THE CONTRIBUTORY FACTORS OF GLASS CEILING IN THE ACCOUNTING PROFESSION IN MALAYSIA

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Abstract

Official figures reveal that while over 50% of chartered accountants in Malaysia are women, only a minimal percentage occupies partnership positions. The present study is set to investigate the factors that contribute to the presence of barriers to career advancement, referred to as the "glass ceiling," among accountants in Malaysian accounting firms. In particular, this study aims to examine the challenges encountered by both male and female accountants in their professional advancement and to investigate measures designed to dismantle the glass ceiling in the auditing sector. The study then specifically addresses the underrepresentation of women in senior management roles. A survey was administered to audit personnel employed at both Big 4 and non-Big 4 organisations. Analysis of 160 usable responses indicates that corporate culture, structural biases, and company type substantially affect perceptions of the glass ceiling. The findings suggest that corporate culture and structural biases correlate with an elevated impression of the glass ceiling, whereas employment at a Big 4 firm is related with a diminished perception. Comparative analysis of gender perceptions indicates that female accountants in Malaysia view the glass ceiling in a way similar to their male counterparts, likely attributable to the growing gender diversity within the profession, favourable government initiatives, policies, and the transformation of cultural and social norms related to education. This study identifies particular causes contributing to the glass ceiling, highlighting the necessity for inclusive policies and measures to foster a fairer workplace in the accounting sector, as well as the significance of fair access to professional development opportunities for all genders.

Keywords: Career progression; Gender; Bias; Glass ceiling; Accountants

Abstrak

Walaupun angka rasmi menunjukkan bahawa lebih 50% akauntan bertauliah di Malaysia adalah wanita, hanya sebilangan kecil daripada mereka yang memegang jawatan rakan kongsi. Kajian ini bertujuan untuk menyiasat faktor-faktor yang menyumbang kepada kewujudan halangan kemajuan kerjaya, yang dikenali sebagai 'siling kaca', dalam kalangan akauntan di firma perakaunan Malaysia. Secara khusus, kajian ini bertujuan untuk mengkaji cabaran yang dihadapi akauntan lelaki dan wanita dalam kemajuan profesional mereka, serta menyiasat langkah yang diambil untuk mengatasi siling kaca dalam sektor pengauditan. Kajian ini juga secara khusus menangani kekurangan wakil wanita dalam peranan pengurusan kanan. Satu tinjauan telah dijalankan ke atas kakitangan audit yang bekerja di kedua-dua organisasi 'Big 4' dan 'bukan Big 4'. Analisis terhadap 160 respons yang sah menunjukkan bahawa budaya korporat, bias struktur dan jenis syarikat mempunyai pengaruh yang ketara terhadap persepsi siling kaca. Penemuan menunjukkan bahawa budaya korporat dan bias struktur berkorelasi dengan kesan yang tinggi ke atas siling kaca, manakala pekerjaan di firma *Big 4* dikaitkan dengan persepsi yang lebih rendah terhadapnya. Analisis perbandingan persepsi jantina menunjukkan bahawa akauntan wanita di Malaysia melihat siling kaca dengan pandangan yang serupa dengan rakan lelaki mereka, mungkin disebabkan oleh kepelbagaian jantina yang semakin meningkat dalam profesion, inisiatif kerajaan yang menggalakkan, dasar, dan transformasi norma budaya dan sosial yang berkaitan dengan pendidikan. Kajian ini mengenal pasti punca-punca tertentu yang menyumbang kepada siling kaca, menonjolkan keperluan untuk dasar dan langkah inklusif bagi memupuk tempat kerja yang lebih adil dalam sektor perakaunan, serta kepentingan akses yang saksama kepada peluang pembangunan profesional untuk semua jantina.

Kata kunci: Perkembangan kerjaya; Jantina; Bias; Siling kaca; Akauntan

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List of Abbreviations

AI	Artificial Intelligence
AICPA	American Institute of Certified Public Accountants
HCT	Human Capital Theory
IR4	Industry Revolution 4.0
MIA	Malaysian Institute of Accountants
MICPA	Malaysian Institute of Certified Public Accountants
RPA	Robotic Process Automation
SDG5	Sustainable Development Goal 5
TAM	Technology Acceptance Model
OLR	Ordinal Logistic Regression
OLS	Ordinary Least Squares

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The changes in industry and rapid growth of technology will lead to a new paradigm shift in strategic planning and industry, especially in the corporate world. In addition, disruptive technology is a condition of industry turmoil resulting from disruptive innovation and disintegrated approaches in producing, organising, and capturing the value (Rauch et al., 2016). Accounting, like other professions, gains assistance and disruption from digitisation technologies. Nevertheless, research on the impact and significant technology changes on accounting remains limited. The accounting and auditing profession faces tremendous difficulties and opportunities as technology advances unprecedentedly (Demirkan et al., 2020). In the age of information explosion, several innovative technologies now need to be embraced to drive revolutionary changes in industries and transform business structures. Accountants and auditors are professions closely tied to a company's business activities, and they can be severely impacted by evolving technologies (Richins et al., 2017). Therefore, it is critical to assess how disruptive technologies impact the accounting and auditing sectors.

Disruptive innovation in audit is defined as a new technology or methodology that auditors cannot accept at first but can potentially displace currently used technology or methodology as it improves (Yan, 2019). It is a different concept from "sustaining innovation," whereby sustaining innovation in audit is defined as an improvement to a technology that is currently used in the audit practice. External entities such as the client's internal auditors, consultants, or start-up firms implement and develop

disruptive technologies. The continued growth of technologies has increased the menace that large-scale jobs will be computerised and digitised in the future (Frey & Osborne, 2017; Møller et al., 2017). This kind of menace is notable by accountants since most accounting, and auditing jobs can eventually be automated. This is due to the growing ability of technologies that can substitute many of the tasks that auditors and accountants traditionally performed. Therefore, any future enhancement will become sustaining innovation once a disruptive innovation is recognised and deployed in the audit.

