economic and social infrastructure necessary for socio-economic development. The CI in Tanzania includes real estate, transport infrastructure, and other civil works including water supply. The structure of the Tanzanian construction sector is made up of the Ministry of works, Transport and communication and its agencies, consultative body, regulatory boards and clients, suppliers of construction materials and equipment, consulting firms, construction enterprises, private firms, and professional associations. Recently Tanzania has witnessed growth in the CI including both private projects such as residential and commercial real estate as well as public projects such as water systems, telecommunications, construction of roads, railways, bridges, etc. Tanzania's construction industry remained relatively strong in 2020, as it expanded by 9.1% - although this reflects a slowdown from the annual average growth of 14.3% from 2016 to 2019. In recent years, construction has been a major contributor to economic growth with increased investments in infrastructure. Between the first and third quarters of 2021, the construction sector contributed 15 trillion TZS reaching almost 6.7 billion USD to Tanzania's GDP (Alfred, 2022). The value added to the economy by the sector in 2020 reached 19.4 trillion TZS (8.4 billion USD), the largest since 2015 (ibid).

Female Construction Professionals in the Construction Industry

The CI has long been seen to be controlled by men. Women make up only 2.2% of the construction workforce in Indonesia (Harrison, 2020). In USA, women account for only 10.9% of all construction workers (Bureau of Labour Statistics, 2022). Considering that women make up 47% of all employed individuals, this means that the construction industry is only benefitting from about 1.25% of women in the workforce (ibid). On the other hand, the CI is facing labour shortage, forcing it to think outside the box to attract workers by increasing women's participation. This represents the current state of female participation in the construction business which has to be improved. Women still have more opportunities to join in the construction business as a result of such support. Similarly, Gyasi (2012) suggested that, despite the numerous barriers that women face in the construction sector, women have tremendous potential to address the problem of worker shortage.

Women's retention issues in this industry have also become a hot topic. According to research conducted in Singapore, 33% of female engineers have left the construction sector, with another 29% considering doing so (Leow& Yean, 2008). Women still have difficulty occupying senior management roles, according to studies in the United Kingdom, despite equal opportunity recruitment methods (Watts, 2009). In reality, the performance of female project managers is not significantly different from male project managers' performance (Arditi&Balci, 2009).

Driving Factors Facing FCP While Working in the CI

For women, the difficulties of breaking into traditionally male-dominated occupations, combined with a refusal to accommodate them in those industries, makes the surroundings unappealing for attracting and retaining large numbers of women in these fields. In addition, a lack of awareness of the obstacles women encounters and how they adapt in these situations may contribute to women's lack of integration and development in traditionally male-dominated occupations.

Therefore, the goal is to influence FCP to remain working in the CI, so as to ascertain the Barriers they face while working in the CI. Barriers are demonstrated in Table 1.

Table 1 Summary of supporting literature on the causing barriers

Code	Driving Factors (DF)	Supporting literature
DF1	Gender stereotype and discrimination	Du Plessis & Barkhuizen, (2012); Shantz & Wright, (2011)
2	Inadequate training and mentorship	Du Plessis and Barkhuizen, (2012)
3	Women's stereotypical gender role expectations	Damaske, (2011); Shantz & Wright, (2011), Nalitolela (2019)
4	Characteristic male-type behavior expectations	Du Plessis & Barkhuizen, (2012); Akingbade (2010); Eliufoo, H.K., (2006)
5	Work stress	Cha, (2013); Rosa, J et al., (2017)
6	Work-life balance	Martin, P., & Banard, A., (2013)
7	Male dominated work environments	Cha, (2013); Lewis-Enright et al., (2009)
8	Long working hours	Martin, P., & Banard, A., (2013); Eliufoo, H.K., (2006)
9	Competition among colleagues	Eliufoo, H.K., (2006)
10	Personal difficulties	Martin, P., & Banard, A., (2013)
11	Harsh working conditions	Damaske (2011); Ashraf, (2007); Hicks, (2012)
12	Lack of visible and tangible strategies to empower women in an organization	Hicks, (2012)
13	Minimal recognition on project sites	Eliufoo, H.K., (2006)
14	Absence of positive role models/mentors	Rosa, J et al., (2017); Lingard, H., & Lin, J., (2012).
15	Slow career progression	Danziger & Eden, (2007); Cha, (2013); Lewis-Enright et al., (2009);
16	Lack of recognition and encouragement from supervisors	Damaske (2011); Ashraf, (2007); Feyerherm & Vick, (2005); Hicks, (2012)
17	Boring repetitive tasks	Lingard, H., & Lin, J., (2012).
18	Lack of opportunities for career advancement	Martin, P., & Banard, A., (2013); Eliufoo, H.K., (2006)
19	Sexist attitudes, behaviors and perceptions	Rosa, J et al., (2017); Eliufoo, H.K., (2006)
20	The demands of parenting	Lingard, H., & Lin, J., (2012).

