National College of Ireland

Project Submission Sheet

Student Name:	Abdulquadir. Hatim. Merchant.
Student ID:	X22222154
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Lecturer:	Dr. Miguel Flores
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Glass Ceiling

Effect on Women in Pharmaceutical Companies in India

Abdulquadir. Hatim. Merchant.

M. A. in Human Resources Management

National College of Ireland

"Submitted to the National College of Ireland, (August) (2024)".

Abstract

Glass Ceiling: Effect on Women in Pharmaceutical Companies in India

Abdulquadir Hatim Merchant

Working women continue to face challenges, discrimination, and struggle for positions in senior management and leadership roles in a variety of organisation throughout the globe. There is a barrier that restricts the growth of women within the workforce. This term is known as the 'glass ceiling' (Sharma and Kaur, 2019). Prior research revealed that there is a glass ceiling in companies across the sectors like banking, service and information technology. The purpose of this study is to determine the personal barriers (PB), organisational barriers (OB), and social barriers (SB) that women in pharmaceutical companies in India face which impede their career advancement and to determine the effect of the glass ceiling on women's work engagement level. Quantitative methodology was used in this research. The parameters of barriers and work engagement were adapted from previous studies. With the help of snowball sampling, data was collected through an online questionnaire survey from 47 women respondents working in pharmaceutical industry. Using the Statistical Package for Social Sciences version 29, the one sample t – test and moderated hierarchical regression analysis were used to test the hypothesis. The study's conclusion identified that unlike other sectors, glass ceiling for women exists in the pharmaceutical sector across India. The factors from the personal, organisational and social barriers were identified that created blockage for women to grow in their careers. Lack of opportunities, Family and career, colleagues lack faith and leadership role were the parameters which create barriers for women growth in the organisation. Based on the analysis of results, the author makes recommendations to eradicate the personal, organisational and social barriers that create glass ceiling for women which affect their careers.

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Submission of Thesis and Dissertation
National College of Ireland
Research Students Declaration Form
(Thesis / Author Declaration Form)

</div>

Name: Abdulquadir. Hatim. Merchant

Student Number: x22222154

Degree for which thesis is submitted: Master of Arts in Human Resource Management.

Material submitted for award

(a) I declare that the work has been composed by myself.

(b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.

(c) My thesis will be included in electronic format in the College Institutional Repository NORMA (thesis reports and projects).

(d) *Either* *I declare that no material contained in the thesis has been used in any other submission for an academic award.

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(State the award and the awarding body and list the material below)

Signature of research student: Abdulquadir Merchant
Date: 10th Aug 2024.

Acknowledgement

It was a tremendous challenge to complete this dissertation, and without their support it was not possible to complete the same.

My sincere thanks to,

I want to express my sincere gratitude to Dr Miguel Flores, my academic supervisor, for his tolerance, encouragement, and advice throughout the thesis.

I want to express my sincere gratitude to all the professors who have helped us during the course to understand the concepts of human resources.

To every woman who consented to take part in this research and for spending the time to answer a lengthy series of questions.

To my classmates and friends who were always there for support.

Lastly, I would dedicate this dissertation to my family, without whom I could not have completed this course.

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List of Abbreviations

Personal Barrier	PB
Organisational Barrier	OB
Social Barrier	SB

1. Introduction

India, the seventh largest nation in the world, controls most of the South Asian subcontinent in terms of both area and population density. India is home to more than 1.3 billion people, making it one of the world's largest populated countries. The borders are shared with Bangladesh, Bhutan, Burma, China, Nepal and Pakistan among other Asian nations. India's economy was among the world's fastest growing in the early twenty first century. India ranked third in the world in terms of Gross Domestic Product in 2021, with an estimated Gross Domestic Product per capita of just $6,600, placing the country in the lower half of all countries. Textiles, chemicals, steel, petroleum, mining, machinery, and software are some of India's leading industries. In 2014, the service sector employed about 31% of the workforce, while manufacturing and other industries employed 22% (Nagy, 2023).

The degree of women's empowerment with a nation determines its level of development to some extent. Indian women's traditionally submissive roles are characterised as those of loving, selfless mothers and homemakers. Without a doubt, many Indian women embrace their traditional roles and the ideas of sacrifice and family duty that go along with them. There is no doubt that advancements in social, political, and economic spheres have brought about new innovations in the lives of Indian women in the present day. These have also opened the possibility of new conflicts (Dhawan, 2005). Owing to certain obstacles and issues, women have advanced significantly across a wide range of fields like sports, business, politics and so on, advancing the development of the country. To name a few, women like Pratibha Patil in politics, Sania Mirza in sports, and Indra Nooyi in business.

In a country like India, where women make up 50% of the population, advancement is impossible unless society and the government acknowledge the power and potential of women (Choudhury, 2022). The rates of male and female labour force participation are lower in India. 24.6 percent of Indian women (15 - 64) and 76.2 percent of Indian men (15 – 64) were employed in 2021. Conversely, only 487.9 million of the 950.2 million individuals aged (15 – 64) in 2021 were employed. For the female population, the difference was more due to the larger female labour force participation rate. India had 458.2 million women in the age group of (15 – 64), but only 112.8 million of them were employed in 2021 (Deshpande and Chawla, 2023).

India is ranked fourteenth and holds a prominent position in the worldwide pharmaceutical and vaccine sectors. The country produces 20% of the global supply volume and more than 60% of the vaccinations used worldwide (Minhas, 2024). India is ranked penultimate in terms of the proportion of women in leadership roles such as Chief Executive Officer or Managing Director, according to gender discrimination survey (Bekhouche *et al.,* 2014). Gender disparities in corporate leadership in India demonstrate that the country has not yet shed the notion that women are inherently less valuable than men (Saji, 2016). In the nation, gender diversity is a problem that affects many different industries. One such sector where women are underrepresented is the pharmaceutical industry. According to a Mercer India report, just 11% of the 49.5 million people working in the pharmaceutical industry are women (Masurkar, 2022). The service sector employs more women than the manufacturing sector, with the banking industry holding a large share of the latter. Semi-skilled and unskilled jobs are no longer filled by women. Women are now employed in all functional areas of organisations including as line managers, because of access to education. The glass ceiling is an invisible barrier that keeps women from advancing into higher roles. The ways in which the glass ceiling appears vary among countries and organisations (Kiaye and Singh, 2013).

The glass ceiling issue affects human beings all over the globe and is not just present in developing or impoverished nations. Many national, international, and regional initiatives are carried out to advance gender equality and women's empowerment. Nevertheless, things continue to stand as they are, with very few women achieving senior positions. The proportion of women in high leadership roles is much lower than that of men in nearly every industry and country (Kaur and Mittal, 2022). Since India is a developing country, there have not been many in depth studies conducted in this area. Most of the research on women in leadership has been conducted in developed nations. Most companies tend to ignore the leadership potential of women because of gender based barriers (Kulkarni, Khatwani and Mishra, 2023). Institutional problems with recruitment, training and development, as well as gender disparities in the ranks of pharmaceutical executives are other barriers (Adams-Harmon and Greer-Williams, 2021). This study aims to examine the prevalence of the glass ceiling effect and its effects on women employed by pharmaceutical companies in India and the barriers that contribute to the glass ceiling and its impact on the work engagement level.

Certain researchers surmise that the glass ceiling encompasses a range of less tangible obstacles, including social, organisational, and personal barriers, that are embedded in the society and culture and function as psychological hindrances to women's advancement into leadership roles (Sharma and Kaur, 2019). The purpose of this research is to investigate the existence of glass ceiling for women in the pharmaceutical company in India by examining how personal, organisational, and social parameters create barriers for working women, preventing them from reaching higher positions and impact their work engagement levels. To identify this, three queries emerge: To what extent does the glass ceiling effect exist in pharmaceutical companies in India?, what are the key factors related to the glass ceiling effect in the Indian pharmaceutical sector?, and in what ways does the glass ceiling effect affect the work engagement level of women working in the pharmaceutical industry in India?. Women employed in the pharmaceutical companies across India were selected for the research to answer the above questions. This study uses quantitative methods along with cross sectional research. The test is used, and data is analysed statistically to identify whether glass ceiling exists. Possible factors from personal, organisational and social barriers are also studied. Additionally, not much is aware from earlier research attempting to determine regarding these barriers.

This study contends that the glass ceiling affects women's advancement in organisations and that it is a common occurrence in all organisations, including pharmaceutical industry, based on the body of literature supporting this idea.

2. Literature Review

2.1. Glass Ceiling Effect

Even though the glass ceiling has been researched for many years and has been the focus of numerous studies, reports, and research papers it is impossible to pinpoint the exact year that the first research paper on the topic was released (Singh *et al.,* 2023). While glass ceilings had no impact on the organisations in the late 1960s, they started to have an impact in the 1980s and became much more noticeable in the 1990s (Uysal and Ak, 2020).

The phrase "glass ceiling" was first used in 1990 to describe the situation in which women and other racial and ethnic minorities, despite possessing comparable qualifications and abilities to their male counterparts are unable to advance to higher positions within an organisation. It represents invisible barriers that prevents minorities and women from advancing past a particular point in the organisational hierarchy. These barriers include societal, organisational, and personal ones (Mittal and Kaur, 2021). A "glass ceiling" occurs when gender bias, racism, or discrimination prevent a qualified individual from rising to a higher position in an organisation's hierarchy. Nevertheless, invisible barriers have been erected by society that have not yet adjusted to the entry of women into the workforce, preventing women from achieving important positions. This understanding has persisted into the 21st century's modern organisations so much so that, although women have made great strides in the modern era by emphasizing their professional accomplishments, they are still disproportionately underrepresented in high level positions due to the glass ceiling (Uysal and Ak, 2020).