As outlined in the Ninth Malaysia Plan (2006–2010), one of the critical national agenda is increasing women's participation in the workforce. Concerning the accounting profession, Malaysia would need around 60,000 qualified accountants by 2020. Nevertheless, as reported in 2021, the number of accountants still does not reach the aforementioned target. Due to the shortage of accountants, there was a proposal to allow accountants from neighbouring countries to work in Malaysia (Anggraeni et al., 2018). Nowadays, women's ability is at par with that of men's and sometimes may even be deemed superior, especially in the subject of education, skills, and intelligence (Tyagi et al., 2021). However, the perception that women are powerless and unequal to men still exists. The damaging image about gender inequalities at the workplace has affected the organisational structures, the processes and practices, even the decision-making process.

Recent years show that many female workers are involved in the accounting profession. Nevertheless, the female worker remains underrepresented in the top academic practice rank and receives lower wages in the same position. Even though female worker has made strides in developing their presence in the accounting

profession, inequalities remain. According to Laporan Survei Tenaga Buruh Malaysia 2020, there are 5.83 million working women and 9.13 million working men (Department of Statistics Malaysia, 2020). The same report also revealed that there are 607,500 men in the managerial position, which has outnumbered the number of women in the same position at 200,900.

1.2 Problem Statement

Inequality is defined as "an instance of injustice or unfairness" (Merriam-Webster, n.d.), and it has been a focus of research in the field of social science. According to the Department of Statistics Malaysia, the current female-to-male student ratio enrolling in higher education studies in Malaysia in 2020 is 6:4. However, the number of women in the professional job market is equal to men. As displayed on the Department of Statistics Malaysia official website, Malaysian women showed a labour force participation rate of over 50% in 2019. However, despite a high number of women in a labour force participation, little is known about the number of females compared to their male counterparts, successfully reaching the managerial positions. Bonniol et al. (2019) revealed that even though women comprise and perform well in their tasks and performance, their participation in senior management is still meagre. The phenomenon suggests that women still experience social and economic injustice in many parts of the world (Heisi et al., 2019).

In Malaysia, although women outnumbered the male counterpart in the workforce of audit firms, the number of women audit partners is very low. For example, Al-Dhaimri and Chandren (2017) reported that only 14% of signing audit partners are women. Al-Dhaimri and Chandren (2017) also stated that there were only 10% women audit partners in the Big Four top auditing firms (i.e., Big Four are the four

largest professional services networks in the world). Furthermore, it is reported that women tend to exit the workforce between their late 20s and early 30s, usually to family commitments (Docka-Filipek & Stone, 2021). As a result, there exists an inequality between male and female at the senior level of management in audit firms (Amis et al., 2018; Cohen et al., 2020; Ud Din et al., 2018).

As the world becomes more competitive and changes more rapidly digitally, the demand in the workplace and tasks also increases. Human abilities in managing those tasks need to be accompanied by technologies to be more efficient and faster. Therefore, it is essential to know how disruptive technologies may affect the present state of inequality at an audit firm. Unfortunately, based on the fact that women are less savvy in technology (Mustaq & Riyaz, 2020), one could expect that disruptive technology will widen the inequality gap.

While there is a paucity of study on how many women have made themselves to partnership level, especially in Malaysia, several studies (Batton & Wright, 2019; Gao & Brink, 2017; Moreno-Gómez et al., 2018) have investigated the status of women accountants in organisational hierarchies in English-speaking countries, where the awareness of gender equality is more pronounced. Mate et al. (2019) portrayed that career-minded women still have difficulties attaining executive positions. Furthermore, little progress has been made in allowing women to compete with their male counterparts in the corporate world.

Apart from that, it is reported that although women have made dramatic strides breaking into the accounting profession, it is still rare and quite difficult for women to reach top managerial positions in public accounting firms (Tiron-Tudor & Faragalla,

2018). Scholars have determined several reasons, such as gender discrimination, lack of access to organisational knowledge, limitation and competition in personal attributes for leadership roles, long working hours, commitment and responsibilities toward family, and lack of mentor support. Based on a Singaporean study, Windsor and Auyeung (2006) showed that on average, it is expected that one may be promoted to a management level after serving between four and six years. This study claimed that in this male-dominated profession, it is expected that women will need a longer time to reach a similar position, partly caused by gender discrimination.

Sustainable Development Goal 5 (SDG 5) concerns gender equality and is the fifth out of the 17 Sustainable Development Goals established by the United Nations in 2015. The official wording of SDG 5 is, "Achieve gender equality and empower all women and girls." SDG 5 aims to achieve gender equality by ending all forms of discrimination, violence, and any harmful practices against women and girls in the public and private spheres. It also calls for the full participation of women and equal opportunities for leadership at all levels of political and economic decision-making.

In the wake of the Fourth Industrial Revolution or Industry 4.0 (4IR), it is critical to consider its impact, particularly in the role of disruptive technology, on gender inequality. It is interesting to know how the accelerating pace of technological change affects women's role at the organisation. In 2021, statistics showed that women constituted more than half of the MIA'S membership. With more women entering the profession and all those possible discriminations, it potentially can delay the achievement of the Ninth Malaysia Plan and inevitably cause the supply shortage of accountants in the market. In this study, Ordinary Least Square test comprising normality test, linearity test, Pearson correlation, heteroscedasticity, and

multicollinearity test was conducted to compare the different views of men and women accountant on the issue of unequal treatment based on gender.

Additionally, disruptive technology has the potential to moderate the relationship between gender (particularly women) and the glass ceiling by creating new opportunities for women to overcome traditional career barriers. These technologies provide tools for flexible work arrangements, which can help women balance professional and personal responsibilities. However, if access to these technologies or training is unequal, they could also reinforce the glass ceiling. Therefore, the impact of disruptive technology depends on how it is implemented and accessed within the workplace. Recent years show that women can stand at the same level as men in many areas, but the glass ceiling perception still exists in any workplace. There is still a barrier that is difficult to overcome for women to advance their careers. Many female workers still cling to their old position even though they can climb towards a higher position. Therefore, this research will reveal the factors that lead to the glass ceiling perception.

1.3 Research Questions

1.3.1 General Research Questions

1) What is the influence of disruptive technology perceptions of glass ceiling among accountants in public accounting firms?

2) What is the role of gender in shaping perceptions of the glass ceiling among accountants in public accounting firms?

3) What factors contribute to women accountants' perceptions of the glass ceiling in public accounting firms?

1.3.2 Specific Research Questions

1) What is the effect of gender on the perception of the glass ceiling among accountants in public accounting firms?