Research Methodology

A convergent concurrent mixed-methods technique was used to examine Driving factors encountered by FCP working in the CI that make some of these females choose to leave the industry. This approach was adopted because it provides strength that counter-balance the differing strength and non-overlapping weaknesses of both quantitative and qualitative approaches. Also, the convergent concurrent model was specifically necessary for validity or corroboration purposes (Creswell, 2014). The steps followed builds on Kavishe et al. (2019) and Author et al. (2022), and included: 1) a review of the literature; 2) a pilot survey; 3) a questionnaire survey; 4) interviews; 5) statistical analysis; and 6) content analysis. Step 3 used a more cross-sectional approach and employed descriptive characteristics.

According to Creswell (2014), such an approach entails simultaneously gathering and evaluating data for qualitative and quantitative research.

Population and Sample*:* The target population was Female Architects, Civil engineers, Quantity surveyors, Construction managers and Building surveyors in Dar es Salaam region. For this study, a list of registered Architects, Building surveyors, Construction managers and Quantity surveyors from Architects and Quantity surveyors registration board (AQRB) and registered Civil engineers from Engineers registration board (ERB) was obtained. After a thorough sorting, the researcher identified a total number of 88 registered female architects, 95 registered female quantity surveyors, 9 registered female building surveyors, 14 female registered construction managers and 130 registered female civil engineers obtaining the targeted population of 336 as shown in Table 3.

Table 2 The study population of female construction professionals

Construction profession	Population of female construction professionals	Sampled female construction professionals
Architects	88	20
Civil engineers	130	30
Quantity surveyors	95	22
Building surveyors	9	2
Construction managers	14	3
Total	**336**	**77**

A sample size of 77 FCP was obtained by applying Yamane's (1967) simplified formula given by;

$$n = \frac{N}{1 + N(e)^2}$$

(1)

Where:

n = sample size; N = size of population; e = level of precision

$$Sample\ size\ = \frac{336}{1 + 336(0.1)^2} = 77$$

(2)

Using formula 1, a sample size of 77 FCP was obtained, and this was deemed sufficient because the minimal sample size for quantitative studies should not be less than 30 respondents (Mason, 2010). Systematic probability sampling was adopted for FCP who are still working in the CI, since we are analyzing FCP that have left the industry and those who are still working in the CI. Kothari (2014) asserts that systematic sampling introduces a component of chance by selecting the initial unit through the use of random numbers. This sample technique is more convenient and affordable, and it may be employed with ease when there is a huge population. Every fourth name was chosen as a sample for this study from the

list of registered FCP. Snowball non-probability sampling was used to identify female CI professionals who had left the industry.

Interviewees' Selection: Snowball and purposive sampling were used to analyze FCP who have left the industry and those who are still working in the CI, respectively. The use of non-probability purposive sampling allowed the researcher to select the information that was required and find people who could and would share it based on their knowledge or experience (Lewis and Sheppard, 2006). Snowball sampling was employed because of how frequently it is used for sample traits that are rare to find and thus require referrals. Snowball sampling, one of the most common sampling techniques in qualitative research, relies heavily on the features of networking and suggestion. In most cases, researchers start with a limited group of initial contacts who are invited to participate in the study and match the research criteria. The willing participants are then asked to suggest more persons who fit the research criteria and potentially be willing volunteers. These additional contacts then recommend additional potential participants, and so on. As a result, researchers use their social networks to make initial connections, and as a result of these connections, sample momentum grows, catching an ever-expanding chain of participants. Including both groups (FCPs who are still working in the CI and those who have left the industry) was vital to provide a more comprehensive understanding of the driving factors and solutions within the construction industry for women. This holistic view enables researchers and stakeholders to address the issue of gender diversity and retention in the sector more effectively.