Consequently, research on the origins and effects of the "glass ceiling" has been conducted in numerous settings. For instance, the obstacles women encounter in the information technology industry (Ahuja, 2002). The experiences of women in the tourism sector and in science, technology, engineering, and mathematics fields regarding the glass ceiling was studied (Carvalho *et al.,* 2019). Using secondary data, Lathabhavan, Balasubramanian and Natarajan (2018) examined how the glass ceiling affects public, private, and international banks. They also examined the attitudes and character of female employees toward the glass ceiling beliefs through a questionnaire survey. The glass ceiling phenomenon is still relevant today because of this (Uysal and Ak, 2020).

2.2. Glass Ceiling in a Global Context

Indeed, researchers have examined the phenomenon of the glass ceiling in numerous regions across the globe, including Bangladesh, Taiwan, United Kingdom, Germany and Austria. According to a federal study in 1995, men occupied 95% of top management positions (Pai and Vaidya, 2009).

Table 01 – Study of glass ceiling

Country	Glass Ceiling	Studies
England	They learned of the existence of the glass ceiling which kept women from moving up the corporate ladder even with equivalent degrees and experience, leading to lower salaries and a slower rate of promotion to higher positions.	(Sampson and Moore, 2008).
Durban	The study revealed that a few situational, organisational, and societal barriers commonly referred to as the glass ceiling were present in Durban organisations. This included gender discrimination, a lack of respect for women, and inadequate support in managing the diverse roles.	(Kiaye and Singh, 2013).
United Kingdom	In a different study on women managers in the United Kingdom, Veale and Gold (1998) discovered that there was a glass ceiling in the council that kept women from moving up to senior managerial roles.	(Veale and Gold, 1998).
Netherlands	In the Netherlands, preferences for masculine culture were higher among both genders. This study also revealed that women were less ambitious than men, and ambitious women thought that a major barrier to their ability to grow in their careers was work home conflict.	(Van Vianen and Fisher, 2002).

South Africa	The glass ceiling theory and the under representation of women in senior management positions in retail banks in South Africa.	(Mathur-Helm, 2006)

Source: Mentioned in the table

This section examines the body of research on the various facets of glass ceiling for women due to the various social, organisational, and personal obstacles that prevent women from advancing in corporate leadership. Even in situations when there is an obvious path for advancement, women seem to have reached a point where they are unable to advance further. There were no female Chief Executive Officer's in the biggest corporations in the world in 1995, by 2006, the number had increased to 8, with 5 of them based in the US, in leading fortune 500 companies (Kumar and Pradeepika, 2023). According to earlier studies, in 2017 women held just 25% of senior management positions. This indicates that men occupy 75% of the management roles (Jauhar and Lau, 2018). Women still hold a remarkably low percentage of board seats just 15.1% in the corporate boardrooms of 20 economies in the Asia-Pacific area. Only 2.3 percentage points have been added to the number of female directors since 2017, when Corporate Women Director's International carried out its first in depth analysis of women serving on boards in the Asia-Pacific region, the percentage of women directors has only increased from 12.8% to 15.1% (Corporate Women Director's International, 2024).

According to a McKinsey report (Huang *et al.* cited in Marina, Singh and Ahmad, 2020), women are hindered from progressing in their careers and moving into leadership roles by the glass ceiling. Below are the few obstacles, preventing women from advancing in their careers.

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Table 02 – Barriers affecting women

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No	Barriers	Study
1	26% of women said that networking prevented them.	(Marina *et al.,* 2020)
2	Women encounter bias and stereotyping.	
3	Glass ceiling because of gender stereotypes and societal norms.	
4	Domestic chores and childcare hinder the ability of working women globally.	(Desai *et al.,* 2011)

Source: Mentioned in the table

Culture of the company that prevents women to have an equal chance to progress.

Table 03 – Cultures affecting women

No	Culture	Study
1	No women in senior roles or in high positions in 17% of surveyed Armenian organisations.	(Marina *et al.,* 2020)
2	Few companies have a bias against assigning women to leadership and management positions.	
3	Women seldom see other women in high positions.	

Source: Mentioned in the table

According to Corporate Women Director's International (2024), only 8.6% of board seats in 1,148 listed companies have women appointed, so women are still disproportionately underrepresented in the corporate boardrooms of 16 Middle East, North Africa, and Turkey countries. Board members for more than half of the region's listed businesses are men. Of the 1,148 companies in the study, there are 55.5% without any female board directors (Corporate Women Director's International, 2024). According to the 2023 Global Gender Gap Index (Pal *et al.,* 2023), no nation has yet attained complete gender parity. But nations like Iceland, Norway, Finland, New Zealand, Sweden, Germany, Nicaragua, Namibia, and Lithuania have at least 80% of their gaps closed. One of the biggest challenges in the labour market is still achieving gender parity. In addition to the fact that women's employment rates have decreased globally recently, significant differences in economic opportunity between men and women have also been observed in other metrics. Women currently make up 29.4% of entry level employees, but their representation declines to 17.8% and 12.4%, respectively, in high level leadership positions like Vice President and C – suite. In 2023, women made up 41.9% of the workforce in LinkedIn's sample which includes 163 countries. However, the percentage of women in senior leadership roles such as Director, Vice President, or C-suite is only 32.2% (Pal *et al.,* 2023).

According to research by Grant Thornton's International Business Report (Ericson, 2023), the percentage of women in senior leadership is still increasing overall, but the rate of change is alarmingly slow. Globally, women currently occupy 32.4% of senior management roles in

mid-market companies, a rise of barely 0.5 percentage points since 2022. In 2025, women will hold only 34% of senior leadership positions if current trends continue (Ericson, 2023). In the mid-market, women held just 19.4% of senior management positions when Grant Thornton started its research in 2004, that percentage is currently 33.5%. Although there has been some acceleration since the pandemic, this progress is still disappointingly slow. Based on 2024 research, our data suggests that the progress made thus far is not permanent. The proportion of female Chief Executive Officer's has dropped sharply, which indicates that women are no longer occupying positions of actual authority within organisations (Ericson, 2024). The average percentage of women serving on corporate boards worldwide is a mere 19.7%. Less than 7% of female boardroom chairmen hold leadership positions on their boards. Across all sectors and industries, women make up a minority of board directors (Moraka, 2023).

Let's talk about female leaders. Women currently comprise less than 30% of executive directors at the largest pharmaceutical companies worldwide. Only a few of these companies have a female Chief Executive Officer. This is true even though the proportion of men and women entering the workforce with advanced degrees in medicine and life sciences is similar. While women hold roughly 40% of executive committee positions in a select few companies, while others have very little female representation. Less than 10% of renowned company senior executive team is female. Gender parity is necessary for improved decision making throughout the organisation, including national teams (Iyer, 2020).

2.3. Glass Ceiling and India

Gender inequality in the workplace and in the society is the primary cause of India's male-female labour force deficit, which stands at 25%. In India, only 6.67% of women had attained top management, according to a study of 810 institutions. This is a low percentage when compared to Australia (21%), United States (18%), and United Kingdom (17%) (Kumar and Pradeepika, 2023). India, which is ranked 127th globally, has closed 64.3% of the overall gender gap (Pal *et al.,* 2023). Economic liberalisation has enhanced employment opportunities in India, contributing to a rise in the number of employed women, however, educated women still encounter difficulties advancing up the organisational ladder (Chawla and Sharma, 2016). While many women have achieved managerial positions, only a small proportion have been able to advance to senior management roles, with women making

up just 1 in 4 senior executive officers (Sharma and Kaur, 2019). There are two ways that a glass ceiling can appear in an organisation. The first is when there are insufficient opportunities for women to advance on the career ladder. The other kind is self-imposed, where a woman chooses to remain where she is, due to her career or other barriers in her life (Khan and Saba Ahmad, 2021). Seven of the 22 women managers surveyed from the prestigious Indian Institute of Management, Ahmedabad, said they had given up their careers to become stay at home mothers. Another finding from this survey was the likelihood of career abandonment for women who married their batchmates (Kaushik, Sharma and Kumar Kaushik, 2014).

One hundred companies, or 54% of those listed on the Bombay Stock Exchange, do not have any female board directors (Chawla and Sharma, 2016). With 5% of Chief Executive Officers and 4% of Chief Financial Officers, India has the third lowest proportion of women in senior management positions among Asia – Pacific countries (Kulkarni, Khatwani and Mishra, 2023). Since 2021, there has been a decrease in the proportion of Indian women holding senior management roles in mid-market business with revenues ranging from $10 million to $1 billion. Grant Thornton's "Women in Business Report 2024" states that 34% of the women who work in these Indian companies currently hold senior management positions. By 2023, the percentage was 36%. The percentage stood at 39% in 2021 and 38% in 2022, respectively (Aggarwal, 2024).

2.4. Cultural Factors

Gender roles and expectations are influenced by cultural factors that have their roots in society, values, and traditions. These cultural elements are important in India because of the country's traditional society. Because of India's distinct sociocultural and economic background, some factors might be more prominent there than in other nations.

2.4.1. Gender Roles

There are two women managers for every 100 men managers in India, and the highest ratios of women to men in manager roles are found in the United States (67 women) and Canada (68 women) for every 100 men (Basu, 2008). Thus, as per Hofstede's theory of cultural dimensions, India tends to be a more masculine society with clearly defined gender roles. This highlights the dimension of masculinity vs femininity.

2.4.2. Stereotypes

According to social role theory, prejudice and discrimination against women in the workplace can result from societal preconceptions about their roles and abilities (Eagly, 1997).