2) What is the impact of disruptive technology on the perception of the glass ceiling among accountants in public accounting firms?

3) What are the contributory factors to the perception of the glass ceiling among women accountants in public accounting firms?

1.4 Research Objectives

This study aims to address the aforementioned issues through the following research objectives:

1.4.1 General Research Objectives

1) To explore the role of gender in shaping perceptions of the glass ceiling among accountants in public accounting firms.

2) To examine the influence of disruptive technology on perceptions of the glass ceiling among accountants in public accounting firms.

3) To identify the factors contributing to women accountants' perceptions of the glass ceiling in public accounting firms.

1.4.2 Specific Research Objectives

1) To investigate the impact of disruptive technology on the glass ceiling perception among accountants in the public accounting firms.

2) To investigate the gender effect on the perception of the glass ceiling among the accountants in the public accounting firms.

3) To investigate the contributory factors of glass ceiling perception among women accountants in the public accounting firms.

1.5 Significance of the Study

The outcome of this study will contribute and provide many benefits toward the accounting profession and applied researcher in this field. More than one party will gain benefit from this study. First and foremost, the finding from this study can benefit those researchers and practitioners, especially in the accounting field. The finding will provide an insight into the research about glass ceiling perception that occurs in the accounting field in Malaysia. This study also can be a reference and guideline for future research in a related field.

Secondly, policy-makers, managers, and the Malaysian Institute of Accountants (MIA) can also capture the data generated from this study in reviewing and formulating a new policy about human resources (HR) and overcoming glass ceiling perception in audit firms in Malaysia. In addition, they can view and help revolutionise the managerial approach to enhance the performance of each employee, predominantly female workers.

Other than that, this study can also take off the information that contributes to glass ceiling perception. Once the issues are identified, the solution can be constructed. Unified theory can be used and applied in the future to reduce the glass ceiling perception, especially in Malaysia's accounting profession. This is because the effectiveness of management outcomes will determine the enhancement and performance of every organisation. Below also show the other parties that receive a positive significance from this research.

Public accountants, particularly women, are the direct beneficiaries of this study's findings. Any advancement in equality techniques can pave the way for better policies and discipline to be developed in order to survive and thrive in society. Data produced from this study will be used to show the comparison and provide insights into the issue of furthering responsible equality practices in accounting especially in the audit firms. The study's findings are valuable to both current and future scholars. In fact, there are very few Malaysian and overseas studies utilised quantitative approach especially multivariate analysis. Hence, this research could be one of the foundations for a new learning theory.

1.6 Scope of the Study

This study focuses solely on the accounting profession field, where the glass ceiling perception and the disruptive technology are the main issues that will be explored in this research. Subsequently, this study investigates in-depth on how the disruptive technology influences the performance of female workers, especially those in the accounting profession, since the world is becoming more digitally oriented.

Furthermore, this study analyses the contributory factors of glass ceiling in the Malaysian accounting profession by examining three main areas. First, it investigates the influence of individual demographic factor of gender on the perception of the glass ceiling among accountants. Second, it examines the relationship between organisational culture and the presence of glass ceiling within Malaysian accounting firms, identifying how workplace norms and values may affect upward mobility. Third, it evaluates the impact of organisational policies, such as promotion criteria and mentorship programmes, on the perceptions of glass ceiling to understand how these policies either support or hinder career advancement for accountants. Additionally, this study employs a quantitative approach to address these dimensions, providing measurable insights into the structural- and individual-level factors affecting the career progression in the Malaysian accounting profession.

1.7 The Organisation of the Thesis

The first chapter of this thesis is outlined according to the background of the research and briefly reviewed about the problem statement also followed by the objectives of this study. It also explores the problem statement of this study by distinguish the research questions and objectives. Thereafter, it explains what the scope and significance of the study are. To conclude, this current chapter describes the overview of this study including the current issues related to the topic.

The literature review and hypotheses development are briefly explained in the second chapter of this thesis. It also goes through the theoretical aspect of the research by including previous scholars' literature reviews on the notion of a glass ceiling, gender and organisational determinants as independent variables, and disruptive technology as a dependent variable. Meanwhile, it also analyses both theories of Human Capital

Theory, Technology Acceptance Model and its influence towards the study. The hypotheses that have been developed by the past researchers will also be discussed in this chapter.

The research methods and research design employed in this study are then demonstrated in the third chapter. This chapter also covers sample selection, data collection, and variable measurement. This chapter briefly describes the research model that was utilised to examine the hypotheses.

Chapter 4 presents the findings of the study based on data analysis. It includes a summary of descriptive statistics, hypothesis testing, and key insights derived from the analysis. The results are interpreted in relation to the research objectives, highlighting significant patterns, relationships, and any unexpected outcomes. Tables and figures are used to enhance the clarity of the findings. The chapter also discusses the statistical significance of variables and any notable trends observed in the data.

Chapter 5 summarizes the key findings and their implications for theory, practice, and policy. It discusses how the results contribute to the research field and addresses the study's limitations. Recommendations for future research and practical applications are provided. The chapter concludes by reinforcing the study's significance and suggesting ways to bridge gaps identified in the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter elaborates and discusses more about accounting profession in terms of evolution and the development in the world of accounting. Reviews are made on the rest of chapter about the background of accounting is reviewed in a global context before narrowing down the scope to Malaysia in terms of the background of accounting firms in Malaysia, the glass ceiling perception, the disruptive technologies in accounting, and the impact of disruptive technologies on female accountants.

2.2 Background of Accounting Firms in Malaysia

Before Malaysia achieved its independent in 1957, Malaysia was a former British colony. Since then, Malaysian accounting professional bodies have had their roots in the British accounting professional bodies. According to Loo (2015), the first accounting professional body was formed under Companies Ordinances (1940–1946) was "The Malayan Association of Certified Public Accountants" on 26 July 1958 with only 20 members. This was among the first home-grown bodies that was established to fulfil the demand of that era since the body is known as The Malaysian Institute of Certified Public Accountants (MICPA).

