

**CHALLENGES OF WOMEN IN CONSTRUCTION INDUSTRIES: A CASE STUDY OF
THE F.C.T BUILDING INDUSTRY, NIGERIA.**

BY

**ABUBAKAR, Sakinah
2016/1/63784TI**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

APRIL, 2023

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**A RESEARCH PROJECT SUBMITTED TO THE
DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION
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FOR THE AWARD OF BACHELOR OF TECHNOLOGY DEGREE (BTECH) IN INDUSTRIAL AND TECHNOLOGY
EDUCATION**

April, 2023

DECLARATION

I, ABUBAKAR, Sakinah with matriculation number 2016/1/63784TI an undergraduate student of the Department of Industrial and Technology Education certify that the work embodied in this project is original and has not been submitted in part or full for any degree in any university or institution. All citations and information used in this research work have been referenced accordingly.

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2016/1/63784TI

.....

Signature & Date

CERTIFICATION

This project has been read and approved as meeting the requirement for the award of B.Tech degree in Industrial and Technology Education (Building Technology), school of science and Technology Education, Federal University of Technology Minna, Niger State.

DR B.M Mohammed

Project supervisor

Signature & Date

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Head of Department

Signature & Date

External Examiner

Signature & Date

DEDICATION

This project is dedicated to Almighty Allah my Creator, for giving me the opportunity to witness to the end of my programme. I also dedicate this work to my parent, siblings, and my friends for their support financially and morally through the course of my study. May Allah reward you all, Ameen.

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ABSTRACT

The study was designed to assess the challenges facing women career advancement in building construction industries in federal capital territory, Abuja, Nigeria. Three research questions and three hypotheses were formulated to guide the study. The target population for the study consists of 65 respondents which includes 50 site engineers and 15 managers in F.C.T. A structured questionnaire was used as the instrument for data collection which was face validated for construct and content by three experts in the Department of Industrial and Technology Education, Federal University of Technology, Minna. A 45 item questionnaire was used to collect data. Mean and standard deviation were the statistical tools used to answer the three research questions that guided the study while t-test was employed to test the hypothesis at 0.05 level of significance. The study shows that the result from the response of the respondents revealed that all the item which deals with the building constructional skills performed by women in the construction industries in F.C.T, the challenges faced by women in carrying out the building constructional skills in the industries in F.C.T, and also all the items in strategies for overcoming the challenges faced by women in career advancement in building construction industries. The findings revealed that women in construction industries face a lot of challenges working in the construction industries.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the study

The leading image of construction is a male dominated industry requiring physical strength and a good tolerance for outdoor conditions. The industry is perceived as a masculine, hostile, challenging and dangerous environment. Unfortunately, the construction industry fosters a male only image, entrenched in a culture that undermines women (Naoum *et al.*, 2020). Reconciling this image with women participation is a bit problematic. The Nigerian construction sector has low involvement rate for women. Currently there are less than six million women employed in Nigeria, accounting for almost twenty two percent (22%) of the work force. Construction Industry can be defined as a sector of national economy engaged in preparation of land and building structure, alteration and repair of buildings structures, and other real property (Henilane, 2016). This means the construction industry has different range of operation and also involves many activities that relates directly or indirectly to the industry. The industry therefore employs a lot of workers who carry out various activities that supports and complements construction.

The construction industry is one of the sectors that employ's a huge number of people and it also gives employment to all kinds of people both skilled and unskilled. According to the Construction Industry Training Board, women only account for nine percent (9%) of the construction workforce, this means construction continues to be a male centered industry, and therefore proves to be a challenging environment for women. It has been noted that the construction industry has been described as masculine occupation and it is characterized by long working hours with routine, working on week-ends and has therefore been termed nontraditional

occupation for women. Even though it has been adjudged that women have potentials that are necessary for national and global impact, Afolabi *et al.*, (2017) reported that women are still been denied basic rights. In general employment rights, Bhalla *et al.*, (2017) reported that there exist direct or indirect discrimination against women workers. This can be found in recruitment, selection for skilled jobs, wages, and promotions in the construction industry.

Although, the construction industry is the largest employer of labor Afolabi *et al.*, (2017), most of its employees are men. Despite efforts through national and international equality policies, Galea *et al.*, (2015) observed that the construction industry remains one of the most male dominated sectors. Afolabi *et al.*, (2017), stated the construction industry is territorial in nature, with a reluctance to accept women's skills.). A staggering Fifty one percent (51%) of women said they were treated poorly purely because of their gender (Union of Construction, Allied Trades and Technicians UCATT, 2014). It is imperative to acknowledge that the issues raised here are not because of women being incapable of executing the jobs to which they are tasked, but purely for their gender. Based on their gender, women believe there are significant barriers that prevent them from staying in their roles and from rising above certain levels in the industry. This is a major barrier to entry, development and retention of women in the construction sector (Okeke *et al.*, 2018). Also (Hegewisch & O'Farrell, 2015) argued that this should be a concern for equity and economics.

Studies from highly populated countries such as Pakistan (ILO, 2011) in Williams and Shahid (2016), India Saha and Kumar (2018) have shown that women's participation in the construction industry is statistically poor. In developed economies, such as the United Kingdom, the case is no different. Park *et al.*, (2015) recorded that only eleven percent (11%) of women are actively engaged in the construction sector. Taylor and Hardin (2017) states that their engagement is

mostly in administrative positions, or other positions not directly involved in the construction process. Adogboet *et al.* (2015) noted that this is the only position gap in the Nigerian construction industry where the male-female ratio is remarkably bridged at thirty eight percent (38%) to sixty two percent (62%) for female and male respectively. Salignac *et al.*, (2018) stated that for the construction industry to progress, there is an active need to challenge the realities of a patriarchal construction industry. Salignac *et al.*, (2018) opined that women face a multitude of challenges in the construction industry. Myriads of these challenges are exhibited in cultural and structural Afolabi *et al.*, (2017) Construction barriers, such as harassment and discrimination, limited networking opportunities and long and inflexible working hours.

Other barriers to women participation in the industry include the poor image of the industry (Afolabi *et al.*, 2017), heavy nature of industry, weak forbearance working in open conditions, harsh weather and foul language emotional stress and sexual harassment, lack of career knowledge, family interferences, lack of construction industry mentors, coequal pressure and low educational attainment, vulnerable working environment (Nicolaidou *et al.*, 2021). However in Nigeria, Salami *et al.* (2022), stated that, the construction industry contributes reasonably to the gross domestic product by means of contributing to the social and economic development goals through the provision of shelter, infrastructures and employment.

But women who account for forty nine percent (49%) of the Nigerian population (National Bureau of Statistics (NBS), 2010) in Titilayo *et al.* (2016) are not involved and neither are they participating in this contribution and this is a waste of creativity on available human resources. Other factors affecting career progression of women in Nigeria construction industry and these include pregnancy, maternity, child bearing, emotional stress and glass ceiling effect. In addition to the glass ceiling effect, women face the leaky pipeline whereby change in career break to have

a family and other personal decisions make them exit the industry and subsequently struggle to re-enter (Najimu, *et al.*, 2022).