Survey Administration: A structured questionnaire with a 5-point Likert scale was used to improve the quality and rate of responses while lowering respondents' degree of annoyance. Closed-ended questions were employed to facilitate the straightforward gathering and examination of factual information, offering a constrained set of potential answers (Alinaitwe and Ayesiga, 2013). Respondents were tasked with expressing their views on the driving factors that causes FCPs to exit the TCI using a 5-point Likert scale, where 5 signified strong agreement, 4 denoted agreement, 3 represented an average viewpoint, 2 indicated disagreement, and 1 stood for strong disagreement. The application of a structured questionnaire with a 5-point Likert scale aimed to enhance both the response rate and the quality of responses while minimizing respondents' frustration levels. A structured questionnaire was useful to the researcher since it reduces researcher's engagement and incorporates a large number of respondents at lower costs and efforts (Saunders et al., 2007). A survey pilot test was conducted using 6 experts who were purposively selected from the construction practice so as to attain coherence and relevance of questions. Google Forms were used to collect the data since it is simple to use and does not allow missing values. Researchers like Samsudin et al. (2021) have recognized the value of Google forms as a tool for questionnaires. A total of 43 of the 77 completed questionnaires were returned, reflecting a response rate of 55.84%. This was deemed appropriate because the typical response rate for construction organizations is between 20 and 30% (Odeyinka et al., 2008).

Interviews: In the interview survey, a number of ten semi-structured interviews were conducted with FCP that the researcher believed would yield useful information. The sample size of 10 was adequate because the number of interviews needed to obtain saturation varies between 5 and 50 (Patton, 2002). In a manner similar to this, studies using a qualitative approach frequently have a smaller sample size than those using a quantitative approach. (Marshall et al., 2013). The interviews lasted 20 to 60 minutes each. The interview subjects were carefully selected in order to acquire precise and thorough information.

Data Analysis

Quantitative Data Analysis

The IBM SPSS statistics version 25 was used to analyze the collected data. Frequency analysis and measures of central tendencies were used, as these are commonly used to determine the frequency with which various categories of a phenomenon occur (Forza 2002, Author et al. 2022). One sample t-test was used to assess the significance of the Driving factors causing FCP to leave the CI, and the cut off point for a 5-point scale was set at '3.5' ($\mu= 3.5$), with a 95% confidence level, where μ is the test value.

Qualitative Data Analysis

Content analysis was employed to examine the data because it is methodical, adaptable and reduces data. The study adopted specifically a directed content analysis as a major technique to analyze qualitative data while partially supplemented with the summative technique for quantitative counting of phrases in course of analysis (Hsieh and Shannon, 2005). This approach was similarly used by Kavishe and Chileshe (2020) as well as Kavishe et al. (2018). Quantitatively presenting content analysis findings typically requires showing coding frequencies, percentages, or inferential statistics along with quotes (Flick 2014; Kondracki et al. 2002). As a result, quantitative analysis of qualitative data was carried out, with a focus on measuring the frequency of specific phrases or content. A table containing percentages and frequency of counts served as the final data representation. Additionally, quotes from interviews with persons were provided.

Survey Sample Characteristics

Table 3 summarizes the profiles of the questionnaire respondents such as job position, work experience, education level and age.