The Malaysian Institute of Accountants (MIA) is the national accounting authority responsible for regulating, developing, supporting, and enhancing the profession's integrity, prestige, and interests in Malaysia. It was founded in 1967 under the Accountants Act. MIA confers the title of Chartered Accountant Malaysia or CA (M). MIA exposes its members to a variety of tools, activities, and professional

development and networking opportunities through collaborating closely with companies. There are now over 32,000 members from various sectors in Malaysia and across the globe. MIA's global perspective and linkages are reflected in its participation in regional and international professional organisations, including the ASEAN Federation of Accountants (IFAC, 2021).

There are four primary sectors represented in the membership of MIA are Commerce & Industry, Public Practice, Public Sector, and Higher Education. It is vital that all accountants are gathered in a single community for the development and expansion of the accounting profession (MIA, 2021). As a member-based organisation, MIA prioritises the provision of membership services in all of its everyday operations. Assistance to members with technical inquiries or practice concerns ranges from aiding members with by-laws and guidelines interpretation to assisting members in the establishment of their own practices, among many other things. Members will be kept up to speed on the most recent legislation, rules, and guidelines, as well as technical knowledge impacting their field, via this group (MIA, 2021).

The Accountants Act 1967 specifies that the MIA's responsibilities include the regulation of the profession, the provision of training and education, and the promotion of the interests of the accounting profession among other things. With this increased responsibility comes a greater challenge for the MIA in terms of supporting and encouraging the development of accounting education in the country. The MIA is responsible for ensuring that both existing and future accounting professionals are prepared to face global problems while remaining relevant to the needs of society. As of 2022, there were 37,902 of members MIA across all the industries and states in

Malaysia. Based on official news on MIA website in year 2020, 54% of MIA's members were women, while the remaining 46% were men.

2.3 Women in Accounting Profession

Women's career path in the professional services discipline has never been easy and consist of many struggles and obstacle. Over the past of two decades, accounting profession has become an interesting issue in a matter of gender research. Several studies, such as those by Atena and Tiron-Tudor (2020), Axtell et al. (2017), and Uribe et al. (2021), have been conducted on the history of accountancy and women involvement in this profession. Meanwhile, an example study regarding the career progression for women staff in the accounting field had been conducted by Ramdhony et al. (2013).

The Big Four professional accounting firms, KPMG, Ernst & Young (EY), Deloitte Touche Tohmatsu (Deloitte), and PricewaterhouseCoopers (PwC), are dominating this industry, exemplifying the vital site of professionalisation. While women's participation into accounting field was restricted and limited during 20th century (Lehman, 1992), in the past two decades, the Big Four accounting firms have clearly recognise the state of that issue (Edgley et al., 2016), by making through sustainable and firm public commitments in promoting gender equality via strict and rigid gender-balanced recruitment policies and also a clear criteria process for promotion and internal selection (Agrizzi et al., 2021; Almer et al., 2020; Kornberger et al., 2010). This procedure appears and occurs for large accounting firms, where these big firm have a long service in industry and comprise a mixed track record of gender diversity achievements (Hardies & Khalifa, 2018; Haynes, 2017; Khlif & Achek, 2017).

2.4 Glass Ceiling Perception

2.4.1 Previous Studies

The glass ceiling refers to an invisible barrier that prevents individuals from advancing within their organisation due to their gender, race, or other factors unrelated to their abilities or qualifications. This barrier is often seen in the form of limited opportunities for promotions, unequal pay, and a lack of representation in senior leadership positions. The concept of the glass ceiling is widely recognised as a form of systemic discrimination and inequality within the workforce (Johns, 2013). In the accounting and auditing sector, the glass ceiling is a significant issue faced by many professionals worldwide. For example, despite the increasing number of women entering the field, they continue to face a lack of representation in top leadership positions (Cohen et al., 2020).

In a study by the American Institute of Certified Public Accountants (AICPA), the professional body found that while there is a significant number of women entering the accounting profession, their representation in leadership positions, especially at the partner level in accounting firms, is relatively low (American Institute of Certified Public Accountants [AICPA], 2019). It is interesting to note that as of 2023, only one of the Big Four accounting firms (i.e., PwC) has a female CEO globally. The remaining three (Deloitte, EY, and KPMG) are currently led by men (Anghel, 2023).

To date, the current ratio of female students enrolling in higher education studies in Malaysia is at the ratio of 7:3 (women-to-men ratio), and the number of women in the professional job market is equal to men. In the professional accounting sector, there are more women than men. However, despite the high number of women in the accounting sector, only a few of them are known to successfully reach the partnership

status (i.e., the highest management level at an audit firm) or management positions (Al-Dhamari & Chandren, 2017). The number of women in top management is still low because of certain factors. It is reported that they are leaving the profession earlier (Al-Dhamari & Chandren, 2017). AICPA (2019) asserted that many women are choosing to leave because they have no other choice possibly due to discrimination, biological roles, and a general lack of advancement.

Shambuagh (2007) identified seven factors that prevent women from ascending to higher positions, which are: (1) Challenges with work-life balance; (2) Letting perfectionism get in the way; (3) Waiting for hard work to be recognised (rather than taking control of your own destiny); (4) Not speaking up in the moment; waiting for the right words at the right time; (5) Not leveraging mentors and creating a support network; (6) Lack of political savvy; and (7) Not asking for what they want.

Workplace nature for each profession consist of diverse promotion and career advancement. Regardless of opportunity for promotion and career advancement, it is salient and not a new issue that female worker remain minority in this large decision making. Quota for female worker to be appointed in higher rank is limited and competitive. Aside from that, Da Silva et al. (2018) identified that there is a wide gap in term of salary even male and female worker are in the equal position, so that with the chance for career progression. This evidence proved that female worker receives unequal treatment, resulting in their difficulty to achieve career progression. There are many reasons that contribute to why female workers are unable to attain a career progression; one of it is often called glass ceiling.

In conducting research about glass ceiling perception, one must first comprehend the concept and fundamental on glass ceiling perception. Glass ceiling is defined as the barriers prevent female worker, minority groups to climb higher position and moving upward (Da Silva et al., 2018; Kapoor et al., 2021; Özkan Pir & Yilmaz, 2017; Weyer, 2006). The term "glass ceiling" is used as a metaphor for hidden barriers, where female worker can see the higher position, but they cannot pass or attain it. The glass ceiling perception influences the female workers in a way that they would struggle in a certain situation and feel helpless. Female workers also carry different roles and commitments apart from their working commitment, such as maternity, household, and building family, and others. These are some of the factors that can contribute to the glass ceiling perception.