In this context, this project would present a review of the study on the current status of women in construction. In particular, it discusses particularly the challenges faced by women in terms of admittance, development and retaining them. The challenges include power distance, individualism, nepotism, sociocultural perceptions, and gender discrimination.

1.2 Statement of the problem

A particular pressing issue in the construction industry is gender balance. Research shows that a significant amount of barriers hinders the career advancement of women in the construction industry and this is a major concern for the industry. Women face a number of challenges in the industry which hinders their career progression and these includes the nature of industry and the severity of roles which are the major cultural barriers to women participation in the industry (Rosa *et al.*, 2017). Gender influence balance is also a challenge in the construction industry, the human resource management in construction industry is used to giving preferential treatment to men ahead of women because they believe that men are more productive and superior in the industry. However, it is stated that despite all effort that have been made towards overcoming those challenges that women face in the industry, it is a still a major concern that women will still experience various challenges in this male dominated industry. Against the backdrop, there is a need to evaluate the challenges faced by women in Nigerian building Construction Industry.

1.3 purpose of study

The purpose of this study was to determine the challenges facing women advancement in building construction industries. Specifically, the research sorts to;

1. Identified the challenges faced by women in carrying out the building construction skills in the industries
2. Determined the jobs carried out by women in the construction industries
3. Identified the strategies for overcoming the challenges in career advancement of women in building construction

1.4 significance of study

The findings of this study were of immense benefit to the women in building construction career, building clients, the contractors, academicians and researchers. The finding would benefit the building construction industry as the study can transform to increase productivity, innovation and better decision-making. In this study, the results are expected to be particularly beneficial to women that are already working in building construction companies and also for female graduates as well as undergraduates so they can be prepared before working in the construction industry. Also, the finding will be beneficial to professional bodies like Nigeria Institute of builders (NIOB), Nigerian Society of Engineers (NSE) who have been trying their utmost best to solve the problem of gender imbalance in construction industries. Furthermore, these professional bodies will benefit from this research work because it will educate them on how to create an enabling environment for women and strategies for enrolling and retaining women in the industry.

1.5 Scope of the study

This study is delimited to determining the building constructional skills performed in the industries, the challenges faced by women in carrying out these building constructional skills in all types of building construction (which includes apartment building and also high rise) in the

industries and the strategies that should be adopted in overcoming these challenges in building industry.

1.6 Research questions

1. What are the challenges faced by women in carrying out the building construction skills in building industries
2. What are the jobs carried out by women in building construction industries
3. what are the strategies for overcoming the challenges face by women in career advancement in building construction

1.7 Hypothesis

The study was guided by the following hypothesis which was tested at 0.05 level of significance.

Ho1: There is no significant difference in the mean responses of the site engineers and managers on building construction skills perform by women in the industries

Ho2: There is no significant difference between the mean response of the site engineers and managers towards the productivity that women carry out in the construction industries.

Ho3: There is no significant difference in the mean responses of the site Engineers and managers on the strategies for overcoming the challenges faced by women in career advancement in building construction industries.

Chapter Two

2.0 Literature Review

The literatures are reviewed under the following sub-headings;

- ✓ The Nigerian construction industry
- ✓ Women participation in the construction industry
- ✓ Women managers in construction industry
- ✓ Perception of women in the construction industry
- ✓ Challenges to the participation of women in construction industries
- ✓ Strategies for improving the participation of women in the construction industries

2.1 The Nigerian construction industry

The construction industry has been the subject of much research, not only because it is crucial in periods of economic growth but also for community development (Albert *et al.*, 2018). The term “construction” involves multiple activities, including erecting new buildings and engineering structures, as well as maintaining and repairing of existing facilities. Construction has been defined generally as a sector of national economy engaged in preparation of land, alteration and repair of buildings structures, and other real property (Obiageli *et al.*, 2015). This means the construction industry has different scope of operations and also involves many activities that relates directly or indirectly to the industry. The building industry therefore employs a lot of workers who partake in various activities that support and complements construction. A recent report by Kaliannan *et al.* (2018) has revealed that the construction industry in Nigeria is expected to expand greatly from 2016 to 2020 with its output value increasing at a Compound Annual Growth rate of 9.49%. In 2014, the Nigerian economy was declared the largest African economy. The declaration followed (and was a result of) the country’s rebasing of its Gross

Domestic Product (GDP) between 1990 and 2010, this resulted in an eighty nine percent(89%) increment in the estimated size of the economy, thus surpassing South Africa. The significance of the construction industry is often measured by its impact on the gross domestic product (GDP) and the amount of employment it creates.

2.2 Women Participation In the construction industry

Even though it has been acknowledged that women have potentials that are necessary for national and global impact, Abdulraheem (2017) reported that women are still been denied basic rights. In general employment rights, Kumar and Rao (2021) reported that there exist direct or indirect discrimination against women workers. This can be found in recruitment, selection for skilled jobs, wages, and promotions. One such sector is the construction industry. Although, the construction industry is the largest employer of labor Afolabi *et al.*(2017), most of its employees are men. Despite efforts through national and international equality policies, (Sang & Powell, 2012) observed that the construction industry remains one of the most male dominated sectors.

The construction industry is territorial in nature, with a reluctance to accept women's skills. This is a major barrier to entry, development, and retention of women in the building sector. (Hegewisch & O'Farrell, 2015) argued that this should be a concern for equity and economics. Studies from highly populated countries such as Pakistan (ILO, 2011) in Shah (2018), Nigeria Adogbo *et al.* (2015) have shown that women's participation in the construction industry is statistically poor. In developed economies, such as the United Kingdom, the case is no different. Oktaviyanti and Mun'im (2019) recorded that only eleven percent (11%) percent of women are actively engaged in this sector. Mackay (2021) states this engagement is mostly in administrative positions, or other positions not directly involved in the construction process. The issue of women's underrepresentation in the construction industry has been of great concern.

Women in construction industry are perceived as the wrong gender to be in construction occupations that require manual dexterity and physical strength. According to the National Women's Law Center (NWLC, 2012) Escamilla, E., Ostada and Bigelow (2016), the construction industry generally employs less than ten percent (10%) of female in the workforce with even lower participation in specific crafts and trades. Many of the European Union countries today are suffering shortages in skilled labor, but project-based companies are more interested in seeking external resources, such as immigrant workforces, instead of looking at local resources (i.e., female workforce) to cover the increasing demand. In relation to this, women need to be aware that the industry does not guarantee high-paying jobs with benefits (Medardet *al.*, (2022)). It has rather been argued that women would rather choose a 'softer' option for their career paths rather than gain employment in the construction industry with the frequency of relocations to new construction sites and working long hours.