Table 3: Demographics of respondents

Characteristics	Frequency	Percentage (%)
Job position		
Architects	9	20.9
Building surveyors	4	9.3
Civil engineer	5	11.6
Construction manager	9	20.9
Quantity surveyor	16	37.2
Total	**43**	**100**
Education level		
Bachelor's degree	26	60.5
Master's degree	10	23.3
Doctoral degree	7	16.3
Total	**43**	**100**
Working experience		
Less than 5 years	19	44.2
5-10 years	19	44.2
Over 10 years	5	11.6
Total	**43**	**100**

Age range		
20-30 years	22	51.2
31-40 years	14	32.6
41-50 years	4	9.3
Above 50 years	2	4.7
Less than 20 years	1	2.3
Total	**43**	**100**

- *Job Position:* Civil engineers made up 11.6% of the respondents, quantity surveyors made up 37.2%, construction managers made up 20.9%, architects made up 20.9%, and building surveyors made up 9.3%. The results indicate that more quantity surveyors are willing to engage, showing that they are ready to do so in order to spread awareness of the subject at hand.
- *Work experience:* 44.2% had 5-10 years of experience, 11.6% had more than 10 years, and 44.2% had less than 5 years. This suggests that the vast majority of respondents have knowledge of the CI, making them significant to the study.
- *Education qualification:* 60.5% of respondents had a bachelor's degree, 23.3% had a master's degree, and 16.3% had a doctoral degree, showing that most respondents are knowledgeable about the study's topic.
- *Age:* The data showed that 32.6% of people were between the ages of 31 and 40, 51.2% were between the ages of 20 and 30, 9.3% were between the ages of 41 and 50, 2.3% were under 20 years old, and 4.7% were over 50. As a result, it can be concluded that respondents of all ages are knowledgeable about the subject under investigation.

Profile of Interviewees-Individual Characteristics

Table 4 shows the profile of the 10 interviewee respondents' according to their job position and years of work experience.

Table 4 Profile of interviewees

SN	Interviewee	Job position	Years of experience
1	A	Former practicing Quantity surveyor	5-10 years
2	B	Former practicing building surveyor	Less than 5 years
3	C	Quantity surveyor	Over 10 years
4	D	Quantity surveyor	Over 10 years
5	E	Architect	Over 10 years
6	F	Former practicing Civil engineer	Less than 5 years
7	G	Architect	5-10 years
8	H	Civil engineer	Over 10 years
9	I	Civil engineer	5-10 years
10	J	Former practicing quantity surveyor	Less than 5 years

As can be observed, the majority of interviewees (4/10, 40%) fell into the over 10 years category, while the remaining (3/10, 30%) were in the less than 5 years category and (3/10, 30%) were in the 5-10 years category. This demonstrates that every interviewee is aware of and educated about the study. Additionally, the majority of the interviewees (6/10, or 60%) were FCP who are currently employed in the industry; the remaining (4/10, or 40%) were FCP who opted to leave it. This suggests that respondents who are aware of and knowledgeable enough about the subject were interviewed.

Results and Discussion of Findings

Overall Ranking of Driving Factors

A total of 20 Driving factors were identified and researched to determine the degree to which they cause FCP to leave the CI. Mean score analysis and one-sample t-tests of Driving factors causing FCP to leave the CI are depicted in Tables 5 and 6, respectively. When the means are equal, the criterion with the lowest standard deviation is ranked higher, as a lower standard deviation indicates that the values are closer to the calculated arithmetic mean (Author et al. 2022).

Table 5 Ranking of the Driving factors leading FCP to leave the CI

Table 6 Results of one-sample t-test for the Driving factors

Test Value (μ = 3.5)	Sig.	Mean	95% Confidence Interval of the Difference		Significance
riving factors (DF)		**TNR**	**MS**	**SD**	**Rank**
Work-life balance		43	4.30	1.103	1
Gender stereotype and discrimination		43	4.26	1.157	2
Long working hours		43	4.23	1.130	3
Work Stress		43	4.21	1.125	4
Male dominated work environments		43	4.16	0.974	5
The demands of parenting		43	4.16	1.111	6
Characteristic male-type behavior expectations		43	4.14	1.125	7
Personal difficulties		43	3.98	1.165	8
Sexist attitudes, behaviors and perceptions		43	3.91	1.250	9
Competition among colleagues		43	3.88	1.219	10
Harsh working conditions		43	3.81	1.097	11
Absence of positive role models/mentors		43	3.47	1.241	12
Women's stereotypical gender role expectations		43	3.44	0.881	13
Slow career progression		43	3.33	1.085	14
Minimal recognition on project sites		43	3.26	1.115	15
Boring repetitive tasks		43	2.91	1.019	16
Lack of opportunities for career advancement		43	2.81	1.277	17
Lack of recognition and encouragement from supervisors		43	2.79	1.166	18
Inadequate training and mentorship opportunities		43	2.77	1.288	19
Lack of visible and tangible strategies to empower women in an organization		43	2.77	1.445	20

Notes: MS = mean score of the Driving factors causing FCP to leave the CI, where 5 = Very Serious; 4 = Serious; 3 = Average; 2 = Low; 1 = Not at all.