2.5 Contributing Factors Toward Glass Ceiling Perception

In any type of organisation, either business or corporate world, the glass ceiling is a well-known phenomenon. Even though, the occurrence of glass ceiling happens in many organisations, Da Silva et al. (2018) claimed that there is only a small number of research has been carried out about glass ceiling perception. Prior research has identified many factors that contribute to the glass ceiling perception especially in the accounting disciplines. Firstly, for gender inequality, Musoke (2005)—as cited in Salahuddin et al. (2021)—revealed that organisational structure hold a powerful barrier in stopping women's moving upward to high position despite their achievement, intellect and abilities. Abidin et al. (2009) also supported this by highlighting that most working organisations do not provide and accommodate to the values of women.

Over time, women still has to face and endure stereotypical characterisations, mostly about their inborn nature. This inborn nature often defines women as dependent, weak, and emotional, since their integrity is determined by service, loyalty, sacrifice, and obedience towards their organisation. Especially in the accounting profession, female workers would encounter many difficulties in comparison to the male workers in terms of performance, ability to complete work, and duration of working hours.

Exploring and researching about gender inequality in the accounting field, which is considered a topical issue, could provide a glimpse of insight into a broader perspective. Several theories have been proposed to support and explain the reason why there are fewer women in the top organisation chart. Cohen et al. (2020) identified seven variables that contribute to glass ceiling perception, which are bias-centred, structural-centred, cultured-centred, marriage, children, organisational rank, and public accounting.

2.5.1 Human Capital Theory

To increase the value of organisation and at the same time maintain it sustain and robustness, each organisation maximise its knowledge supply and emphasise its scarce resource. Tools in sustaining an organisation are skills, abilities and knowledge of their human empowerment. Due to the rapid changes trend of global technology, continuous training and education are needed in order to maintain the competitiveness of organisation. Thus, the workforce quality must be upgraded in retaining the high standard of training levels, skill building and living knowledge (Wuttaphan, 2017).

In the circle of labour market, human displays a diverse level of skill, knowledge, abilities, education and also their expectancy towards workplace. As cited in

Wuttaphan (2017), McConnell et al. (2009) reported that a person with better training and high education are capable to supply a great productivity to organisation and vice versa. With that, the human capital theory is an approval and widely accepted in increasing the organisational performance. This is because the organisation can depend on worker's ability, knowledge and skill as an important concept for value creation.

Human capital theory addresses that different level of training and education is a main contribution to the different level of wages and in other words, the more knowledgeable and high level of abilities for person, they will likely obtain a better job (Arefieva et al., 2021). Human capital theory also suggest that society and individuals gain benefit from investment on people. The investment features the differentiation between consumptive expenditure and human capital expenditure. In Malaysia, women's labour force participation is steadily increasing in comparison to men's, meaning that women's human capital investments should rise in tandem with their male counterparts. As a result, greater female human capital investments compared to male human capital investments indicate that the gender gap is shrinking. This shows that when the participation rate of women in the labour force is increased, the wage gap between women and men is subsequently narrowed. Therefore, it is critical to develop a policy that can increase women's labour participation rate.

This human capital theory also has connection with the expected lifetime work participation to the incentive in work training that determine the marketability and income salary. In other words, the longer one works, the higher benefits and salary reward can be obtained. In addition, those who works long hours with better training and education skills will have higher expected salary return. So based on the same

theory, since women work shorten hours, they will be less inclined to equip themselves with proper training. Thus, they will have lower salary expected return. Therefore, this will widen the gap between men and women.

2.6 Disruptive Technology

The continuous implementation and integration of technology tools, process, and platform along the journey of business decision-making process is already having a meaningful significant impact on the entire accounting industry. The addition of technology helpful in reducing human burden in solving many tasks and decrease human error. Apart from that, technology also has brought a great benefits and incentives for the industry in enabling and providing a better service.

Disruptive technology is another alternative that fosters the creation of new markets, changes the existing markets, and eventually replace the former technology. Living in 21st century, technology is encountering a rapid revolution that affects the way people interact, live and work. Communication, living and working styles are getting better each day with the existence of technology.

Facing the digitisation era, it is vital that each accountant must develop professional skills including, mathematics and statistics, computer science, data science and analysis, expertise in business or domain, traditional software, and machine learning (Aulia, 2020). Apart from the professional skills that highlight in the study by Aulia (2020), other skills that need to be improve from time to time are technical skills and soft skills. In technical skills subject, the required skills are business understanding, visualisation, data processing, meanwhile for soft skills, the required skills are critical thinking, communication, answering and questioning, and also experimentation.

Presently, the advent of digital technology is responsible for extensive modifications in different kind of segments, inclusive of accounting world (Remane et al., 2017). To support information dissemination and data processing, the accounting professional have integrated different technological resources into their working routine operations over time. Example of application digital technologies that supply positive flexibility in daily working task of accountants are document management systems, digital platforms, data storage, cloud solutions and analysis software (Sebastian et al., 2020). Knudsen (2020) agreed that the advance of technology provide a significant impact in the functioning of accountant process start from the computerised information system moving to accounting software, emergence of internet and integrated management systems.

The accounting world is facing major changes in the way value is created, conveyed, and acquired and in the market, there are some trends that has already being viewed. Disruptive technology confers consequences on accounting daily routine tasks that normally occur in accounting offices, such as data recording and data entry, for a more systematic shift towards digitisation and automation. Kokina and Davenport (2017) reported that relevancy of auditing technologies in using artificial intelligence to work out big data, enable a better relevant sampling and sample size and speed up the execution these activities. On the other hand, trend that has been an eye opener to the accounting circle are the utilisation of technologies in providing a deep insight in a subject of data-intensive analysis, customer satisfaction, and generating competitive advantage (Pan & Seow, 2016).

Industry revolution 4.0 is a new production paradigm that define the comprehensive and massive transformation in the chain of value creation. This transformation

involves the usage of the digital production technology by involving artificial intelligence, Internet of Things, cloud computing, big data and many more. Furthermore, in the era of 4IR, software will be vital for production processes. When the world encountered the COVID-19 pandemic and subsequently, the lockdown or Movement Control Order (MCO) by the government, most people in every part of the world were greatly affected by this crisis. Consequently, this pandemic has digitised the work style and way of education, transaction, and even social life—most of which had been previously carried out face-to-face.