Construction industry research is largely concentrated in developed nations, with far less work on developing countries. For example, (Patel & Pitroda, 2016) recently noted that "The construction industry remains one of the least researched industries in India". This is a major concern for women because India currently has the highest percentage of women working in construction compared to men in this industry. General research from within the construction industry largely concentrates on organizational processes involving productivity, innovation, risk management, and human resource management. Research related to women is sparse and fragmented, relative to the size of the industry. Nationally and internationally, women in the construction sector are an under-represented minority group, both in the industry and as participants in research studies. With the exceptions of India and Thailand, the percentage of women working in the construction industry continues to remain low world-wide

2.3 women managers in construction industry

Among the 10% of the women in construction, more than 85% hold administrative and secretarial positions and the rest 15% fall under professional and craft level jobs which are classified as construction occupations. That means the percentage of women contributing to the mainstream construction is very low as 1.5% in the total construction workforce. Therefore when encouraging the recruitment and retention of women in the industry, it is important to focus on women who can be employed in construction occupations in order to ensure their contribution will be towards the mainstream construction. The under-representation of women in managerial positions may discourage potential female candidates who want to choose a career in construction by limiting the number of role models. Further, women gaining managerial positions will provide clear evidence that women really can progress in construction. This may also help to convince employers to consider the recruitment or promotion of women in construction. Women's presence at managerial positions is one of the most effective ways of ensuring their participation in decision-making. Lack of women on recruitment panels was identified as a particular problem for the low representation of women in construction as it increases the likelihood of informal recruitment practices in the industry (Kaklauskas *et al.*, 2018)

2.3.1 Role of women managers in construction

The positions of the women managers in their organizations demand certain leadership roles. There are several leadership roles identified by researchers. The following are the leadership roles (Milligan, 2016) taken into consideration.

Commander - the leader knows the destination and how to get there. It's the ability to steer the business in a direction that avoids being blindsided by changes in the business environment.

Conductor - the leader selects the right person for each position. It's the ability to assign roles to each person in such a way that best match his or her talents, skills, experiences and interests.

Team builder- the leader has the ability to instill in the team a commitment to a common end – goal, outcome – and a team spirit such that they strive to meet both team and individual goals.

Negotiator - the leader aims to enlarge the 'pie' so that both parties can end up winning. It's the ability to invent creative options and variables so that concessions can be traded whereby both parties get what they value most.

Motivator and cheerleader - it requires the leader to be positive, upbeat, and proactive even in difficult times.

Supervisor and coach – the leader has the ability to provide nurture the employee's self-motivation, be clear about performance expectations, provide abundance feedback, and continually provide opportunities for the employee/ student to develop

Promoter and spokesperson - the leader is the face of the research project to the outside world, which may include academic community, industrialists, funding bodies, professional bodies, general public

Acrobat - this role has two sides such as handling multiple tasks in a rapidly-changing environment; and balancing work, family, and personal life. The former demands the ability to keep several 'balls in the air' and is keenly aware of the differences between urgent and

important tasks whereas the latter demands the ability to balance the time and energy between one's career demands, family pleasures and obligations, and personal life.

2.4 Perception of Women in the Construction Industry

Perceptions and Bias: In contemporary discussions regarding diversity and inclusion, the word "bias" is used more commonly than "perception" without clarifying the degrees of consciousness and unconsciousness of these social behaviors. Bias can be implicit or explicit. Implicit bias is defined as an unconscious mental process, implicit bias can lead to attitudes or stereotypes, which directly cause scarcity of women in construction. Explicit bias is defined as the attitudes and beliefs we perceive on a conscious level about a person or group. Explicit bias can present as discrimination, hate speech and basis for unfair treatment. Ultimately, these phenomena are complex and studied by many in the fields of psychology, sociology, and Law. For brevity, in this paper, the word perception will be used to imply the conscious decisions, thoughts, and or evident attitudes of one group toward another group or system (e.g construction industry, companies, etc.)

2.4.1 Perceptions of the Construction Industry from the Non-Construction Sector

Traditionally, the construction industry is associated with masculine stereotypes influenced by male career models. Washington (2022) suggests that the construction industry's challenges in attracting skilled workers are primarily due to its image, the cyclical nature of available work, lack of job security, long hours, intensive labor, high risk, low pay, and the lack of gender diversity, at every level of employment. (McDermott et al., 2018) also find these factors as deterrents and barriers for some women. The common perception of the industry also assumes

that women are not valued, and it would seem to penalize those who need flexibility or part-time work (McDermott et al., 2018).

Meanwhile some studies suggest that women are detail-oriented, a skill required in the construction project management process, and that women executives are better communicators, more effective decision-makers, and seek less personal glory than their male counterparts (Jimoh et al, 2016). In summary, the perception of the construction industry, with regards to attitudes and behaviors towards women and the common work-life balance preferred by many women, tends to render an image that is disadvantageous towards women as workers, construction professionals, or leaders and much more tolerable of and welcoming to women as administrators (McDermott et al., 2018). Overall, construction has not been considered a fully diverse, equitable, and inclusive industry (Karakhan *et al.*, 2021) due to prejudices and unconscious biases.

2.4.2 Perception from women in the construction industry

Women in construction believe that inclusivity may not extend across organization Blundelet *al.* (2018),as illustrated by the lack of representation within the construction industry due to the industry's culture, the nature of the work and its project based set-up (Blundelet *al.*, 2018). From the perspective of women in construction, research indicates that women are generally not discouraged from working in a masculine environment, nothing that some women can relate to their operational male colleagues. It is note that these perceptions are from women in mature age group compared to the new entrants to the construction industry.

Many women believe that unconscious biases have negatively impacted the building construction work force. A study conducted by (Balch, 2019) in Karakhan *et al.*(2021) showed

that 60 percent of all workers in the construction industry believe leaders are biased towards individuals who look, think, and act like them. Researchers Xie and Lv (2016) cites example of gender biases affecting construction sector women and note studies of trends affecting trade women, engineers, and architects.(Opoku and Williams 2019) reports that some women share that second-generation gender bias (practices that may appear neutral or non-sexist but discriminate against gender because they reflect the values of one particular gender) in construction organizations, which often impacts a woman's career progression into leadership positions in the construction industry. These barriers derive from existing cultural and structural workplace practices.

A woman only focus group (consisting of women working in construction industry) suggested that women had limited opportunities to develop practical skills and were not afforded opportunities to explore their potential capacities to complete construction jobs (French and Strachan, 2015). The focus group suggested this problem is aggravated by the lack of role models within construction, especially at senior level.

Building construction industry women also noted that employment related operational and environmental risks, primarily related to poor working environment and conditions, accounted for safety concerns for women in the building construction industry (Mariam et al., 2021). Problems with machine vibrations, cumbersome and inconveniently shaped and sized construction equipment, and other construction activities pose significant ergonomic risks to women workers. Given the lack of gender diversity in building industry, it is not surprising that historically, Personal Protective Equipment (PPE), construction gear, and construction equipment were mostly designed for men. The construction industry is not the only industry that has experienced design bias.