2.4.3. Absence of Relevant Policies

Companies may not have gender equality policies, adaptable work schedules, and resources to help women manage work and family obligations. The study emphasised the need to address the women's workplace issues and challenges to retain the pool of talented women. It also suggested a few polices that are friendly to women to achieve equal gender representation at all levels (Peshave, 2017).

2.4.4. Family Life

Women's roles in family life are highly valued in Indian culture. The time and effort that women can devote to their careers may be restricted by this society expectation, which reinforces the glass ceiling.

2.5. Glass Ceiling and Pharmaceutical Industry in India

In India, there is an absence of female diversity in corporate leadership within the pharmaceutical industry (Saji, 2016). The pharmaceutical sector in India is not an exception to the general trend of skewed gender equality ratios in most industries in the country. Sector specific statistics differ. The percentage of women working in manufacturing is 13%, in research and development it is 17%, and in corporate functions it is 21%. However, the percentage drops to 5% in the sales and marketing function. When it comes to the proportion of women in senior leadership positions, the statistics are even lower. Indeed, the sector is home to a few female executives, such as Kiran Mazumdar Shaw of Biocon. However, the truth is that before the Indian pharmaceutical industry can close the gender gap in its top leadership, a lot more numbers need to be added up (Rana, 2020). For too long, the pharmaceutical industry has been a male-dominated sector, despite its longstanding symbolism of scientific advancement and innovation. There is still a stark gender disparity in leadership roles, despite encouraging trends like an increase in the number of women joining the field. In contrast to many other industries, women made up more than half of the newcomers to the global pharmaceutical industry in 2022, according to a McKinsey report. But when we consider that men make up almost three quarters of the C-suite in the pharmaceutical industry, the appeal wanes (Rao, 2023).

2.6. Theories and Glass Ceiling

Numerous theories such as person centered theories, organisation theories, and social role theories have been proposed to explain the glass ceiling to date.

2.6.1. Person Centered Theory

The glass ceiling was first explained by person centered theory reviewers as the result of behavioural disparities between men and women in leadership roles and a lack of socialisation practices. Furthermore, compared to their male counterparts, women were said to lack the traits that were essential for leadership such as ambition, confidence, assertiveness, and influential behaviour (Kiaye and Singh, 2013).

2.6.2. Situation Theory

Situation centered theories focus on the kind of workplace that women who want to be managers must work in. Organisations that prioritise the needs of the organisation over the efforts of individual employees can help women advance to senior management positions in an open and competitive labour market (Kiaye and Singh, 2013).

2.6.3. Social Role Theory

According to social role theory, the division of men and women into various social roles in society is the root cause of social behaviour differences between them. In the past, men were more likely to hold an employment role, while women were more likely to hold a domestic role (Hanek and Garcia, 2022). These social roles dictate that women take on a primarily nurturing role and are burdened with domestic and parental responsibilities, while men are expected to bear the financial burden of the household while exhibiting masculine traits of assertiveness and decisiveness. Due to women's innate tendency to follow social norms, these social role expectations have an impact on both individual and organisational factors that lead to leadership barriers for women (Mistry, Wiitala and Clark, 2024).

Regretfully, women have historically provided most of the healthcare in homes, so it is quite ironic that they are disproportionately underrepresented in the industry that supports the nation's healthcare system, particularly in positions of high leadership. Interestingly, though, it is possible that pharmaceutical companies would benefit more from increasing the gender diversity of their workforce. A 2018 study by the McKinsey Global Institute found that by focusing on the skewed balance of its gender equality scales, India could increase its gross domestic product by $0.7 trillion, or more than 18%, by 2025. However, what are the obstacles preventing women from rising to the top of the pharmaceutical industry? (Rana, 2020).

The concept of the "glass ceiling" has not received as much attention in India as it has in the west, but several studies have tried to look at it from different angles, such as secondary data collection, an analysis of men's perceptions, and focused interviews with women (Kumar and Pradeepika, 2023). We contend that the glass ceiling affects women's advancement in companies and that it is a widespread phenomenon across all industries, including the pharmaceutical one. This is supported by the literature. Finding out whether there is a "glass ceiling" in pharmaceutical companies in India is the aim of this study.

2.7. Barriers of Glass Ceiling

Women are excluded from the traditional corporate hierarchy at an early stage of their careers due to a combination of behavioural and organisational biases operating simultaneously. In addition, women's limited options are a result of the various challenges they face in their careers, which contributes to the rarity of women in leadership positions. But in certain nations, these barriers start at the lowest management level, while in other nations, they start at the middle management level (Taparia and Lenka, 2022).

Table 04 – Types of barriers affecting women

Type of Barriers	Barriers	Studies
Personal	- Women lacked the necessary characteristics and abilities to be successful in positions of leadership. - To handle the circumstances which are in control. - Self – doubts - Lack of self-confidence - Low career aspiration	(Kiaye and Singh, 2013). (Cizel and Cizel, 2014). (Kaur and Mittal, 2022).
Organisational	- Lack of opportunities - Lack of training - Failure of seniors to assume accountability - Corporate policies - Dissatisfaction with the working	(Kaur and Mittal, 2022). (Kulkarni, Khatwani and Mishra, 2023). (Taparia and Lenka, 2022).

		conditions	
Social	- Male dominated society - Twin responsibility - Misconceptions about women's ability - Work family conflict	(Kaur and Mittal, 2022). (Ahuja, 2002).
Cultural	- Gender stereotype - Gendered societal expectations - According to studies, men have a major influence on organisation cultures which widens the gender gap in companies	(Kaur and Mittal, 2022). (Jauhar and Lau, 2018).
Family	Many of the women were married and either step parented their husband's children or had children of their own. Relocating became difficult after the participants had children, which was a big factor in why these leader's careers stopped.	(Adams-Harmon and Greer-Williams, 2021)
Self-imposed	- Roles that women play, including those of a wife, mother, and single bread earner. - Women who indicated that they would not want to move to a new place or change organisations to assume more senior positions. - Married women are creating obstacles in their own way to further their careers. - Burden of household chores.	(Kiaye and Singh, 2013). (Taparia and Lenka, 2022).
Others	- Networking - Biasness	(Marina et al.,2020).

	• Stereotyping • women hardly ever see other women in leadership roles within organisations • Age	(Taparia and Lenka, 2022).
Structural	• Lack of role models	(Ahuja, 2002).

Source: Mentioned in the table

Women face various obstacles in their career advancement, which have been recognised as hindrances. One of the perceived invisible obstacles that women face in their professional development is the "glass ceiling". For the purposes of this review, the term "glass ceiling" has been defined as the result of a few factors operating at the societal, individual, and organisational levels that hinder or prohibit women from achieving top management positions. Studies have revealed that women encounter visible and invisible barriers in their careers (Wesarat and Mathew, 2017).

The study investigated how women's career advancement and workplace experiences are affected by the gendered nature of Indian workplaces as they currently exist (Das and Jha, 2023). Teaching has historically been a field dominated by women in India, things are very different in private universities, where there is still a glass ceiling for women seeking promotions or given difficult assignments (Sharma and Sehrawat, 2014). As women advance in their careers in Indian society and culture, they come across social, cultural, demographic, and psychological obstacles (Kulkarni, Khatwani and Mishra, 2023). The challenges that women in Indian industry face have been identified through data analysis and are categorised as personal, organisational, and social issues (Chawla and Sharma, 2016).

There is insufficient research conducted on women working in pharmaceutical companies in India and the one which exists mostly focused on the gendered nature, promotions, cultural, psychological, social, and personal barriers across sectors like banking, hospitality, and Information Technology.

This has given me motivation to carry out this investigation on barriers like personal, organisational, and social that affects women working in pharmaceutical companies in India.

2.7.1. Personal Barriers

Occasionally, women themselves become a barrier to their own professional growth. Women are socialised from an early age to conform to certain stereotypes, such as being emotional, soft hearted, and dependent on men. This has a negative impact on their mental health. Overly ambitious behaviour is still viewed as a characteristic of men. Women begin to discriminate against themselves in this way. This results in a lack of drive and confidence, a reluctance to take on difficult tasks, and a fear of holding positions of authority and administration within the company. These are the main causes that impact women's advancement in the workforce (Kaur and Mittal, 2022).

2.7.2. Social Barriers

Men predominate in our society. The earnings of women are regarded as secondary income, while those of men are considered primary breadwinners. They are limited to doing household chores and are regarded as homemakers. Following marriage, women are required to carry out two roles. They are supposed to work both in the office and at the home. It gets harder for them to focus entirely on their career since they must focus on taking care of the house. This means that carrying out the dual responsibilities at the same time places a heavy burden on women's shoulders. Social barriers that hinder women's career advancement include things like gender stereotypes and discrimination, a male dominated society, a lack of family support, and dual responsibilities (Kaur and Mittal, 2022).

2.7.3. Organisational Barriers

Women are prevented from achieving high positions by an organisational barrier that is present in organisational practices. The primary causes of these obstacles include discriminatory hiring and selection procedures, unequal training opportunities for women, a lack of support from upper management, a hostile work environment, a lack of mentors or role models, unequal employment opportunities, biased performance evaluation procedures. There are fewer women in senior positions because of these factors (Kaur and Mittal, 2022).

The study attempts to investigate the extent of the glass ceiling for women employed in the pharmaceutical sector in India, with a focus on three main barriers personal, organisational, and social.