The higher the mean score the more critical the Barrier; TNR = Total number of respondents; SD = Standard deviation.

Driving factors (CH)	t	df	2-tailed	Difference	Lower	Upper	(p < 0.05)
CH1	4.771	42	0.000	0.802	0.46	1.14	Yes
CH2	4.285	42	0.000	0.756	0.40	1.11	Yes
CH3	4.249	42	0.000	0.733	0.38	1.08	Yes
CH4	4.136	42	0.000	0.709	0.36	1.06	Yes
CH5	4.461	42	0.000	0.663	0.36	0.96	Yes
CH6	3.911	42	0.000	0.663	0.32	1.00	Yes
CH7	3.728	42	0.001	0.640	0.29	0.99	Yes
CH8	2.684	42	0.010	0.477	0.12	0.84	Yes
CH9	2.135	42	0.039	0.407	0.02	0.79	Yes
CH10	2.064	42	0.045	0.384	0.01	0.76	Yes
CH11	1.877	42	0.067	0.314	-0.02	0.65	No
CH12	-0.184	42	0.855	-0.035	-0.42	0.35	No
CH13	-0.433	42	0.667	-0.058	-0.33	0.21	No
CH14	-1.054	42	0.298	-0.174	-0.51	0.16	No
CH15	-1.436	42	0.158	-0.244	-0.59	0.10	No
CH16	-3.815	42	0.000	-0.593	-0.91	-0.28	Yes
CH17	-3.522	42	0.001	-0.686	-1.08	-0.29	Yes
CH18	-3.989	42	0.000	-0.709	-1.07	-0.35	Yes
CH19	-3.730	42	0.001	-0.733	-1.13	-0.34	Yes
CH20	-3.325	42	0.002	-0.733	-1.18	-0.29	Yes

Notes: Results significant at 95% when p<0.05; *df*= Degree of freedom=42

Examination of Table 5 shows that the first highest ranked Barrier is *Work –life balance* which had a mean of 4.30. As shown on Table 6, this Barrier was statistically significant (t (42) = 4.771, p = 0.000 < 0.05). The second and third overall ranked Driving factors were *Gender stereotype and discrimination* and *long working hours* which had mean of 4.26 and4.23 respectively. The second ranked Barrier was statistically significant (t (42) = 4.285, p = 0.000 < 0.05) while the third ranked was statistically significant at (t (42) = 4.249, p = 0.000 < 0.05) as shown on Table 6 respectively. The fourth overall ranked Barrier was *Work stress* which had a mean of 4.21 and was also statistically significant (t (42) = 4.136, p = 0.000 < 0.05). Notwithstanding the higher ranking and statistically significance of the foregoing factors, the higher standard deviation values of 1.103, 1.157, 1.130 and 1.125 respectively

indicates a lack of consensus in the ranking among respondents.   The fifth overall ranked Barrier was that of *Male dominated work environments* which had mean of 4.16 with standard deviation of 0.974 portraying existence of consensus among respondents in their higher ranking of this Barrier. Congruently, this Barrier was statistically significant (t (42) = 4.461, p = 0.000 < 0.05).

In the lower quartile, *Boring repetitive tasks* (mean=2.91), *Lack of opportunities for career advancement* (mean=2.81), *Lack of recognition and encouragement from supervisors* (mean=2.79), *Inadequate training and mentorship opportunities* (mean=2.77), and Lack of visible and tangible strategies to empower women (mean=2.77) were ranked 16th, 17th, 18th, 19th and 20th respectively. All the 5 Driving factors within the lower quartile were statistically significant with. *Boring repetitive tasks* (t (42) = -3.815, p = 0.000 < 0.05), *Lack of opportunities for career advancement* (t (42) = -3.522, p = 0.001 < 0.05), *Lack of recognition and encouragement from supervisors* (t (42) = -3.989, p = 0.000 < 0.05), *Inadequate training and mentorship opportunities* (t (42) = -3.730, p = 0.001 < 0.05), and Lack of visible and tangible strategies to empower women (t (42) = -3.325, p = 0.002 < 0.05).