2.4.3 Perception of women from men in the construction industry

The perception of women from men in the construction industry or working on construction sites vary. Some suggest that women in construction should not work on-site and are incapable of dealing with on-site issues (McDermot et al, 2018). Research indicates that some male perspectives of women include not having the physical or natural capability to use tools and equipment, often reinforced by experiences of witnessing women failing to operate heavy equipment successfully. Bridge *et al.* (2020) also notes that there are fears of accusations of sexual harassment from women because of unchanged male behavior. Some males from the research indicate that they believe women's presence evokes protective attitudes from males to prevent women from being exposed to risky situations and locker room behavior changes, such as swearing (Zhang *et al.* 2021). Women also suffer discrimination due to due to assumptions that family responsibilities make them costly and unreliable (Theriou *et al.*, 2019). Alternatively, some males state that they welcome the presence of women, view inclusion as an opportunity for diversified organizational culture Bridges *et al.* (2022), and feel women are more equipped to cope with any difficulties (Theriou *et al.*, 2019). One of the largest underrepresented labor resources in construction is women.

2.5 Challenges to the participation of women in construction industries

According to the existing literature, women face various challenges regarding their participation in the construction industry. The need to understand these challenges is essential to help improve so as to make the construction industry a more suitable place for women.

2.5.1 The glass ceiling and leaky pipeline theories in construction

The 'glass ceiling' theory depicts the challenges experienced by women when trying to grow within their sectors. The theory establishes the difficulties women face with lack of internal

promotion, thus preventing career progression. It can be described as the invisible, artificial barriers that prevent qualified individuals from advancing within their organization and reaching their full potential (De Freitas *et al.*, 2015). Today it is evident that ceilings and walls exist throughout most workplaces for minorities and women. These barriers result from institutional and psychological practices, and limit the advancement and mobility opportunities of men and women of diverse racial and ethnic backgrounds (Mainole *et al.*, 2017).

The 'glass wall' theory represents the traditional gender split in various sectors of the industry. The segregation of women in traditional, administrative or secretarial roles in comparison to men in manufacturing and production sectors. The glass wall which prevents the lateral movement of staff is not highlighted in the figure because it is argued that the construction professional does not necessarily move laterally with respect to roles. For example, a quantity surveyor will not seek to move to a structural engineering role as it is not their field of expertise. Furthermore, the administrative roles in the industry e.g. office secretaries are often occupied by women. In rare instances, these individuals move into professional roles but they will have to be trained for such specific roles in institutions such as universities or professional bodies. This can be argued because those roles are not particularly traditional construction roles. Some of these roles are secretarial and other clerical roles.

On the second tier which is the professional roles, more men enter the industry than women the type of role that professional bodies keep encouraging women to join. Currently, about eighty percent (80%) of professional roles in the construction industry are mainly occupied by men. In addition to the glass ceiling, women face the leaky pipeline whereby change in career, career break to have a family and other personal decisions see them exit the industry and subsequently struggle to re-enter. Mainole *et al.*(2017)the leaky pipeline describes the lack of women able to

remain within the industry Mainole *et al.*(2017) after entering through education. It acknowledged that once temporarily leaving the construction industry it becomes increasingly difficult to re-enter (Mainole *et al.*, 2017). The theory further depicts the issues that surround women throughout their career, the poor work-life balance, lack of internal promotion and continual lack of respect including instances of poor behavior women are exposed to throughout their time in the construction industry. An important situation that would also force women to leave the industry temporarily or permanently could also be the harassment and abuse suffered by women in the workplace (UCATT, 2014).

With all the above hoops that women have to jump through, those that retire or stay through till pension have rightfully been labeled as survivors. Having identified the existence of the glass ceiling (as opposed to hierarchical or occupational segregation) as a social phenomenon of many different communities as a real situation rather than a figment of women's imagination, the actual problem is that men above cannot see it as an institutional barrier faced by the women below (Rahim *et al.*, 2018). Both the glass ceiling and leaky pipeline are identified to be challenges that prevent women from succeeding in the workplace and the construction industry.

2.5.2 Stressful Nature of the Industry

The construction industry is highly known for excessive work stress that is counterproductive. This stress occurs when there is struggle to maintain and satisfy the demands placed on workers. According to Kamal *et al.*(2017), Construction professionals are subjected to a variety of stressors at work that have adverse impacts on their mental well-being, which in turn affects their productivity, performance and job satisfaction. According to Kamal *et al.* (2017), nearly seventy percent (70%) of construction professionals suffer from anxiety, depression and stress as a direct consequences of working in the construction industry. Most activities of the construction

industries are executed outdoor where it is affected by environmental factors. The poor work site conditions that results to stress include inadequate ventilation, poor lightning, excessive noise and unsafe work conditions. The organizational system of the construction industry which includes, the culture, harassment and discrimination is reflected in the leadership styles which in turn affect women participation.

2.5.3 Recruitment Policies and Procedures

In Nigeria, the Human Resource Management practices are still in infancy Akinnusiet *al.* (2017) and more needs to be done to ensure that there are more women employed in the job who can be supported to grow on the career. Matching them closely with mentors who can support them as they progress on the job is crucial to bringing down some of the barriers to the inequalities that begins at the point of recruitment.

2.5.4 Nepotism

Akinnusi *et al.* (2017) further noted that there are issues with family members getting the jobs in preference for skilled persons (issues around nepotism) which can be addressed with more openness and objectivity of the recruitment and selection process. Okeke, (2017) found out in a study carried out that there was a lot of interference and manipulation when it comes to recruitment and selection in Nigeria. They argued that factors such as ethnicity, nepotism and a complete disregard for efficiency was a concern and this had consequential effects in the competence of employees who were recruited.

2.5.5 Sociocultural Perceptions

Within the Nigerian society, women are expected to conform to certain gendered roles and Tellhed *et al.* (2017) found out that these perceptions are promoted which over time becomes a

challenge to women's participation in the construction industry. Within the Nigerian society, there is a general belief that some employment activities are only meant to be undertaken by men and not women and views such as this are shared by majority in the society.

2.5.6 Gender Discrimination

There is no doubt as (Jimoh et al, 2016) pointed out the discrimination that occurs because of gender is a barrier that can account for the imbalance in support from the management in carrying out their work as opposed to women which eventually sees the men advances to higher level positions. Although there are a lot of barriers that limits the equal participation of women in the Nigerian labor market, these few barriers highlighted here demonstrated that there are challenges to the women's involvement that even begins at the point of entry in the job.

2.5.7 Power Distance

Nigeria scores high on this dimension (score of 80) which means that people accept a hierarchy order in which everybody has a place and which needs no further justification. Hierarchy in an organization is reflecting inherent inequalities, centralization is popular, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat. The national culture also plays a role here. One can argue that the authority of top management has been supported by the hierarchical system that has been bureaucratic and this to a very large degree influenced the role women play in organizations. This is consistent with the work of Oruh and Dibia (2020) on Nigeria that shows there is a large power-distance culture in the country.