At this moment, digital technologies are a supreme component in every people lives as an easiness and effectiveness tools in carry on every task and activities. The digitisation also without doubt has increase the effectiveness in making the daily task in jobs become more efficient. Therefore, many workers need to be skilful and expert in handling the task that involve the digital ways. Also, people in 21st century need to be skilful, equip and adaptive with the rapid changing of the technologies so that they are not left behind.

2.6.1 Different Impact of Disruptive Technology on Men and Women

Disruptive technology impacts men and women accountants differently due to several gender-related factors, including differing levels of exposure to technology, workplace roles, cultural expectations, and existing gender disparities in the accounting profession. Below are some possible manifestations of these impacts on men and women:

2.6.1.1 Access to Technology Training and Skill Development

Women accountants may face barriers to accessing technology-related training due to biases in professional development opportunities or cultural expectations that prioritize traditional roles over technical skill development. In contrast, men may find it easier to access or be encouraged to pursue upskilling opportunities in technology, particularly in fields like data analytics or automation, which are often perceived as more technical and male-dominated. As technology continues to reshape the workplace, this unequal access may place women at a disadvantage, potentially widening the gender gap in technology use and professional development.

2.6.1.2 Role Segregation in Accounting

Women in accounting are more likely to occupy lower-level or support roles, such as bookkeeping and administrative duties, which are highly susceptible to automation through technologies like artificial intelligence (AI) and robotic process automation (RPA). In contrast, men are more likely to hold higher-level positions in strategic decision-making, auditing, or consulting—roles that are less likely to be replaced by automation and are instead enhanced by technological advancements. This job segregation means that disruptive technology may disproportionately impact women by automating positions traditionally held by them while creating more opportunities for men to take on strategic and leadership roles, further deepening gender disparities in the profession.

2.6.1.3 Adoption and Acceptance of Technology

Women may be more reluctant to embrace disruptive technologies due to factors such as a lack of confidence, cultural preconceptions about technical competence, or limited exposure to tech-driven workplaces. In contrast, men may be more willing to

adopt and experiment with new technologies, influenced by societal expectations and biases that position them as more tech-savvy. These differences in technology acceptance, as explained by the Technology Acceptance Model (TAM), may lead to men and women utilizing disruptive technologies differently, further widening the skill gap and reinforcing existing gender disparities in the workplace.

2.6.1.4 Impact on Work-Life Balance

Women often face greater challenges in balancing work and family responsibilities, and while disruptive technologies enable remote work and flexible scheduling, they may also increase expectations for constant availability and productivity, disproportionately impacting women. In contrast, men, who are generally less constrained by societal norms around caregiving, may more easily leverage these flexible work arrangements for professional growth. As a result, the unequal impact on work-life balance could influence career trajectories, with women experiencing higher levels of stress and burnout as they navigate the demands of technological disruptions alongside their personal responsibilities.

2.6.1.5 Opportunities for Advancement

Despite the challenges they face, disruptive technologies like big data and AI present opportunities for women to transition into higher-value roles, such as data analytics and advisory services, provided they have equitable access to upskilling and mentorship. However, men may be better positioned to capitalize on these advancements, as their greater representation in leadership and decision-making roles gives them more exposure to technology-driven strategic initiatives. Without deliberate efforts to ensure equal access to training and career development, the

accounting profession may continue to be male-dominated in technological advancements, further reinforcing existing gender disparities.

2.6.1.6 Gender Bias in Technological Tools

AI and other disruptive technologies have the potential to unintentionally reinforce gender inequalities, as algorithms trained on biased data may disadvantage women in areas such as hiring and performance evaluations. Meanwhile, men, who are less likely to face these biases, may benefit from algorithms that favor leadership qualities or career paths historically dominated by men. If these disparities are not actively addressed, they could further entrench gender discrimination in the profession, limiting opportunities for women and widening the existing gap in career advancement and leadership representation.

2.6.2 Impact of Disruptive Technology to Women

This study focuses on a single context, which is gender, in analysing the position of women and their role in accounting profession and different social contexts. Komori (2008) agreed on a subject of concern, where better understanding is required in term of the relationship between gender and accounting.

The emergence of disruptive technology may contribute in being an obstacle for women. This is because the utilisation of disruptive technologies has become one of the transformations in the accounting profession. This process become a challenge to female worker because they are comfortable with the traditional, common ways and are afraid of changes.

Accounting and auditing profession nowadays are moving forward in terms of service as disruptive technology is gradually and increasingly being promoted and utilised to

variety of tasks such as analyse business transactions, assessing risk and analyse activities trend. Besides that, disruptive technology has been applied as a tool in making forecasting about fraud, accounting estimates, bankruptcy, and material misstatement (Cho et al., 2020). This proves that human task can be replaced with disruptive technologies. Thus, humans, either male or female, need to have the expertise to handle the aforementioned technologies. A prior study by Micheni et al. (2021) claimed that women faced difficulties and challenges in using technologies. Regardless of this struggles, management boards are responsible and heavily dependent in overcome this subject as the labour participation of women in workforce are growing over time (Singh et al., 2021).

2.6.3 Impact of Disruptive Technology to Men

Disruptive technology has significant effects on men accountants, often shaped by their roles, societal expectations, and access to resources within the profession (McConville, 2023; Zhang et al., 2018). Here are some key ways in which disruptive technologies influence men in the accounting field:

Disruptive technologies such as artificial intelligence (AI), machine learning, and big data analytics enhance strategic and analytical roles, benefiting men who are more likely to occupy leadership positions in accounting. These technologies enable them to focus on high-value tasks like strategic decision-making and advisory services, solidifying their roles as leaders and innovators in the profession. For example, automation of routine tasks allows senior male accountants to dedicate more time to complex problem-solving and client relationship management—areas that are highly valued and less susceptible to automation. As a result, disruptive technologies

reinforce the importance of high-level roles, where men are disproportionately represented, further strengthening their position within the field.