2.8. Glass Ceiling and Work Engagement

A positive, fulfilling state of mind related to one's work that is characterised by vigour, dedication, and absorption is called work engagement (Schaufeli and Bakker, 2004a). Work engagement has been demonstrated to enhance employee productivity, well-being, and health (Çemberci *et al.,* 2022). Energy, resiliency, willingness to put in effort, and perseverance in the face of difficulties are traits of vigour. A sense of purpose, zeal, inspiration, pride, and challenge are traits of dedication. Full focus, contentment, and a strong sense of engagement in one's work are characteristics of absorption. Time passes swiftly, and the worker finds it difficult to separate from the task at hand (Balasubramanian and Lathabhavan, 2017).

Women face numerous career barriers that not only hinder their ability to advance in their careers but also negatively influence their decision making regarding their careers even when they possess the same levels of education and skill as men. Previous research has clarified the connection between the glass ceiling and employee engagement levels indicating that female employees face discrimination at work and that this perception has a negative impact on their level of engagement. Furthermore, very few studies have been done that examine how the glass ceiling affects women's engagement at work considering all its barriers (Sharma and Kaur, 2019). Furthermore, in a survey conducted on 302 female employees in the public and private sectors of Turkey, the results showed that there was a negative correlation between the career anchor and the glass ceiling syndrome (Uysal and Ak, 2020). A survey conducted on 144 men and 170 women across lower to upper management positions working in the various hotels of South Africa revealed that the glass ceiling exists (Mwashita, Zungu and Abrahams, 2020). A total of 553 female managers who were working in banking, hospitality, and information technology sectors across Punjab in northern India were surveyed and the study showed that 39% of work engagement was impacted by organisational and societal barriers (Sharma and Kaur, 2019).

The relationship between the glass ceiling and work engagement as well as the impact of the ceiling on work engagement have also been explained by earlier research. These studies suggest that women's perceptions of discrimination and the unfair treatment they experience in the workplace have a negative impact on women's work engagement (Sunaryo *et al.,* 2024).

To fill this vacuum in the literature the current study seeks to validate the idea that women employed by pharmaceutical companies in India experience lower levels of work engagement due to the glass ceiling.

3. Research Questions

3.1. Research Gap and Objectives

From the literature review mentioned above, it is evident that,

Many barriers stand in the way of women working in the various industries worldwide when it comes to advancing their careers. The study on the glass ceiling has been carried out in the countries like Bangladesh, Taiwan, United Kingdom, Germany, and Austria.

India is a developing country, not much research has been done on the glass ceiling and barriers, women face as they advance in their corporate careers.

However, research on the difficulties faced by women in the workplace has been done generally in the field of banking, hospitality, and Information Technology sectors in India. Prior research on gender has focused on the barriers women encounter in the workplace and covered topics such as extended work time and work family issues.

There has not been much research done in the Indian pharmaceutical industry regarding the difficulties faced by the women in the field. As they advance in their careers, there is glass ceiling and obstacles for women in Indian pharmaceutical companies which are still not studied. There is few research or less attention has been given to this topic.

Due to lack of research, earlier studies were unable to determine the effects of the glass ceiling on women working in India's pharmaceutical industry. This research focuses on the obstacles preventing women from advancing in India's pharmaceutical sector and how they affect their level of engagement at work.

Below are the objectives due to the gaps in research.

- To determine how much of a glass ceiling exists in Indian pharmaceutical companies.
- To investigate the barriers causing the glass ceiling phenomenon.
- To examine how women's work engagement is affected by the glass ceiling effect.

Following hypothesis are considered.

H_1: The pharmaceutical industry in India is one where a glass ceiling exists.

H_2: Women working in the pharmaceutical company in India face barriers.

3.2. Research Aim

The aim of this study is to look at a sample of women, working in pharmaceutical companies in India, and to investigate how common the glass ceiling effect is and how it affects them. This research is to determine and examine the social, personal, and organisational barriers that contribute to the glass ceiling as well as to understand the effects of these barriers on women's career advancement prospects and work engagement.

3.3. Research Question

Below are the research questions which served the study's focus.

1. To what extent does the glass ceiling effect exist in pharmaceutical companies in India?

2. What are the key factors related to the glass ceiling effect in the Indian pharmaceutical sector?

As far as the dissertation researcher is aware, no other research has investigated the barriers and work engagement level by women working in the pharmaceutical sector with respect to Indian context. However, the author of this dissertation will follow the research objectives to explore the subjectivity of this analysis.

4. Research Methodology

This section addresses the research design, which includes samples, instruments used, the process for data collection along with what kind of data is collected, and how it is gathered. Data analysis gives information about the tests and the software used to prepare and examine the data followed by ethics adhered while collecting the data.

4.1. Theoretical Framework

The glass ceiling effect refers to barriers that holds women from rising to higher positions in company's organogram, even if they possess required qualifications and have demonstrated success. This theoretical framework looks at personal, organisational, and social barriers, as well as how they affect work engagement levels, to analyse the glass ceiling effect on working women in pharmaceutical companies in India.

4.1.1. Personal Barriers

Personal barriers are those elements that prevent women from advancing in their careers. Work life balance, self-doubts, and personal confidence are some of these barriers.

4.1.1.1. Confidence and Self Doubt

According to Bandura's self-efficacy theory, women are more likely to engage in activities to the extent that they believe they are competent (Ngulube and Ogbonnaya, 2023). Women who doubt their ability to do their jobs well may find it harder to succeed in the workplace.

4.1.1.2. Dual Responsibilities

The Goode role strain theory is concerned with how people fulfil various roles, behaviours, identities, and expectations that are widely accepted (McAvoy Jr and Thacker, 2021). Consequently, handling personal and professional roles and responsibilities can lead to role conflict, which can negatively impact women's career.

4.1.2. Organisational Barriers

Organisational barriers prevent women from advancing in their careers within the organisation. Absence of friendly policies, gender biasness, and few opportunities for training are some of the barriers.

4.1.2.1. Gender Biasness

According to Acker's theory of gendered organisations, an organisation is gendered when differences between males and females are used to pattern advantage and disadvantage

(Bates, 2022). This bias is evident in the recruiting, promoting, and appraisal process of women.

4.1.2.2.   Training and Development

According to Becker's human capital theory, investing in education produces new skills, and these new skills help organisations advance technologically (Matache, 2023). Women may not advance in their careers and may not be able to contribute to the company if they are denied training opportunities.

4.1.3. Social Barriers

The social norms that shape gender roles and affect career growth of women are known as social barriers.

4.1.3.1.   Culture Norms

The masculinity versus femininity factor, which is part of Hofstede's cultural dimension theory, assesses societal trends related to gender roles (Greene, 2023). In society women come across situations where they must prioritise family and kids over career.

4.1.4. Work Engagement

Work engagement is one of the important factors which affects job performance and future job opportunities.

4.1.4.1.   Job Demands

Excessive workloads without sufficient assistance can cause burnout and a decline in engagement. Women who face obstacles at work, in the workplace, and in society may be subject to increased workloads and reduced levels of engagement (Bakker and Demerouti, 2024).

4.1.4.2.   Job Resources

Work engagement can be increased through having access to resources like future career opportunities, support from reporting authority, and a supportive workplace culture. Job resources is important in fostering engagement and reducing the negative effects of job demands (Bakker and Demerouti, 2024).

The impact of the glass ceiling on women in pharmaceutical industry in India can be derived from these theories. Women come across various problems because of personal, organisational, and social barriers which limits their ability to excel in their careers and decreases their levels of engagement at work.

4.2.   Research Design

The purpose of this study is to investigate how the barriers like personal, organisational, and social impacts career advancement and level of work engagement of women employed in pharmaceutical companies in India. This was predicated on the research hypotheses formulated from the presented literature review. This study will examine the correlation between the research findings and the literature, as well as the effects of obstacles on women's job from India's viewpoint. To collect information about the glass ceiling at the workplace, an online survey consisting of questions was designed for this purpose and the same was shared with women working across pharmaceutical companies in India. Primarily men were left out of the survey so that the experiences and perspectives of women who are impacted by the glass ceiling effect could be the focus. The survey conducted on women ensures that the data gathered comes from those who are impacted by the glass ceiling providing accurate scenario of the problem. The nature of this research was cross sectional as the research data were gathered in a predetermined amount of time.

We gathered secondary data to prove and validate the conclusions as well as preliminary data to gain insight into how a specific phenomenon manifests itself within the field under study. Positivist is the research philosophy used for this research. This method was used to analyse the relationship between the independent and dependent variables in the study. As the study was theoretical in nature and for identification of patterns, correlations, and causal relationships among variables, a deductive approach was suitable.

The methodology used in this study is quantitative. Quantitative approaches are more effective in gathering and analysing data. Research surveys can be efficiently and economically distributed to many respondents, particularly when conducted through online platforms. Questionnaires and surveys are popular tools for collecting data from a large sample size. The survey data will be analysed using both descriptive and inferential statistics. The data will be evaluated with the help of Statistical Package of Social Sciences.

4.3.   Sample

Due to large sample size a non-probability sampling technique will be used. The method known as snowball sampling involves asking volunteers to participate in research (Saunders *et al.,* 2023).

To study the characteristics of female participants in the population. Female employees of pharmaceutical company in India make up the research population. They were selected from existing LinkedIn members, author previous organisation, and friends contacts. Several important individuals were contacted by the researcher as the initial sample to complete the online questionnaire. As the pharmaceutical industry had a limited number of respondents, snowball sampling led to the discovery of other influential women in this field. To increase the sample size, these individuals were then asked to share the online questionnaire across their female colleagues and friends working in pharmaceutical company. All the participants will be employed by a pharmaceutical company in a variety of departments. The sample is chosen primarily based on two factors: first, the individual employment status in the pharmaceutical industry, and second their managerial or non-managerial job within the organisation.