2.5.8 Individualism

Nigeria is a collectivist society and that means, group ties are strong, This could support the use of networks in getting women into work. There is a link in the use of networks and Perceptions of Corruption in Nigeria as it is Ranked 136 out of 176. Okeke (2017) pointed out that, there is a reliance on ethnicity, religion and gender to determine who gets employed in Nigeria which often implies expected loyalty in return.

2.5.9 Masculinity

Nigeria is a masculine society which is can account for some of the values that are visible in the workplace. In Nigeria, the societal stereotyping supports the socialization of women to become less competitive than men.

2.5.10 Uncertainty Avoidance

Nigeria scores above average here and this has to do with the way the society deals with issues that confront them. In this case, there is a tendency for the general society to be rigid towards removing some of the barriers and challenges that women face getting into work in Nigeria to become more tolerant, providing suitable workplace support for women.

2.5.11 Long Term Orientation

Nigeria has a low score and this means that there is a great respect for traditions and culture. This could imply a tendency to remain stuck in traditions making it difficult to support a cultural shift in supporting women in the workplace.

2.6 Strategies for improving the participation of women in the construction industries

A strategy according to the oxford dictionary is a plan of action designed to achieve a long-term Overall aim. Strategy involves setting goals determining actions, to achieve such goals and mobilize resource to execute the actions. Noor and Isa (2020) stated that, the need to assess the Constrains laced by women in developing their career and also strategies for overcoming these constrains is of paramount importance.

According to Singh *et al.* (2017), one of the strategies for addressing women attrition is, providing childcare facilities to benefits both male and female workers who are parents. This would help enhance the ability of women to be able to handle work and family responsibilities making them more focused on their career. Provision of maternity leaves and career breaks so that women have their position secured and are able to come back to work as soon as possible was also identified as a strategy for career advancement of women. The construction industry needs to also consider flexible working options (Singh *et al.*, 2017), enabling the worker to be able to choose what time would be more comfortable for him/her.

Providing flexible undeniable burnout, which is another challenge to Women career. Although, working off site is clearly not possible in other sectors to assist flexibility due to the advancement in technology. The biggest barrier to flexible working option in the construction industry is the immaturity of the industry in terms of accepting that flexible work is not real work (Singh *et al.*, 2017). In addition to flexible working hours, the use of KPI's (key performance index) that is based on the outcome and productivity rather than hours would enable a stress free execution of site activities. This would benefit both males and females workers with or without family commitments.

Getting a role model or mentor is one of the most popular strategies for career advancement of women in the construction industry (Loosemore and Lim, 2017). Singh *et al.*(2017) stated that a lack of senior female role models makes it difficult for women to see how they can balance work and personal commitments as a woman at that level, which can therefore be discouraging to career progression. Therefore, providing role models/mentors is essential in strengthening the career path of women and also ensuring the career advancement of women in the industry. However, Loosemore and Lim(2017) argued that monitoring will not assist in the advancement of women career but will keep them from leaving the industry.

Singh *et al.* (2017), suggested that it is important to provide training programs such as team building, workshops and seminars working with project team members communication skills development programs. Attracting female students to undertake studies in a construction position and retaining them through studies and then into a career is important to the future of the construction industry. All studies suggested that developing a formal mentoring program would be beneficial (Singh *et al.* (2017). This would encourage senior members to mentor Junior members upon entry and assist them to navigate company policies and communicate on more of a personal level regarding challenges they are facing another proven strategies in the career development of employees (for both men and women) ongoing active and efficient training and career development programs (MeDermott *et al.*, 2018). Establishing gender balance on decision making bodies so that women are treated with respect and their opinion is heard, give the same opportunities for women to do the same jobs as men allowing them receive and equal payment, improving the working atmosphere not only building strategies to minimize harassment and discrimination by coworkers, but also by providing women with a secure work environment design for them and clean sanitary facilities.

Previous research has covered a wide breadth of recommendations for further actions drawn upon. The biggest barrier to implementing these changes is the resistance to change itself (Singh *et al.*, 2017).

2.6.1 Recommendations for the eradication of the leaky pipeline

To eliminate the current barriers faced in the construction industry, there are five areas that need to be improved for females to be adequately accommodated in the construction industry:

- Flexibility – rethinking when, where, and how work is done;
- Care-giving support – providing more support for the care giving needs of working women;
- Maintaining contact – maintaining ties with past (and intermitting) employees
- Welcoming re-entries – recruiting or rehiring ex-employees as they also possess key knowledge that will be useful to the organization
- Supportive organizational culture – reinforcing the legitimacy of new ways through organizational culture

2.6.2 Factors that help retain women in construction industry

1. Potential for career success that can be achieved through working in the Construction Industry.

Not only are there monetary successes, but also the ability to accomplish personal achievements. These achievements help to provide “personal satisfaction” and job satisfaction through the opportunity to “gain more experience and accomplishing greater projects”. Potential career opportunities were an incentive to help retain women into the industry.

2. Internal training and career development are one of the key factors that helped retain women in construction Industry: Providing women with the opportunity to complete training during their work hours offers them the chance to maintain a healthy work-life balance. It also provides them

with the feeling that their company is investing in them, which in turn can make them more motivated and willing to stay with the company for the long term.

3. Male champions: The presence of encouraging male champions in the workplace. Women who work in large national companies paid accolade to the growing number of male champions. They also expressed admiration and gratitude for their male champions and felt affirmed by these men's "extreme respect for women who have the courage to understand what is usually a man's field". This positive trend reflects the culture change recently demonstrated by the leadership in some of Australia's larger construction companies in joining the Property Male Champions for Change program (Warren and Antoniadis, 2016).

4. Perceived Industry change/equal opportunities The final emerging theme around retention is the sense of a change in the Industry and growing equal opportunities for women. Women attributed this change to the younger generation entering the Industry. The younger generation of professionals, both males and females have started to peel back the negative image that the Industry holds and will hopefully be able to make further progress in the future. While this generation was growing up, it became more accepted and normal for women to be in the workforce. Unlike older generations before them, the younger generations in workplaces have been educated to value equal opportunities.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The overall research plan of how a researcher could collect and analyze data, answer research questions, and achieve research purpose and objectives as well as address the ethical issues of the research is described as research design (Turale, 2020). Therefore, the research design for this study is Qualitative Research Method, Onwuegbuzie and Weinbaum (2017) describes qualitative research as a comparative, descriptive and explorative research method that can deliver a better description of reality. Qualitative research is suitable for investigation of a person's experience and behavior where it is required for an in-depth analysis of a phenomenon.

And the research strategy used is the survey research. It is applied to answer why, what, where, how much and how many questions. As a result, the survey strategy is often associated with the deductive approach such as questionnaires, structured observations, and structured interviews.