Interview Findings - Driving Factors

Table 7 presents a summary of the Driving factors encountered by FCP in the CI that make some of these females choose to leave the industry as perceived by interviewees.

Table 7 Driving factors causing FCP to leave the CI

Driving factors	Interviewees											
	A	B	C	D	E	F	G	H	I	J	*f*	%
Work-life balance	√		√	√		√		√	√	√	7	70
Existence of gender stereotypes forms			√	√	√		√	√	√		6	60
Long working hours	√				√	√	√			√	5	50
Workplace stress		√		√			√				3	30
Masculinity work environment								√	√		2	20
Lack of job opportunities	√	√			√	√					4	40
Loss of interest			√							√	2	20
Personal difficulties		√	√								2	20
Delay of payment			√								1	10
Pregnancy and health issues	√						√				2	20

Notes: *f* = Frequency; % = Percentage

Based on frequency (f) counts, the most critical Barrier in ranking order are as follows: (1) Work-life balance (f=7); (2) Gender stereotypes and discrimination (f=6); (3) Long working hours (f=5); (4) Lack of job opportunities (f=4) and (5) Work stress (f=3). The least were: (6) Loss of interest (f=2); (7) Personal difficulties (f=2); (8) Male dominated work environment (f=2); (9) Pregnancy and health issues (f=2); and (10) Delay of payment (f=1).

Discussions

Work-Life Balance

This is the most encountered Barrier by FCP working in the CI that make some of these females choose to leave the industry which had the mean of 4.30. This Barrier also converged with what was revealed from the interview findings, from table 7, 'work-life balance' was mentioned seven (7) times by interviewee A, C, D, F, H, I and J as a Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. This finding is also supported by studies conducted by Martin and Banard (2013). This was expressed in the interviews whereby interviewee A, C, F, H, I, D and J pointed out marriage/family life can cause a lot of distraction for a woman who is passionate about chasing their career and sometimes it is very difficult to balance both making some of these women decide to quit pursuing the industry. As interviewee A stated; **"**My husband was moved to Mbeya (a city in Tanzania) at that time for work, he is an Engineer. So, I decided to quit and relocate with my husband and children"

Interviewee D further stated;

> After getting married it becomes hard travelling when you have children at home, the domestic responsibilities at home become of primary importance too. Also, it becomes difficult because it involves working late not having enough time to spend with family sometimes, sometimes the workload becomes too much which involves taking work at home because you have all these deadlines you have to meet

Gender Stereotypes and Discrimination

The second ranked most encountered Barrier by FCP working in the CI that make some of these females choose to leave the industry, which had the mean of 4.26. This Barrier also converged with what was revealed from the interview findings, from table 7, 'existence of gender stereotypes forms' was mentioned six times by interviewee C, D, H, E, G and I as a Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. This finding is also supported by studies conducted by Du Plessis & Barkhuizen (2012) and Shantz & Wright (2011). The persistence of gender inequality in the industry has been shown to hinder women's advancement, retention and recruitment and is mostly due to societal norms and organizational constraints (Sang & Powell, 2012). This was expressed in the interviews whereby interviewee C, D, G, H, I and E stated that unfair treatment has a direct impact on gender balance in a workplace this can be in many forms such as promotions, pay raises or even sexual harassment. And the need to constantly prove yourself twice just because you're a woman so as to show that you are capable as much as men Interviewee C stated that;

> You will enter in the office and someone will say because she is a woman then that woman cannot go to the field, so that person keeps you in the office. While in real sense as a professional you are supposed to go to the field and see what is happening which can broaden your knowledge, because when you are on site you learn more than just sitting in the office.