The goal of the research was explained to the female respondents. An online questionnaire was distributed to the female participants for the survey. It consists of questions related to demographics, barriers, and work engagement. Respondents were made aware that their participation in the research was completely voluntary and that they could revoke their consent to participate at any time. Also, their responses and identity will be kept confidential and will not be shared to anyone.

Out of the 47 responses, 28 responses were available for further analysis. This was achieved by removing unsuccessful questionnaire responses with missing data. 60% of respondents have responded.

4.4.   Instrument

A structured online survey is included to gather quantitative data. The close ended questionnaire has been used in the current study to gather information regarding work engagement levels and barriers from the personal, organisational, and societal domain. The study used the following scales.

The purpose of the questionnaire's first section was to gather the participant demographic information. A 5-point Likert scale ranging from 'strongly agree' to 'strongly disagree' was used. The scales consist of an independent scale with parameters related to the personal, organisational, and societal barriers and a dependent scale of work engagement. The parameters of personal barriers were adapted from (Zafarullah, 2000; Jain and Mukherji, 2010; Kiaye and Singh, 2013; and Cizel and Cizel, 2014). The parameters of organisational barriers were adapted from (Zafarullah, 2000; Afza and Newaz, 2008; Dimovski, Skerlavaj and Man, 2010, and Kiaye and Singh, 2013). The parameters of societal barriers were considered from (Jain and Mukherji, 2010; and Subramaniam, Arumugam and Akeel, 2014).

Scale Items

Table 05 – Personal, organisational, and social barriers affecting women

Sr. No	Statements	Studies
Personal Barriers		
1	My colleagues lack faith in my ability to lead.	(Kiaye and Singh, 2013)
2	I do not see myself in a leadership role.	
3	I lack the necessary ambitions and competitiveness.	(Jain and Mukherji, 2010)
4	I am too timid, frail, and nonsensical.	
5	I am not emotionally ready for a managerial role.	
6	I believe I have no control over the result of a task, no matter how much effort I put into it.	(Cizel and Cizel, 2014)
7	I do not put myself in circumstances that I cannot handle.	
8	I am failing to fulfil my life's ambitions.	
9	I believe my career is a reflection of luck rather than skill.	
10	I fail at most of the stuffs that I try.	
11	I am not devoted to my work.	(Zafarullah, 2000)
12	I anticipate that my manager will consider my feminine traits when evaluating my work.	
Organisational Barriers		
1	My performance at work is not being fairly assessed.	(Kiaye and Singh, 2013)
2	For me, there are no job opportunities.	
3	I must put in extra effort to be acknowledged	
4	My promotion is discriminated against by the organisation.	(Sharma and Kaur, 2019)
5	My annual compensation is discriminated against by the organisation.	
6	To get promoted, I must be more skilled than men.	(Dimovski *et al.,* 2010)
7	Men are given more trust and support from organisation than I am.	
8	Insufficient organisational support hinders my ability to effectively handle both my work and personal obligations.	
9	The number of women attaining senior roles in my organisation is	(Afza and

		declining.	Newaz, 2008)
10		Lack of commitment from management to gender equality and advancement of women.	
11		Men are favoured in performance evaluation and incentive programs.	
12		My organisation has depressing corporate cultures.	
13		There are not enough opportunities for training to acquire experience.	
14		Men do not think well of me.	(Zafarullah, 2000)
15		Supervisors don't think I can do the job well.	
16		Male coworkers are afflicted by my superiority complex.	
	Social Barriers		
1		I refuse to give up anything to advance to higher positions.	(Jain and Mukherji, 2010)
2		I am unable to relocate if the job demands it.	
3		Since I am not the family's primary provider of income, my career is not as important.	
4		Taking care of my family prevents me from moving up in my career.	(Subramaniam, Arumugam and Akeel, 2014)
5		Striking a balance between work and family obligations is a challenging undertaking.	
6		Taking on more work responsibilities negatively impacts my family life.	
7		A woman manager cannot be both an attentive manager and a loving mother.	
8		I would not accept a high position if my family did not help with housework.	
9		My dedication to my family prevents me from advancing professionally.	
10		I would have been promoted to a higher managerial position if I had no commitment to my family.	
11		A woman can be devoted wife and mother instead of a successful manager.	

Source: Mentioned in the table

Work Engagement

This research made use of the Utrecht Work Engagement Scale nine item version. It assesses vigour, dedication, and absorption which are three aspects of workplace engagement that are closely related. A scale with anchors ranging from 'strongly agree' to 'strongly disagree' was used.

Table 06 – Work engagement level affecting women

Sr No	Statements	Study
1	I feel energised and full at work.	(Schaufeli and Bakker, 2004b)
2	I find great meaning and purpose in the work I do.	
3	Working makes the time fly by.	
4	I feel vigorous and strong at work.	
5	I am thrilled with my job.	
6	I lose track of everything else when I am working.	
7	My work motivates me.	
8	I feel like going to work when I wake up in the morning.	
9	When I am working hard, I feel happy.	
10	I take pride in the work I accomplish.	
11	I am engrossed in my work.	
12	I can work for extended periods of time.	
13	I find my work to be challenging.	
14	When I am working, I get carried away.	
15	I have a lot of mental flexibility at work.	
16	It is challenging for me to step away from my work.	
17	I never give up at work, even when things do not go as planned.	

Source: Mentioned in the table

4.5. Data Collection

The following instruments were utilised in the collection of the primary data. The information is provided below.

The researcher will reach out to participants in the pharmaceutical industry at various organisational levels through LinkedIn messages, WhatsApp messages, or emails. To enable anonymous survey completion, a link to SurveyMonkey will be included in the conversation. The respondent can click the link to access an information sheet that gives a thorough explanation of the research's purpose and a consent form that details the research voluntary nature, anonymity, and confidentiality. A logical parameter (See Appendix Fig.1) is applied in the survey in such a way that the participants will be required to check the box with the option 'yes' so that their responses will be used for the research. If a participant chooses the 'no' option, the survey will end. The entire survey will take about 30 minutes to complete. No information about the participant or the organisation will be needed except for specific demographic data of participant. The SurveyMonkey account will be password protected. The responses to the survey will be saved on the author's laptop and transferred to an excel

document after it is finished. To do a statistical analysis, the data will be electronically stored in a file in Statistical Package of Social Sciences. To prevent any information leak, the laptop, excel file, and Statistical Package of Social Sciences file will be password protected (Kiaye and Singh, 2013; Saunders *et al.,* 2023).

The secondary data is gathered from peer reviewed online academic journals, e-books, government website, online newspaper articles, and other reports.

4.6. Data Analysis

This section provides the data analysis techniques which are used to use quantitative survey data to look at work engagement levels and barriers that are social, organisational, and personal. To identify trends, correlations, and important variables that contribute to the glass ceiling effect.

4.6.1. Entering and Saving Data

It is crucial to confirm that the data have been accurately recorded and that the file is routinely saved if the researcher has downloaded secondary data from the online survey.

4.6.2. Errors Checking

Make sure the data is accurate by looking for errors. Verify that the filter questions rules are being followed. Some filter questions indicate which other variables need to be coded as missing.

4.6.3. Coding Data

For Likert scale responses, coding can be applied to questions pertaining to barriers and engagement levels.

The Statistical Package for Social Sciences version 29 will be used to code and analyse the data to test the validity and reliability of the scale as well as the collected data statistically. The reliability of the questionnaire will be evaluated using the Cronbach's alpha coefficient. The proposed hypotheses will be tested at a significant level using multiple regression analysis and one sample t – test (Sharma and Kaur, 2019; Saunders *et al.,* 2023).

Multiple regression analysis will determine the influence of personal, organisational, and societal barriers on work engagement levels.

The author can numerically compare and describe the data values of the variable with the help of descriptive statistics.

4.7. Limitations

Even though the study adds to the body of knowledge, it is not without flaws. This section serves the purpose to discuss the limitations of research that could affect the survey results. The respondents are the first limitations to be considered. Since the research population consists of participants from one sector. The background in which the participants operate could have an impact on findings. For example, the notion of glass ceiling may be interpreted differently according to one's personal history.

To understand and address the issues of gender-based barriers in the pharmaceutical industry in India, needs research about the impact of glass ceiling on working women. The results might be affected due to certain restrictions. Sample bias could be one of the possible drawbacks. Possibility of self-selection biasness may come up with respondents who might have faced glass ceiling or possess beliefs regarding gender issues might participate in survey. Furthermore, since only women's data will be gathered. The nature of study sample which included women from the manufacturing sector of the pharmaceutical industry may have an impact on current findings. Employees from diverse industries like service, construction, retail and other industries will help in extrapolating these findings and provide understanding of the research. Lastly, in the survey, the respondents might provide more of good experiences and less of bad experiences which might lead to response biasness.

The research is planned with a quantitative approach and questionnaires with help of surveys will be used to gather data. The surveys come with their own limits. Data may remain incomplete if questions do not cover most aspects of the glass ceiling effect. Thus, using qualitative research methods in future studies can enhance the literature in this area.

Since the study was carried out in India, some of the findings might have been influenced by Indian cultural traits. In the future, this research can be carried out in different nations to study cross cultural comparison.

4.8. Ethics

The word ethics describes broad guidelines for what a researcher should or should not do (Anderson *et al.*, 2019).