Based on the information needed to achieve success in this study, a well-designed questionnaire is used to request accurate, complete and necessary information from the respondents on women in construction and their challenges: A case study of F. C. T. building industry.

3.2 Area of the study

The assessment was based on building construction companies in the Federal Capital Territory (FCT) of Nigeria. Abuja is within the middle belt region of Nigeria. At the 2006 census, the city of Abuja had a population of 776,298 and 179,674 households making it one of the ten most populous cities in Nigeria (placing eighth as of 2006). According to the United Nations, Abuja

grew by 139.7% between 2000 and 2010, making it the fastest growing city in the world. As of 2015, the city is experiencing an annual growth of at least 35%, retaining its position as the fastest-growing city on the African continent and one of the fastest-growing in the world. As of 2016, the metropolitan area of Abuja is estimated at six million persons, placing it behind only Lagos as the most populous metro area in Nigeria.

The territory is currently made up of six area councils, namely Abaji, Abuja Municipal Area Council (AMAC), Bwari, Gwagwalada, Kuje, and Kwali.

3.3 Population of the Study

The population of this study consist of sixty five (65) respondents which includes fifty (50) site engineers and managers, and fifteen (15) women working in building construction industry within the F.C.T.

3.4 Sampling and sampling techniques

As the intent of the researcher is to assess the challenges of women in construction industries, the entire population was used for the study, since the population is of controllable size. As such, there was no sampling technique

3.5 Instrument for Data Collection

The instrument that was used for data collection is a structured questionnaire tilted and developed by the researcher tilted from extensive review of related literature. The questionnaire was used to get information from the respondents. The instrument consisted of two sections (section A and section B). Section “A” contains the personal data of the respondent and section

“B” Contains the research questions and items under each question. A four point (4)rating scale was used for the questionnaire.

A four (4) point rating used as shown below

Strongly Agreed	SA=4
Agreed	A=3
Disagreed	D=2
Strongly Disagreed	SD=1

3.6 Validation of the Instrument

The instrument used was face validated for construct and content by the project supervisor and two other lecturers in the department of Industrial and Technology Education, Federal University of Technology, Minna. The essence of this is to assess the clarity and the appropriateness of the questionnaire items. Their recommendations and suggestions were used to modify and restructure the instrument for the final draft.

3.7 Administration of the Instrument

The questionnaire was administered by the researcher with the help of two research assistants. The research assistants were trained on the contents of the instrument. Concepts were explained and the standards of responses discussed.

3.8 Method of Data Analysis

Data collected for the research questions was computed using mean and standard deviation while data for hypothesis was analyzed using T-test statistic. Mean and Standard deviation were used to answer the research questions while the t-test will be used to test the null hypotheses formulation at 0.05 level of significance in order to determine if there is any significant difference in the responses of male and female workers.

The T-test analyses was carried out to determine the level of significance using spss package. The P-value obtained is compared to the level of significance, where $p \geq .05$ the hypotheses was accepted; if otherwise, the hypothesis was rejected.

CHAPTER FOUR

4.0 PRESENTATION AND ANALYSIS OF DATA

4.1 Research Question 1

What are the challenges faced by women in carrying out the building construction skills in building industries?

Table 4.1: Mean responses of the site engineers and managers on the challenges faced by women in carrying out the building construction skills in building industries.

		N ₁ = 50	N ₂ =15	
S/N	ITEMS	\bar{X}	SD	Remark
1	Stressful nature of industry	3.63	.517	Agreed
2	Recruitment policies and procedures	3.57	.529	Agreed
3	Nepotism	3.60	.524	Agreed
4	Sociocultural perceptions	3.58	.635	Agreed
5	Gender discrimination	2.12	.550	Disagreed
6	Demanding work hours	3.62	.550	Agreed
7	Uncertainty avoidance	3.63	.547	Agreed
8	Lack of role models	2.16	.509	Disagreed
9	Culture of industry	3.65	.513	Agreed
10	Harsh working condition	3.69	.498	Agreed
11	Cultural/religious bias	3.68	.503	Agreed
12	Family commitment	3.66	.509	Agreed
13	Power distance	3.66	.509	Agreed
14	The gender pay gap	3.69	.498	Agreed
15	Need to continuously prove themselves	3.68	.503	Agreed

N=65

\bar{X} = mean of the respondents

N_1 = Site engineer

N_2 = Manager

SD = standard deviation of the respondents

Table 4.1 showed that both the site engineers and managers agreed on most of the items. This is because none of the mean response was below 2.50 which was the beach mark of agreed on the 4-points response options while item 5 and 8 was ranked disagree. The standard deviation score ranged between 0.498 and 0.635. This showed that the responses of the site engineers and the managers on the items were not divergent.

4.2 Research Question 2

What are the jobs carried out by women in building construction industries

Table 4.2: mean response of the site engineers and managers towards the productivity that women carry out in the construction industries.

		$N_1= 50$		$N_2=15$
S/N	ITEMS	\bar{X}	SD	Remark
1	Supervisor	3.63	.517	Agreed
2	Drawing interpretation	3.57	.529	Agreed
3	Survey	3.60	.524	Agreed
4	Site consultant	3.52	.664	Agreed
5	Soil testing	2.16	.547	Disagreed
6	Site clearance	2.28	.556	Disagreed
7	Setting out	2.21	.550	Disagreed
8	Laying of DPC (Damp proof course)	2.27	.612	Disagreed
9	Flooring skill (tiles and terrazzo)	1.92	.521	Disagreed

10	Site maintenance	2.19	.498	Disagreed
11	Plastering and rendering	2.13	.517	Disagreed
12	Laying of block	2.39	.521	Disagreed
13	Painting	2.35	.513	Disagreed
14	Roof construction	1.65	.513	Disagreed
15	Over-site concrete filling	2.22	.521	Disagreed

N=65

\bar{X} = mean of the respondents

N₁ = Site engineer

N₂= Manager

SD = standard deviation of the respondents

Table 4.2 showed that both the site engineers and managers agreed on items 1 to 4. This was because none of the mean response was below 2.50 which was the bench mark of agreed on the 4-point response options while items while item 5 to 15 was agreed this is because the items constitute the jobs that were not carried out by women on construction site and the mean response was below 2.50 which was the bench mark. The standard deviation score ranged between 0.498 and 0.612. This showed that the responses of the site engineers and managers on the items were not divergent.

4.3 Research Question 3

What are the strategies for overcoming the challenges face by women in career advancement in building construction?

Table 4.3: mean responses of the site Engineers and managers on the strategies for overcoming the challenges faced by women in career advancement in building construction industries.