She continued saying "If there is a difference in salary between those whom you have the same qualifications with, same years of experience can make someone quit their job"

Long Working Hours

The third ranked most encountered Barrier by FCP working in the CI that make some of these females choose to leave the industry, which had the mean of 4.23. This Barrier also converged with what was revealed from the interview findings, from table 7, Long working hours was mentioned five times by

interviewee A, E, F, G and J as a Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. This finding was supported by Martin & Banard (2013) and Eliufoo (2006) who claimed that the nature of works in the CI require long working hours and the mentality is set that long working hours means working hard therefore women are forced to adapt with that.

Interviewee G stated that; "Long hours of work is also a Barrier because it involves lots of time of working late to meet deadlines sometimes even carrying work home"

Interviewee A further stated; "Sometimes when tendering for new projects you are forced to stay up very late at work finalizing tendering documents for submission"

Work Stress

The fourth ranked most encountered Barrier by FCP working in the CI that make some of these females choose to leave the industry, which had the mean of 4.21. This Barrier also converged with what was revealed from the interview findings, from table 7 'Workplace stress' was mentioned thrice by interviewee B, D and G as a Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. This finding was supported by Martin & Banard, (2013) who claimed that physical and mental stress are brought on by the demanding nature of labor-intensive employment and by working in environments that are inherently hostile to women. Innstrand, Langballe, Falkum, and Aasland (2011) observed that across eight distinct occupational groups, women generally reported higher levels of emotional stress and physical depletion than men.

Interviewee D stated that; "There is constant pressure and stress to meet deadline of completion of works especially for as women who are expected to also make full time for family"

Male Dominated Work Environment

The fifth ranked most encountered Barrier by FCP working in the CI that make some of these females choose to leave the industry, which had the mean of 4.16. This Barrier also converged with a similar finding from the interview, from table 7 'Masculinity work environment' was mentioned twice by interviewee I and H, as a Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. This finding was supported by Du Plessis & Barkhuizen, (2012); Cha, (2013); and Eliufoo, (2006) who claimed that male dominated workplaces support the support the male model of career progression, in which achievement is correlated with putting in more time and being present, and they constitute a sort of hidden marginalization for many women who have to juggle family obligations.

Moreover, some new Driving factors were identified by interviewees whereas interviewees A, B, E and F mentioned Lack of job opportunities as the Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. As most FCP who left the industry agree that the only reason, they do not practice is lack of opportunity to enter the industry since companies do not offer jobs, most companies say they do not have enough credits to employ more employees that is why they got comfortable working in other industries other than construction. Also, interviewee C and J mentioned Loss of interest as one among the Driving factors encountered by FCP working in the CI that make some of these females choose to leave the industry. Interviewee B and C mentioned personal difficulties as another driving factor encountered by FCP working in the CI that make some of these females choose to leave the industry. Additionally, interviewee A and F added that 'pregnancy and health issues' is also another Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. They claimed that pregnancy complications cause some women to fail to perform their jobs efficiently. The nature of works in the CI requires someone who is physically and

mentally fit. As interviewee A stated; "When I got pregnant, I got really sick and because of that I had to pause pursuing my career hoping that I will come back when I get better"

Also, interviewee A Mentioned Delay of salary payment as another Barrier encountered by FCP working in the CI that make some of these females choose to leave the industry. She claimed that companies that delay to pay their employees discourage their employees thus reducing their performance.

She stated that; "The company I was working with at that time was not paying their employees for a long time because it was going through a financial crisis, I then decided to leave because I saw I was putting much energy and effort where I do not gain anything in return"

This was expressed as employee's career should be looked as a whole and different sets of formal training, developmental activities and relationships should be offered to keep employees motivated to work and improving specific competencies related to employee's current job which will prepare the employee for career advancement.

Recommendations for Future Practice

Gender Balance

It was discovered that given that gender balance can be promoted by increasing the number of professional women in the CI, which tend to be dominated by men, employers will need to balance the gender of professional employees working for their companies. According to Nalitolela (2019), good employment practices in the CI should be based on treating all workers fairly. The "glass ceiling" issue is reflected in the underrepresentation of women at senior levels, which is linked to a number of structural and attitudinal hurdles that may be gender-centered or organizational-centered (Fernando et al., 2014).