Disruptive technologies significantly enhance productivity and efficiency, benefiting men accountants who readily adopt tools like robotic process automation (RPA) and cloud-based systems to streamline workflows and meet performance expectations. These technologies enable faster processing, reporting, and decision-making, improving career outcomes. For example, male accountants in audit or consulting roles can leverage advanced analytics for real-time risk assessments and data-driven insights, strengthening their professional reputation. As a result, the efficiency gains from technology adoption provide men with a competitive edge, particularly in performance-driven environments where speed and accuracy are highly valued.

Proficiency in disruptive technologies like blockchain and AI can accelerate career advancement for men accountants, positioning them as leaders in technological innovation within their firms. Their expertise and visibility in leveraging new tools can enhance their reputation and open doors for leadership opportunities. For example, men working in firms that prioritize technology adoption may secure faster promotions if they are seen as pioneers in implementing advanced systems. This advantage aligns with traditional perceptions of male leadership, further reinforcing gender imbalances in career progression and widening the gap in opportunities for women in the profession.

Men accountants face significant pressure to continually upskill and adapt to remain competitive in an evolving technological landscape. Those in leadership roles must demonstrate both adaptability and technical proficiency to maintain their relevance

and drive innovation. For instance, failing to adopt technologies like AI or data visualization tools could limit career opportunities for men in both senior and mid-level positions, potentially stalling their professional growth. While disruptive technologies offer numerous opportunities, they also demand constant learning and agility, creating challenges for men who may struggle to keep pace with rapid advancements in the accounting profession.

Disruptive technologies are reshaping job expectations for accountants, placing greater emphasis on strategic thinking, technological proficiency, and interpersonal skills. Men, particularly those in traditional accounting roles, must adapt to these evolving demands to stay relevant. For example, male accountants accustomed to manual processes must learn to integrate advanced software into their workflows to enhance efficiency and decision-making. This shift from technical accounting tasks to more advisory and strategic roles requires them to develop a broader skillset, blending technical expertise with strong communication and problem-solving abilities to succeed in the modern accounting landscape.

Automation and AI have minimized the time spent on routine, repetitive tasks, enabling men accountants to focus on more value-added activities that enhance job satisfaction and career growth. This shift allows for greater engagement in creative problem-solving and strategic decision-making. For example, in tax accounting, men can leverage AI-driven tools to identify tax-saving opportunities rather than manually handling data entry. As a result, the transition away from routine work enables men to develop higher-order skills, aligning with roles that are typically perceived as more prestigious and reinforcing their presence in leadership and strategic positions within the profession.

Men accountants in leadership positions often play a key role in driving the adoption and integration of disruptive technologies, positioning themselves as change agents and thought leaders within their firms. Their involvement in technological transformation enhances their influence over strategic decision-making and innovation. For example, male partners or senior managers may lead the implementation of blockchain technology to improve transaction security, gaining recognition for modernizing firm practices. This leadership in technology adoption further reinforces men's dominance in senior roles, strengthening their influence over organizational strategy and maintaining their competitive edge in the profession.

Men accountants are more likely to work in fields that intersect with emerging technologies, such as forensic accounting, cybersecurity, and financial analytics, allowing them to directly benefit from technological advancements. Their exposure to these high-demand areas enhances their expertise and career growth. For example, a male forensic accountant might leverage AI to detect fraud patterns in large datasets, improving efficiency and marketability. As a result, proficiency in emerging technology fields positions men as experts in specialized, rapidly growing areas, further strengthening their career prospects and professional influence.

2.6.4 Challenges Faced by Men Accountants

While disruptive technologies offer numerous advantages, men accountants also face unique challenges, such as below.

The rapid adoption of technology in accounting is increasing competition, enabling younger or less experienced professionals—regardless of gender—to compete more effectively with seasoned accountants. This shift puts pressure on all professionals,

including men, to continuously adapt and embrace technological advancements to maintain their standing in the industry. Those resistant to change may find it difficult to keep up, risking stagnation in their careers. Additionally, as automation takes over routine tasks, traditional accounting skills may lose relevance, pushing men to transition into more strategic, analytical, and advisory roles to stay competitive in the evolving profession.

Disruptive technology reshapes the roles and opportunities available to men accountants by enabling greater efficiency, creating opportunities for leadership, and requiring new skills. While it presents significant advantages, men must continuously adapt to the demands of technological innovation to sustain their career growth. The benefits of these technologies often align with existing gender dynamics, potentially reinforcing men's dominance in leadership and strategic roles within the accounting profession.

2.7 The Technology Acceptance Model (TAM)

The adoption and acceptance of technology nowadays have become a significant issue as the world faces a vast evolution in changing everything into digitisation. In identifying the behaviour of end-user acceptance, the Technology Acceptance Model (TAM) is widely applied (Purwanto & Mutahar, 2020; Salloum et al., 2019). TAM proved that even though human behaviour is complex and challenging to understand, this model can identify user acceptance. The original structure of TAM consists of four variables that are Perceived Usefulness (U), Perceived End of Use (E), Attitude Toward Using (A), and External Variables. Figure 2.1 displays the original of TAM.

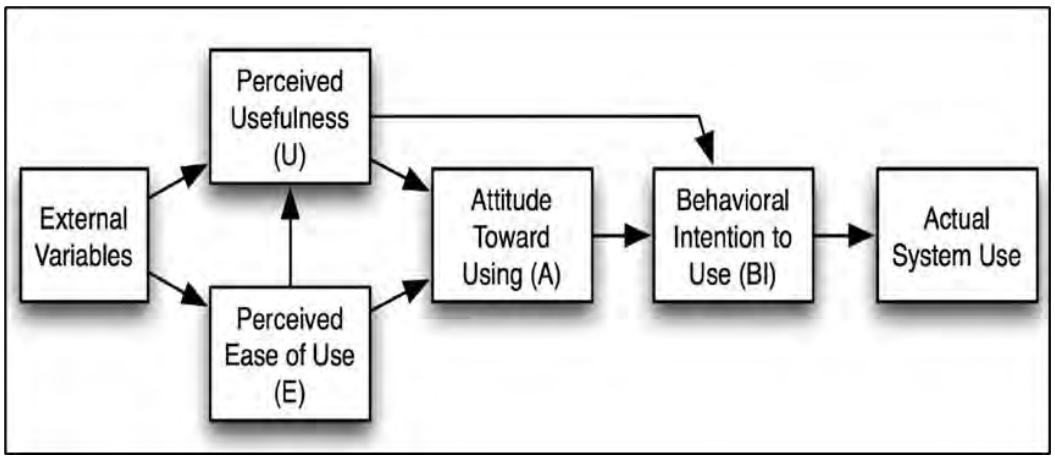

Figure 2.1
The Original of Technology Acceptance Model
Source: Salloum et al. (2019)

Based on the model as shown in Figure 2.1, Perceived Usefulness is used as both variable that are dependent and independent and is predicted by Perceived Ease of Use, Attitude towards using and External Variables. Behaviour normally measured by using by diversity usage, amount of the time using, actual numbers of the usage and the frequency of use.