S/N	ITEMS	N ₁ = 50		N ₂ =15
		\bar{X}	SD	Remark
1	Increased salary	3.63	.486	Agreed
2	Promotions and government support	3.57	.499	Agreed
3	Adequate motivation	3.58	.497	Agreed
4	Medical facilities to operatives family	3.60	.607	Agreed
5	Provision of transportation facility (official car)	3.62	.550	Agreed
6	Allocating holiday shift	2.48	.509	Disagreed
7	Making incentives available for women in the industry	3.68	.503	Agreed
8	Over time allowance to staff who report to work on holiday	3.71	.458	Agreed
9	Increase employee satisfaction	3.63	.486	Agreed
10	Potential career success	3.72	.451	Agreed
11	Developing female mentoring program	3.72	.451	Agreed
12	Providing children facilities	2.31	.458	Disagreed
13	More women in top management	3.72	.484	Agreed

14	Internal training	3.74	.443	Agreed
15	Perceived industry change/equal opportunities	3.65	.543	Agreed

N=65

\bar{X} = mean of the respondents

N₁ = Site engineer

N₂= Manager

SD = standard deviation of the respondents

Table 4.3 showed that both the site engineers and managers agreed on all most of the items. This was because none of the mean response was below 2.50 which was the bench mark of agreed on the 4-point response options while item 6 and 12 was ranked disagree because the mean response was below 2.50 which was the bench mark. The standard deviation score ranged between 0.484 and 0.607. This showed that the responses of the site engineers and managers on the items were not divergent.

4.4 Hypothesis 1

There is no significant difference in the mean responses of the site engineers and managers on challenges faced by women in carrying out the building construction skills in building industries

Table 4.4 T-test on challenges faced by women in carrying out the building construction skills in building industries.

N₁ = 50 AND N₂ = 15

Respondents	N	X	SD	Df	Tcal	P-value	Remark
Site engineers	50	3.52	0.50	63	0.549	0.05	NS
Managers	15	3.67	0.62				

N=65

\bar{X}_1 = mean of site engineers

\bar{X}_2 = mean of managers

N_1 = Site engineers

N_2 = Managers

SD_1 = standard deviation of Site engineers

SD_2 = standard deviation of managers

NS = Not Significant

Table 4.4 showed that there was no significant difference in the responses of Site engineers and managers on all the items as challenges faced by women in carrying out the building construction skills in building industries; therefore the null hypothesis of no significant difference was upheld at 0.05 level of significance.

4.5 Hypothesis 2

There is no significant difference between the mean response of the site engineers and managers towards the productivity that women carry out in the construction industries.

Table 4.5 T-test on the labour productivity that women carry out in the construction industries.

$N_1 = 50$ AND $N_2 = 15$

Respondents	N	X	SD	Df	Tcal	P-value	Remark
Site engineers	50	3.64	.485	63	.261	0.05	NS
Managers	15	3.60	.632				

$N=65$

\bar{X}_1 = mean of site engineers

\bar{X}_2 = mean of managers

N_1 = Site engineers

N_2 = Managers

SD_1 = standard deviation of Site engineers

SD₂ = standard deviation of managers

NS=Not Significant

Table 4.5 showed that there was no significant difference in the responses of Site engineers and managers on all the items as productivity that women carry out in the construction industries; therefore the null hypothesis of no significant difference was upheld at 0.05 level of significance.

4.6 Hypothesis 3

There is no significant difference in the mean responses of the site Engineers and managers on the strategies for overcoming the challenges faced by women in career advancement in building construction industries.

Table 4.6 T-test on the strategies for overcoming the challenges faced by women in career advancement in building construction industries.

N₁ = 50 AND N₂ = 15

Respondents	N	X	SD	Df	Tcal	P-value	Remark
Site engineers	50	3.60	.495	63	.930	0.05	NS
Managers	15	3.73	.458				

N=65

\bar{X}_1 = mean of site engineers

\bar{X}_2 = mean of managers

N₁ = Site engineers

N₂= Managers

SD₁= standard deviation of Site engineers

SD₂ = standard deviation of managers

NS=Not Significant

Table 4.6 showed that there was no significant difference in the responses of Site engineers and managers on all the items as strategies for overcoming the challenges faced by women in career

advancement in building construction industries; therefore the null hypothesis of no significant difference was upheld at 0.05 level of significance.

4.7 Findings of the study

The following are the main findings of the study; they are prepared based on the research questions and hypothesis tested.

1. The finding on the challenges faced by women in carrying out the building construction skills in building industries showed that all the respondents agree on all the items, among all is harsh working condition and the gender pay gap.
2. The finding on the jobs carried out by women in building construction industries shows that showed that all the respondents agree on all the items, among all is site maintenance.
3. The findings on strategies for overcoming the challenges face by women in career advancement in building construction showed that all the respondents agree on all the items, among all is potential career success, developing female mentoring program and more women in top management.
4. There was no significant difference in the responses of site engineers and managers on all the items as challenges faced by women in carrying out the building construction skills in building industries.
5. There was no significant difference in the responses of site engineers and managers on all the items as jobs carried out by women in building construction industries
6. There was no significant difference in the responses of site engineers and managers on all the items as strategies for overcoming the challenges face by women in career advancement in building construction.

4.8 Discussion of findings.

The result from table 4.1 shows that findings on the challenges faced by women in carrying out the building construction skills in building industries among all are stressful nature of industry, recruitment policies and procedures, nepotism, sociocultural perceptions, gender discrimination, demanding work hours, uncertainty avoidance, lack of role models, culture of industry, harsh working condition, cultural/religious bias, family commitment, power distance, the gender pay gap, need to continuously prove themselves. The findings revealed that women in construction industries face a lot of challenges in working in the construction industries. The findings of this study is inline with Ugwu and de Kok (2015) who found out that Within the Nigerian society, women are expected to conform to certain gender roles and these perceptions are promoted, which over time becomes a challenge to women's participation in the construction industry. Adenugba and Oderinde (2017) also noted that Nigerian women, just like in countries around the world, experience a great deal of prejudice, which limits their ability to reach their full potential on an equal footing with males. Due to their household responsibilities, low educational attainment, poverty, biases against women's employment in specific sectors of the economy or types of work, and discriminatory compensation practices, women are far from having equal rights in the labor market.

The result of the hypothesis on the challenges faced by women in carrying out the building construction skills in building industries showed that there was no significant difference in the responses of site engineers and managers on all the items identified as challenges faced by women in carrying out the building construction skills in building industries.

Table 4.2 shows the result of the findings on the jobs carried out by women in building construction industries the findings among other shows Supervisor, drawing interpretation, Survey, site consultant, soil testing, site clearance, setting out, laying of DPC (Damp proof course), flooring skill (tiles and terrazzo), site maintenance, plastering and rendering, laying of block, painting, roof construction, over-site concrete filling. The findings of the study revealed that women participate in most jobs in the construction site. The findings of the study is inline with Adom, (2015) who recorded that only eleven percent (11%) percent of women are actively engaged in this sector. Navarro-Astor *et al.* (2017) states this engagement is mostly in administrative positions, or other positions not directly involved in the construction process. This also calls for more involvement of women in the construction industries.