Job Training

Job training is necessary for construction professions so as they advance their knowledge about job scope and how to do the job. By bringing in a trainer from outside, the organization's experienced employee can conduct the training. The training can be delivered both within and outside the organization's facilities. This finding is supported by Msangi (2018) and Boxall et al., (2015).

Improving the Industry's Work-Life Balance

Keeping a work-life balance is a Barrier that affects many industries. Even though both men and women must balance the demands of job and home life, women still handle the majority of household chores in most households. It is clear that pregnant women need the option of taking an optional job break as well as additional breaks while raising children. This finding was also supported by CIB World Building Congress (2007) and Nalitolela (2019).

Provision of Role Models/Mentors

It is crucial to emphasize representation while trying to appeal to young people. For young girls to be inspired and to be able to picture themselves in a field like construction, they need to see role models that look like them. A fantastic strategy to combat gender stereotypes is to highlight historical examples of women who have achieved success in the building sector.

Career Development Programs for Women

Employee's career should be looked as a whole and different sets of formal training, developmental activities and relationships should be offered to keep employees motivated to work and improving specific competencies related to employee's current job which will prepare the employee for career advancement. Career guidance in early stages of career selection as measure to use to make more FCP decide to remain working in the CI. It is important to offer career guidance to young females who are planning to pursue a career in the CI. Also, formulating strategies to empower professional women in organizations is another measure to use to make more FCP decide to remain working in the CI.

Conclusions

This study explored the most top ranked Driving factors encountered by FCP that make some of these females choose to leave the CI, which are as follows; work-life balance, Gender stereotype and discrimination, long working hours, Work stress and Male dominated work environment. These findings corroborated with the findings from semi-structured interviews. While the minor Driving factors that were ranked last are boring repetitive tasks, lack of opportunities for career advancement, lack of recognition and encouragement from supervisors, inadequate training and mentorship opportunities and lack of visible and tangible strategies to empower women in an organization.

Regarding Strategies/Measures, the top ranked methods were: (1) Gender balance; (2) Job training; (3) Improving the industry's work-life balance; (4) Provision of role models/mentors and (5) Career development programs for women. Also, these findings converged with those from semi-structured interviews. The least ranked SMs were: (1) Appropriate work environment; (2) Broaden people's perception of women's abilities; (3) Invest in early attraction; and (4) Enhance a genuine commitment to flexibility.

Contribution

Through identification and ranking of the Driving factors and Measures to overcome these Driving factors, this study helps to encourage retention of FCP to continue pursuing the CI and to increase women's participation in the industry which could help reduce skills gap, increase employment and productivity of women and reduce occupational segregation.

Implications

The research findings have some practical and policy implications, particularly for construction organizations operating in the Tanzania construction sector and the government in general. In practice, the findings of this study can help inform decision-making at various management levels in the construction industry. For example, the findings can help human resource managers in various construction organizations comprehend how gender-biased practices affect FCP career development, and gender equity. The study's findings have important implications for the construction industry, which needs to increase the number of females in all cadre from tradesmen and professionals to managerial roles. Among critical barrier identified was a male-dominated work environment. When this issue is addressed, more FCP will be able to advance in their careers and be retained in the construction industry. As a result, the retention of FCP will reduce gender gap in the CI and help to achieve sustainable development goals of gender equality and reduced inequalities. For *policy makers and gender advocates,* the critical Driving

factors identified and the advocated solutions in this study could be taken up to develop appropriate mechanisms to educate and raise awareness of those Driving factors in the industry.

Limitations and Suggestion for Future Research

The following limitations are noted: Firstly, the data for this study came from women who worked in the CI in the Tanzanian province of Dar es Salaam. Because of the disparities in geographic and economic jurisdictions, the conclusions of this study cannot be generalized to other regions of Tanzania or beyond. Future research ought to be extended to cover other regions of Tanzania and beyond. Finally, another limitation of the study was that the data analysis for the quantitative approach was based on descriptive statistics such as measures of central tendencies and inferential statistics such as t-tests as these aligned with the objectives of the study. Future studies could use multivariate analysis methods such as factor analysis and structural equation modeling to contribute further to understanding the Driving factors faced by FCP in practice, as well as their relationships among the large number of variables.

Disclosure Statement

No potential conflict of interest was reported by the authors

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