4.8.1. Informed Consent

Before enrolling, respondents must be fully informed of the goals, methods, and possible risks of the study. A consent form will be issued, along with the research objectives, the voluntary nature of the involvement, and the freedom to opt out of the survey without facing any problems. A consent form will be sent in an online questionnaire that can help to facilitate signed consent. By doing this, it is ensured that respondents choose their level of involvement wisely (Anderson *et al.*, 2019).

4.8.2. Confidentiality of Data and Anonymity of Respondents

Confidentiality and anonymity are essential to preserve respondent's privacy and promote truthful answers. To have anonymity, respondent's details will be coded. Only the researcher will have access to the safely stored data. Without reference to any respondent or company, the findings will be published (Quinlan *et al.*, 2019).

4.8.3. Appropriate Behaviour

The goal of the research design is to minimise any potential harm to participants well-being. To reduce discomfort, questions will be carefully worded, and respondents won't feel compelled to reveal information they don't feel comfortable sharing (Saunders *et al.*, 2023).

4.8.4. Transparency

The research will be conducted with transparency by the researcher. Accurate information regarding the objectives of the research and the use of the respondent's data will be informed to them. To maintain integrity and confidence in the research process, any conflicts will be declared (Quinlan *et al.*, 2019).

4.8.5. Data Processing and Storage

Data protection laws must be followed when handling the use and security of personal information that either directly identifies people or makes them identifiable when combined. This describes the procedures for gathering, organising and safely storing research data both

raw and processed. Files holding private or sensitive information must be appropriately labelled and stored safely (Saunders *et al.,* 2023).

The research attempts to perform a considerate, accountable, and significant investigation into the impact of the glass ceiling on working women in pharmaceutical companies in India by abiding ethical guidelines.

5. Data Analysis and Findings

An analysis of the collected data is given in this section. The information gathered from the respondent's survey will be analysed and identify the obstacles encountered by females in the workforce.

5.1. Demographic Characteristics of Respondents

The participant's profile and traits were analysed by the descriptive analysis.

5.1.1. Age of Respondents

Table 07 – Age of respondents

Age

	N	%
21 - 25	1	3.6%
26 - 30	7	25.0%
31 - 35	8	28.6%
36 - 40	6	21.4%
41 - 45	1	3.6%
46 - 50	3	10.7%
51 - 55	2	7.1%

Source: Author research work

Table 07 represents the age groups of respondents. 3.6% of respondents are between 21 – 25 years age, 25% are between 26 – 30 years age, 28.6% are between 31 – 35 years age, 21.4% are between 36 - 40 years age, 3.6% are between 41 - 45 years age, 10.7% are between 46 - 50 years age, 7.1% are between 51 - 55 years age. The maximum respondents are from the age group of 31 - 35 years.

5.1.2. Education of Respondents

Table 08 – Education level of respondents

Education

	N	%
Bachelors	5	17.9%
Masters	21	75.0%
Doctorate	2	7.1%

Source: Author research work

Table 08 represents the participants education level. 17.9% of participants possess bachelor's degree, 75% of participants possess master's degree, and 7.1% of participants possess doctoral degrees. Most participants possess master's degree.

5.1.3. Marital Status of Respondents

Table 09 – Marital status of the respondents

MaritalStatus

	N	%
Single	9	32.1%
Married	19	67.9%

Source: Author research work

Table 09 shows marital status of respondents at the time of survey. 32.1% of respondents were single and 67.9% were married. Thus, majority of the respondents were married.

5.1.4. Number of Children of Respondents

Table 10 – Number of children respondents have

Children

	N	%
0	16	57.1%
1	8	28.6%
2	4	14.3%

Source: Author research work

Table 10 represents number of children participants have. 57.1% of the participants had no child, 28.6% had one dependent kid and 14.3% had two dependent kids.

5.1.5. Work Experience in Pharmaceutical Industry

Table 11 – Number of years of work experience of respondents in pharmaceutical industry

WorkExperience

	N	%
0 - 5	5	17.9%
6 - 10	9	32.1%
11 - 15	7	25.0%
16 - 20	3	10.7%
21 - 25	2	7.1%
31 - 35	2	7.1%

Source: Author research work

Table 11 represents the number of years of work experience of respondents in the pharmaceutical industry. At the time of survey, 17.9% of respondents had 0 – 5 years of service, 32.1% had 6 – 10 years of service, 25% had 11 – 15 years of service, and 10.7% had 16 – 20 years of service, 7.1% had 21 – 25 years of service, 0% had 26 – 30 years of service and 7.1% had 31 – 35 years of service. Thus, majority of the respondents were in the range of 6 – 10 years of work experience in the pharmaceutical industry.

5.1.6. Hierarchy of the Respondents

Table 12 – Hierarchy of the respondents in the organisation

Joblevel

	N	%
Junior Management	5	17.9%
Middle Management	15	53.6%
Senior Management	6	21.4%
Executive Management	2	7.1%

Source: Author research work

Table 12 shows respondent's hierarchy in the organisation. 17.9% of respondents were in junior management, 53.6% were in middle management, 21.4% were in senior management, 7.1% were in executive management and 0% in C level.

5.1.7. Married Women and Hierarchy in the Organisation

Table 13 – Married women and hierarchy in the organisation

Hierarchy	Frequency	Percentage
Executive Management	1	5.26%
Junior Management	1	5.26%
Middle Management	12	63.15%
Senior Management	5	26.33
	19	100%

Source: Author research work

Table 13 shows married respondent's hierarchy in the organisation. 5.26% of respondents were in junior management, 63.15% were in middle management, 26.33% were in senior management and 5.26% were in executive management.

5.2. Reliability Test

To test the reliability of the survey and the data's internal consistency, Cronbach alpha was conducted. The range of the values is between 0 to 1. Cronbach's alpha value of 0.6 and higher are considered (Marina *et al.,*2020).

5.2.1. Personal Barriers

Table 14 – Cronbach alpha for personal barriers

Reliability Statistics

Cronbach's Alpha	N of Items
.916	12

Source: Author research work

A Cronbach's alpha value of 0.916 reflects that the personal barriers questions have an excellent consistency (Zakariya, 2022). This value suggests there is a strong correlation between the survey items that measures personal barriers. This value shows that participants have similar perceptions of these barriers.

5.2.2. Organisational Barriers

Table 15 – Cronbach alpha for organisational barriers

Reliability Statistics

Cronbach's Alpha	N of Items
.937	16

Source: Author research work

A Cronbach's alpha value of 0.937 reflects that the organisational barriers questions have an excellent consistency (Zakariya, 2022). This suggests that the questions about organisational barriers are very good at collecting participants perceptions. This value shows that participants observe organisational barriers as a cohesive group of problems.

5.2.3. Social Barriers

Table 16 – Cronbach alpha for social barriers

Reliability Statistics

Cronbach's Alpha	N of Items
.878	11

Source: Author research work

A Cronbach's alpha value of 0.878 denotes that the social barriers questions have a good consistency. Though the value is slight low than the above two scales, it reflects a high degree of reliability and good correlation among the questions pertaining to social barriers. This value provides an understanding that the respondents view is well captured by these questions.

Thus, the scales used to check the barriers are valid and can be used for research.

5.3.   Validity Testing

An exploratory factor analysis was conducted to verify the validity of the scale. The Kaiser-Mayer-Olikin test was performed to evaluate the suitability of the sample for every barrier in this research. To confirm the set of data is appropriate for factor analysis. The Barlett's test of Sphericity value is significant and the significant value of 0.05 or smaller is appropriate. The Kaiser-Mayer-Olikin test value of 0.6 or higher is acceptable. For further research, the barriers with an eigen value of 1 or higher are kept (Pallant, 2020).

5.3.1. Personal Barrier

Table 17 – Kaiser-Mayer-Olikin test for personal barrier

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.782
Bartlett's Test of Sphericity	Approx. Chi-Square	222.198
	df	66
	Sig.	<.001

Source: Author research work

The personal barrier has Kaiser-Mayer-Olifin value of 0.782 which suggests that the sampling was appropriate. The Barlett's test reflects the strength of relationships between variables. The personal barrier has a Chi-square value of 222.198 and a significant level of less than 0.05. The acceptance criteria of barrier will be with an eigen value of 1 and above. Thus, three personal barriers, 'colleagues lack faith', 'leadership role', and 'lack of self-confidence' were identified by the exploratory factor analysis.

5.3.2. Organisational Barrier

Table 18 – Kaiser-Mayer-Olikin test for organisational barrier

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.804
Bartlett's Test of Sphericity	Approx. Chi-Square	353.309
	df	120
	Sig.	<.001

Source: Author research work

The organisational barrier has Kaiser-Mayer-Olifin value of 0.804 which suggests that the sampling was appropriate. The Barlett's test reflects the strength of relationships between variables. The organisational barrier has a Chi-square value of 353.309 and a significant level of less than 0.05. The acceptance criteria of barrier will be with an eigen value of 1 and above. Thus, three organisational barriers, 'biased office procedures', 'lack of opportunities', and 'gender biasness' were identified by the exploratory factor analysis.

5.3.3. Social Barrier

Table 19 – Kaiser-Mayer-Olikin test for social barrier

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.791
Bartlett's Test of Sphericity	Approx. Chi-Square	157.620
	df	55
	Sig.	<.001

Source: Author research work

The social barrier has Kaiser-Mayer-Olifin value of 0.791 which suggests that the sampling was appropriate. The Barlett's test reflects the strength of relationships between variables. The social barrier has a Chi-square value of 157.620 and a significant level of less than 0.05. The acceptance criteria of barrier will be with an eigen value of 1 and above. Thus, three social barriers, 'sacrifice for family', 'family issues', and 'family and career' were identified by the exploratory factor analysis.