The result of the hypothesis on the jobs carried out by women in building construction industries showed that there was no significant difference in the responses of site engineers and managers on all the items as jobs carried out by women in building construction industries.

The result from table 4.3 revealed the findings on strategies for overcoming the challenges faced by women in career advancement in building construction. The findings among others revealed that increased salary, promotions and government support, adequate motivation, medical facilities to operatives family, provision of transportation facility (official car), allocating holiday shift, making incentives available for women in the industry, over time allowance to staff who report to work on holiday, increase employee satisfaction, potential career success, developing female mentoring program, providing children facilities. The findings of the study revealed that proper strategies could improve the influx of women into the construction sector and put an end to the challenges faced by women in the construction industry. The findings of this study is inline with Wermke *et al.*, (2019) who noted that in Swedish Construction Federation's

suggestion allowing a flexible work schedule and work hours is a positive way of encouraging female participation in construction. Networking and mentoring schemes are also considered ways of retaining female workers in construction. Richard also posited that when a clear path for career opportunities is provided, irrespective of gender, women are more prone to remain within the industry.

The result of the hypothesis on the strategies for overcoming the challenges face by women in career advancement in building construction shows that there was no significant difference in the responses of site engineers and managers on all the items as strategies for overcoming the challenges faced by women in career advancement in building construction.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Study

The main focus of this research study was to find out the challenges facing women advancement in building construction industries.

Chapter one of the study discussed the background of the study, the statement of problem, purpose, significance, scope and the research questions were all stated and discussed for the conduct of this research.

The review of related literature looked into the Nigerian construction industry, women participation in the construction industry, Perception of women in the construction industry, challenges to the participation of women in construction industries, Strategies for improving the participation of women in the construction industries. Various views from different authors concerning the topic were harmonized in a comprehensive literature review and empirical studies.

A survey approach was used to develop instrument for the study; the respondents identified as the population of the study were the site engineers and managers. The entire respondents were used. A number of 65 questionnaires were administered. The instrument used was analysed using frequency count, and mean scores. The research questions were discussed base on the findings from the responses and results of the instrument used.

Implication of the study and conclusions were also drawn from the findings discussed. Recommendations and suggestions for further study were formulated and stated according to the findings of the study.

5.2 Implication of the Study

The findings of the study had implications for government, Building construction industries and women working in construction industry. From the outcome of the study, it implies that If the identified areas where put in place it will give women more access into the construction industry and also improve their performance and participation in the construction sector.

5.3 Contribution to knowledge

The study contribute to knowledge by

1. It exposed the researcher to ways of organizing a good research
2. It will be of benefit to students who have the intention of making similar research by making reference to this work
3. This research will serve as support of what the past researchers have written about gender balance in construction industries
4. Helps the researcher in knowing strategies for improving career advancement of women in construction industries

5.4 Conclusion

Based on the findings of the study, the following conclusions were drawn: Traditionally, women are generally perceived to be nation builders whose responsibilities start from smaller family units. Hence, the inclusion and fairness of women in today's modern society is an indicator of the socio-economic and cultural advancement of that society. Unfortunately, women make up just about 10% of the total workforce in the construction industry. This is mostly due to the perceived notion that the construction industry is a man's world, as well as the hostile working conditions they encounter. This study through a literature reviewed, identified and grouped the challenges encountered by the female gender into six (6) major categories. These are;

discrimination, culture, working condition, abuse, career development, and family commitments. The study also extracted factors that could improve active involvement of the female gender in the construction industry from literature, most of which can be achieved with a revised organizational culture and structure.

5.5 Recommendations

Based on the findings of the study, the following recommendations were made:

1. Focus should be on providing adequate and more financial opportunities for women willing to venture into construction entrepreneurship.
2. Young women should be made aware of construction industry opportunities is needed to encourage them to build their careers in construction from the school stage in order to increase the number of professional women participating in future.
3. There should be career advancement activities that are needed to sustain career path progression include training and mentoring in order to retain women professionals.

5.6 Suggestion for Further Study

The following are suggested for further studies:

1. Challenges facing women advancement in building construction industries in other locations.
2. Strategies for increasing women participation in construction industries.

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**APPENDIX
QUESTIONNAIRE**

FEDERAL UNIVERSITY OF TECHNOLOGY MINNA, NIGER STATE

SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION

DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION

A QUESTIONNAIRE FOR SITE ENGINEERS AND CONSULTANTS ON THE
CHALLENGES OF WOMEN IN CONSTRUCTION INDUSTRIES: A CASE STUDY OF THE
F.C.T BUILDING INDUSTRY, NIGERIA.

INTRODUCTION: Please kindly complete this questionnaire by ticking the column that best present your perception about the topic. The questionnaire is for research purpose and your view will be confidentially and strictly treated in response to the purpose of the research work.

TITLE: SECTION A: Personal Data

Please tick as appropriate

Site Engineers: ()

Managers: ()

Note: A four (4) point scale is used to indicate your opinion, tick the options which best describe your agreement as shown below:

Strongly Agreed (SA) = 4points

Agreed (A) = 3points

Disagreed (D) = 2points

Strongly Disagreed (SD) = 1points

SECTION B

Research Question one: What are the challenges faced by women in carrying out building construction skills in the industries?

S/N	CHALLENGES	SA	A	D	SD
1	Stressful nature of industry				
2	Recruitment policies and procedures				
3	Nepotism				
4	Sociocultural perceptions				
5	Gender discrimination				
6	Demanding work hours				
7	Uncertainty avoidance				
8	Lack of role models				
9	Culture of industry				
10	Harsh working condition				

11	Cultural/religious bias				
12	Family commitment				
13	Power distance				
14	The gender pay gap				
15	Need to continuously prove themselves				

Research Question two: Determine the labour productivity carried out by women in the construction industries?

S/N	ITEMS	SA	A	D	SD
1	Supervisor				
2	Drawing interpretation				
3	Survey				
4	Site consultant				
5	Soil testing				
6	Site clearance				
7	Setting out				
8	Laying of DPC (Damp proof course)				

9	Flooring skill (tiles and terrazzo)				
10	Site maintenance				
11	Plastering and rendering				
12	Laying of block				
13	Painting				
14	Roof construction				
15	Over-site concrete filling				

Research Question three: What are the strategies for overcoming challenges in career advancement of women in building construction industry?

S/N	ITEMS	SA	A	SD	D
1	Increased salary				
2	Promotions and government support				
3	Adequate motivation				

4	Medical facilities to operatives family				
5	Provision of transportation facility (official car)				
6	Allocating holiday shift				
7	Making incentives available for women in the industry				
8	Over time allowance to staff who report to work on holiday				
9	Increase employee satisfaction				
10	Potential career success				
11	Developing female mentoring program				
12	Providing children facilities				
13	More women in top management				
14	Internal training				
15	Perceived industry change/equal opportunities				