Nine barriers were identified because of the exploratory factor analysis. These include three personal barriers, which are 'colleagues lack faith', 'leadership role', and 'lack of self-confidence' three organisational barriers, which are 'biased office procedures', 'lack of opportunities', and 'gender biasness' and three social barriers which are 'sacrifice for family', 'family issues', and 'family and career'. Descriptive statistics along with factor correlations are provided below.

Table 20 – Descriptive statistics of nine barriers

Item Statistics

	Mean	Std. Deviation	N
PB1	3.86	.891	28
PB2	3.89	1.100	28
PB3	3.57	1.200	28
OB1	3.11	1.286	28
OB2	4.00	.903	28
OB3	2.82	1.278	28
SB1	3.36	1.129	28
SB2	2.79	1.424	28
SB3	3.86	1.145	28

Source: Author research work

Note = PB1= colleagues lack faith, PB2= leadership role, PB3 = lack of self-confidence, OB1= biased office procedures, OB2= lack of opportunities, OB3= gender biasness, SB1= sacrifice for family, SB2= family issues, SB3= family and career.

Table 21 – Factors correlation of nine barriers

Inter-Item Correlation Matrix

	PB1	PB2	PB3	OB1	OB2	OB3	SB1	SB2	SB3
PB1	1.000	.513	.703	.434	.507	.302	.421	.209	.306
PB2	.513	1.000	.637	.532	.746	.407	.390	.340	.369
PB3	.703	.637	1.000	.535	.581	.359	.336	.443	.628
OB1	.434	.532	.535	1.000	.574	.395	.177	.175	.212
OB2	.507	.746	.581	.574	1.000	.353	.436	.317	.107
OB3	.302	.407	.359	.395	.353	1.000	.097	.304	.387
SB1	.421	.390	.336	.177	.436	.097	1.000	.418	.041
SB2	.209	.340	.443	.175	.317	.304	.418	1.000	.412
SB3	.306	.369	.628	.212	.107	.387	.041	.412	1.000

Source: Author research work

Note = PB1= colleagues lack faith, PB2= leadership role, PB3 = lack of self-confidence, OB1= biased office procedures, OB2= lack of opportunities, OB3= gender biasness, SB1= sacrifice for family, SB2= family issues, SB3= family and career.

5.4.   One Sample T – test

The degree of glass ceiling experienced by women in various roles in the pharmaceutical companies was assessed using a one sample t – test (test value =3). The hypothesis that glass ceiling exists among women in the pharmaceutical sector for the personal, organisational, and social barriers is supported by the significance value of all the glass ceiling barriers ($p < 0.05$) (Sharma and Kaur, 2019). The mean and T values of barriers responsible for glass ceiling is shown in the table below.

Table 22 – Glass ceiling for women in the pharmaceutical industry

Barriers of Glass Ceiling		Mean	T – value	Significant Value
Personal	Colleagues lack faith	3.86	22.91	0.00
	Leadership role	3.89	18.72	0.00
	Lack of self-confidence	3.57	15.75	0.00
Organisational	Biased office procedures	3.11	12.78	0.00
	Lack of opportunities	4.00	23.44	0.00
	Gender biasness	2.82	11.68	0.00
Social	Sacrifice for family	3.36	15.73	0.00
	Family issues	2.79	10.35	0.00
	Family and career	3.86	17.81	0.00

Source: Author research work

5.4.1. Personal Barrier

5.4.1.1.   Colleague's Lack of Faith

The average score of 3.86 shows that the participants consider colleagues lack of faith to be a major personal obstacle. A diversion from population mean, indicated by significant ($p < 0.05$), t – value of 22.91 shows this is an important barrier with respect to the glass ceiling. Colleagues lack of faith may be due to assumptions about women's potential in the office.

5.4.1.2.   Leadership Role

The average score of 3.89 shows that the participants consider leadership role to be another personal obstacle. A diversion from population mean, indicated by significant ($p < 0.05$), t – value of 18.72 signifies the absence of leadership role contributes to the glass ceiling. No team leading projects for women would stop their growth in career.

5.4.1.3.   Lack of Self Confidence

The average score of 3.57 shows that the respondents identified lack of self-confidence to be another personal obstacle. A diversion from population mean, indicated by significant ($p < 0.05$), t – value of 15.75 signifies that this barrier differ from other. Women may lack self-confidence due to certain personal experiences in their life.

5.4.2. Organisational Barrier

5.4.2.1.   Biased Office Procedures

The average score of 3.11 shows that the women identified biased office practices as one of the organisational barriers. A diversion from population mean, indicated by significant ($p <$

0.05), t – value of 12.78 signifies how this barrier can affect the career. Women's advancement in the workforce can be affected due to biased process in the organisation like unfair appraisal process or biased policies.

5.4.2.2.   Lack of Opportunities

The mean score of 4.00 highlights that one of the major organisational barriers can be absence of opportunities. A diversion from population mean, indicated by significant ($p < 0.05$), t – value of 23.44 indicates the intensity of this problem. Women's growth in the career can come to halt if they do not get right opportunities.

5.4.2.3.   Gender Biasness

The mean score of 2.82 suggest that gender biasness is not one of the barriers of glass ceiling as the mean value was below 3. Though still it can be a significant issue as the t – value is 11.68. Changes in behaviour towards women can be one of the biases which can appear.

5.4.3.   Social Barriers

5.4.3.1.   Sacrifice for Family

The mean score of 3.36 suggests that normally women sacrifice for own family, and this can be one of the major social barriers. The t – value of 15.73 indicates the barrier intensity at 0.00 level of significance. Women come across number of sacrifices for their family which results into leaving the job and hinder the career growth.

5.4.3.2.   Family Issues

Family problems are regarded as low social barrier, according to the mean score of 2.79 which is below mean value of 3. The t – value of 10.35 at the 0.00 level of significance indicates this barrier is different, as women come across lots of family issues which may even lead to leaving a job which reinforces glass ceiling.

5.4.3.3.   Family and Career

A major social barrier at times for women can be juggling between family and work as shown by the mean value of 3.86. The t – value of 17.81 suggests, this barrier can be a crucial one. Most of the time women must choose between family and corporate which can stop their career resulting in the glass ceiling.

One sample t – test shed important light on the obstacles that contribute to the glass ceiling effect that affects women working in pharmaceutical companies in India. The analysis identifies that the participants consider all the obstacles – personal, organisational, and social which affects their career growth. The analysis highlights the complex relationship between

all this factors that forms the glass ceiling. To understand these factors is essential to formulate tactics to shatter the glass ceiling and establish a fairer and better workplace.

6. Discussion

Within the context of personal, organisational, and social barriers the current research investigated the views of female employees regarding the existence of glass ceiling in the pharmaceutical sector in India. The study also identified the barriers that prohibits the growth of women in the industry. Also, the glass ceiling impact on the work engagement level of women in the organisation.

In reference to the first hypothesis regarding the existence of glass ceiling in the pharmaceutical companies in India, women employees have identified factors from the personal barriers like colleagues lack faith, leadership role, and lack of self-confidence with the mean values of 3.86, 3.89, and 3.57. Also, the factors from the organisational barriers are biased office procedures and lack of opportunities with the mean values of 3.11 and 4.00. Simultaneously, factors from the social barriers are sacrifice for family and family and career with the mean values of 3.36 and 3.86. Thus, all the mean values are above the hypothetical mean value 3. According to a study, it was found that over 50% of married women are in the middle management cadre, which indicates that women remained in the middle management level post marriage (Dimovski *et al.,* 2010). Thus, from the table no 13 it is identified that 63.15% of married women are still working in the middle management positions across the industry. According to the study, there were certain situational, organisational, and societal barriers in Durban organisations that are sometimes referred to as the glass ceiling. This included misogyny based on gender, disregard for women, and insufficient assistance in juggling a variety of roles (Kiaye and Singh, 2013). Thus, H1 is supported.

The second hypothesis, regarding the key factors related to the glass ceiling effect in the pharmaceutical companies in India. The mean values of personal barriers which are colleagues lack faith (3.86), leadership role (3.89), and lack of self-confidence (3.57) indicates that female employees may lack the above traits which must be a barrier for them. To support the finding, Terjesen and Singh (2008), claim that compare to their counterparts, women working in Europe and Western nations lacked desirable traits like ambition, assertiveness, confidence, and influential behaviour – qualities that were essential for positions in management.

Moreover, the mean values of organisational barriers such as biased office procedures (3.11) and lack of opportunities (4.00) indicate that female employees acknowledge the existence of

organisational barriers in terms of unfair evaluation process for promotions, no opportunities and biasness. Stated differently, women feel that the company discriminates against them for job opportunities in their field and yearly appraisals. However, it was found that women were not able to grow in their careers due to lack of supportive environment in their offices (Jain and Mukherji, 2010). In addition, Sharma and Sehrawat (2014) noted that there is a pervasive glass ceiling when it comes to difficult assignments, unfair performance reviews and fewer promotions.

Furthermore, it was discovered that social barriers which prevent female employees from advancing ahead were sacrifice for family (3.36) and family and career (3.86). This reflects that most of the women had to choose house and family over career which results in leaving the job. Work and family issues were identified as career barriers in a different study. Family issues included having children, parental care, no family time and balancing office and personal life (Orser, Riding and Stanley, 2012). Ismail and Ibrahim (2008) researched that the biggest obstacles facing female leaders are those related to family structure and obligations.

As a result, the current research reveals the existence of glass ceiling for women in pharmaceutical companies across India. The study also identified certain barriers like colleagues lack faith, leadership role, lack of self-confidence, biased office procedures, lack of opportunities, gender biasness, sacrifice for family, family issues, and family and career which are the root cause for glass ceiling in terms of personal, organisational, and social barriers. Thus, H_2 is supported.

7. Conclusion

The research examined whether glass ceiling exists or not in the pharmaceutical sector across India along with the barriers that contribute to the glass ceiling. A barrier known as the "glass ceiling" does not allow women to get promoted to next level in their organisation. According to the research, most of the female employees believe there is a glass ceiling which is visible, though invisible for organisations and this hinders their growth related to their work and careers. Factors related to personal, organisational and social barriers are the outcomes from the data, which was analysed, resulting to the barriers such as colleagues lack faith, leadership role, lack of self-confidence, biased office procedures, lack of opportunities, gender biasness, sacrifice for family, family issues, and family and career which affects female's progress in their organisation. According to women the major factor impacting the glass ceiling is lack of opportunities, family and career, colleagues lack faith and leadership role. From previous years literature review and the current study, it has been found that the circumstances have not yet changed for women throughout the years. Most of the females get stuck at the middle management, and very few from them manage to move ahead in their career. To stop the glass ceiling, individuals, companies, and society must understand that women are also capable for performing the tasks to excel ahead in their careers. Women still have to wait, before glass ceiling eradicates.

8. Recommendations, Limitations and Future Research

It is recommended that pharmaceutical sectors should design robust policies for job opportunities, internal transfers or promotions and fairly compensation plan. Mentor mentee program can be fruitful for both, as senior females can mentor the junior females across the organisation and help them to grow. Personality development and offsite programs can help the women to come out of the fear and lead the team. To balance the personal and professional life, companies can come up with hybrid work model which will reduce travelling to office and keep the employee fit for productivity.

Limitations faced was while writing the literature review it was identified that most of the previous literature review discussed the obstacle like gender which women came across in their offices. Therefore, it was a bit difficult to understand that the same obstacle was a barrier for women in today's scenario. As seen from the data analysis, gender issues are the least barrier according to the women that might be affecting them in their workplace. Also, the existing literature have hardly focused on the personal, organisational, and social barriers in pharmaceutical industry as compared to one found for banking, service and information technology. The sample size was comparatively small which was another research limitation. Additionally, participants may not have experienced the barriers in their work life, and they may have answered the survey. Another, limitation in this research was the seriousness of the participants as most of the questionnaires were not completed and some were answered with option of neither agree nor disagree.

Future studies on females working in automobiles, mining, teaching and other sectors can be conducted which will help to generalise these findings and provide understanding of the methodology. Also, the research was conducted on personal, social and organisational barrier in pharmaceutical companies in India. Similar research can be conducted in different countries to understand the barriers and cultures affecting the women in those countries.

9. Personal Learning Statements

Being a Human Resources professional with 12 years of experience in Engineering, Pharmaceutical and Healthcare industry. I am aware of the impact the glass ceiling has on Indian pharmaceutical companies working women. My understanding of the types of social, personal, and organisational barriers that women face in their lives has improved because of this research. I also now know how human resource department can establish policies that support equality and raise employee and organisational performance.

9.1. Learning about Barriers

Most women have issues with work life balance and self-confidence, which hinders their ability to grow. Human resources, in my opinion, ought to develop initiatives like the hybrid work model and self-personality development to support the advancement of women. Organisational policies are crucial to the professional advancement of women. I have discovered that the human resource department needs to regularly update its policies regarding hiring, performance reviews, and harassment. Programs for training and development ought to be carried out frequently. Another element that can make or break a woman's career is society. Therefore, in my capacity as a human resource professional, I am aware of the significance of a positive organisational culture for the development of both, employees and the company.

9.2. Costing

Human resources and top management should educate staff members on how to recognise and lessen the glass ceiling. Programs that can be set up to improve employee engagement and benefit the organisation over time include cross functional bonding, mentor mentee relationships, and leadership training. The approximate cost per employee for leadership training is between Indian Rupees. 40,000/- to Indian Rupees. 50,000/-. Additionally, the company can allocate Indian Rupees. 10,000/- to a group of 8 employees for cross functional bonding activities.

9.3. Time Bound Programs

The organisation ought to start a mentor mentee program, off site training, and gender bias workshops for all employees. This program can be finished in between six and twelve months. The human resources department should review and amend the policies every two

years to guarantee fairness in the hiring, interview, and annual appraisal processes. Human resources should evaluate female employees career performance every five years and support their advancement withing the company.

9.4.   Implications for Human Resource

Human resources should develop policies regarding maternity and paternity leave, equal pay, and gender equality to break down the glass ceiling withing the company. Employee engagement can also increase women's participation and promote business expansion.

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11. Appendix

11.1.   Information sheet

Firstly, I want to express my gratitude for consenting to take part in this study.

You will need to complete a scale through survey monkey to participate. A link ought to have been sent to you via email.

The National College of Ireland, located in Dublin, Ireland, requires this survey and research as part of the final dissertation requirement for Master of Arts in Human Resource Management students.

The purpose of this study is to examine the effects of the glass ceiling and barriers [personal, organisational, and societal] on women's career advancement and level of work engagement in the pharmaceutical industry in India. That is, to recognise the obstacles preventing them from advancing to more senior positions. You have been invited to participate in this study because all the participants are female and employed in India's pharmaceutical sector.

Your provided information will be handled with strict confidentiality. Your participation in the survey is anonymous since it does not ask for any personal or organisational identifiable information [such as your name, email address, organisation name] or any other information that could be used to identify you. The study's data will be stored on a password protected computer that only [Abdulquadir Merchant] the lead researcher, can access. To fulfil course requirements, a report on the study will be written and submitted to the National College of Ireland's evaluation board for publication. There will be no individual participant identification, the data will be analysed collectively. As the data contains no identifying information, and your answers will remain totally anonymous. The National College of Ireland's data retention policy will govern the handling and storage of your information.

It is voluntary to participate in this research. All it takes to stop the study is to close the window of your web browser. Unfortunately, once the study is over, you won't be able to take it back because we won't be able to identify your data because all responses are anonymous, and the data analysis process may have started.

It will take 20 to 30 minutes to complete the survey. You are giving your permission to take part in this study by answering this survey.

Below is the contact information to get in touch with the lead researcher if you have any questions or need any clarification at all.

Thank you.
Abdulquadir Merchant
X22222154@student.ncirl.ie

11.2. Consent Form

I, voluntarily consent to take part in this study.

I have received a written explanation of the study's aim and methodology, as well as the chance to ask questions.

I am aware that taking part in this study will not directly benefit me.

I am aware that every piece of information I submit for this research will be kept private.

I am aware that my name will not appear in any reports on the findings of this research because I sent in my survey and questionnaire anonymously via survey monkey, and I did not include my name on any paperwork.

I am aware that the results and the signed consent form will be kept on Abdulquadir Merchant's personal computer in accordance with the National College of Ireland's data retention policy.
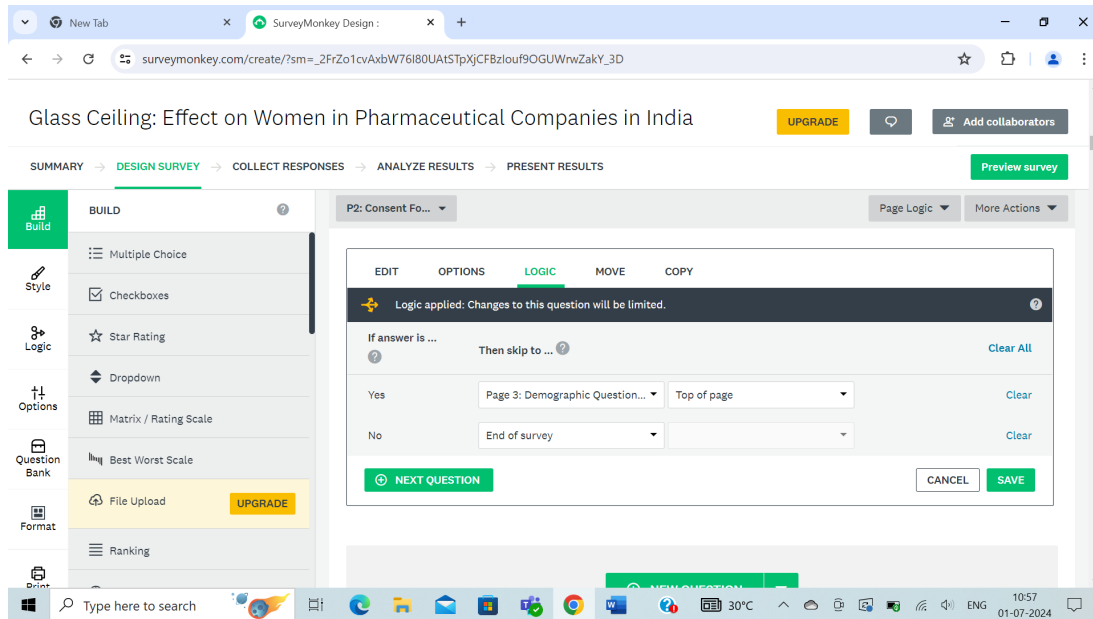
I am aware that I can get in touch with Abdulquadir Merchant at any time to get more information and clarification.

Kindly check the box below to proceed with the questionnaire. By checking this box, you are confirming to the fact that you have read, comprehended, and freely agreed to participate in this study. Since all data is anonymous, once it has been submitted, it cannot be removed or retrieved.

If you have read the information sheet regarding this study, kindly check the box. □

Are you willing to take part in this study? Yes □   No □

11.3.　　　Consent Box

Fig. 1 – Consent Box