2.7.1 Women Involvement with Disruptive Technology: Prior Research

As year pass by, without doubt new digital lifestyle and technologies are rapidly incorporated and growth into everyday human being life. These changes might bring advantages and also risks or drawbacks to women's well-being and security especially in career advancement. Nevertheless, in this modern era that full of challenging, women began to play a key role in the accounting. In their study, Axtell et al. (2017) argued that women have been increasingly occupying top management positions in accounting firms and corporate accounting. They also argued that there is an increasing role of women in accounting in academia.

Jeacle (2011) highlighted a study about the nation's first female-chartered accountants in Scotland which is Helen Lowe. According to his study, he wrote that Helen Lowe departed her training firm to establish her own accounting practice in 1928 and she managed this practice for almost seven decades. The successful story of this is an example that proved the changes of women's role in the profession to slowly increase when they brave enough to take a risk and become extraordinary, and all of this can occur either in accounting profession or other profession.

There is a little research on the technology acceptance in accounting profession especially by female worker. Studies by Park and Nam (2014) and Lee and Huang (2014) revealed that the digital literacy levels for men and women are on different degree. Different gender of worker has difference levels of acceptance and skills when the working task or daily routine are involved with advance systems and technology. In reducing these kinds of circumstances, identifying these differences can be helpful for information system technology in order to improve the service especially in management.

2.8 Summary

Past study that has been explore and discuss in this section is a guidance and instruction in leading this research into a correct way. The formation of the accounting profession includes both two ways: formal and informal processes, and value systems that guide the process of a person becoming an accountant. Many variables are involved and contribute towards glass ceiling perception. Women worker facing many difficulties to make career progression compared to male worker.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter portrays how the theoretical framework used in this research is constructed. By focusing on eight variables which were, gender, bias factor, structural factor, organisational factor, marital status, rank post, Big Four and dependent, all of these variables are the contribution toward glass ceiling perception based on the previous literature.

3.1.1 Theoretical Framework of Glass Ceiling Perception

Human Capital Theory and the Technology Acceptance Model (TAM) can both serve as valuable frameworks in understanding the contributory factors of the glass ceiling in the Malaysian accounting profession. Here is how each theory aligns with and supports this research:

1. Human Capital Theory (HCT)

Human Capital Theory posits that individuals' skills, knowledge, and experience (human capital) increase their productivity and, theoretically, their career advancement opportunities (Wuttaphan, 2017). This theory can support the framework of this thesis by explaining how individual demographic factors, such as education and experience, affect perceptions and experiences of the glass ceiling.

Application in the Theoretical Framework: HCT helps to analyse the extent to which human capital differences (e.g., education level, training, and work experience) influence perceptions of career barriers in the accounting profession. For instance, if

certain demographic groups (such as women or those from different educational backgrounds) have equal human capital yet still perceive or experience career advancement barriers, it highlights structural factors beyond individual qualifications that contribute to the glass ceiling.

The HCT can be linked to the research questions in this work by measuring if demographic factors (such as education) are indeed associated with perceived barriers to advancement, providing insight into whether or not human capital can overcome these obstacles within the organisational context.

2. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) explains how individuals perceive and use new technologies, emphasising factors such as perceived usefulness and ease of use(Purwanto & Mutahar, 2020; Salloum et al., 2019). In the context of the glass ceiling, TAM can help evaluate the role of technology in either perpetuating or alleviating barriers to advancement.

The TAM can be applied in the theoretical framework to examine the role of technology adoption in professional development and career mobility within the accounting profession. For example, if certain organisational policies or technologies (such as digital tools for managing projects or training programs) are perceived as useful, they may facilitate greater access to career advancement opportunities. Conversely, limited access to technology or training may reinforce the glass ceiling, especially if certain groups are excluded.

Moreover, the TAM can be linked to the research questions in this work by exploring how organisational factors (e.g., technology-enhanced mentorship or promotion systems) influence the perceptions of glass ceiling. If certain groups are less likely to benefit from technology in the workplace, it could signal a gap in support for their advancement.

3. Integrating Both Theories into the Theoretical Framework

Together, Human Capital Theory and the Technology Acceptance Model provide a holistic view of both individual and organisational factors influencing the glass ceiling. HCT grounds the framework in personal qualifications, while TAM emphasises the role of technology and organisational practices. This combined approach allows the research to assess how both human capital and organisational resources (like technology) impact perceptions of the glass ceiling, providing a nuanced understanding of career progression barriers in the Malaysian accounting profession.

In constructing the theoretical framework for this study, several theories based on prior research documented, such as structural-centred, bias-centred, cultural-centred, have been discussed in the previous chapter. The accounting profession was known as male discipline resulting for women encounter difficulties and facing greater competition to enter into this field. Those perceptive, paradigms, beliefs and stereotyping of society that has passed from generation to generation which believed that women overshadow by intrinsic and feminine nature by working in the under-representation levels. This situation is getting worse when different levels of social classes come into play from the potential economic, hierarchical and social benefits and upper and middle class (Allen, 2014).

However, despite the prior research, the understanding of the gender-based gap revolved around the accounting profession remains incomplete. It is commonly believed that women have fewer career progression opportunities than men. Some of the reasons for this problem are clearly connected to the idea of a glass ceiling perception. Women have unequal or little in entering employment phase (Huang et al., 2020; Klasen, 2019; Kossek & Lautsch, 2018).

Social or economic policies aimed at women in whole or in part are still inadequate to solve the problem. They often reflect men's perceptions and directions, thereby contributing to gender inequality. Studies show that better education and training institutions program for women create better access in the development process for better career advancement. Figure 3.1 displays the theoretical framework that is used as a guideline in this study.

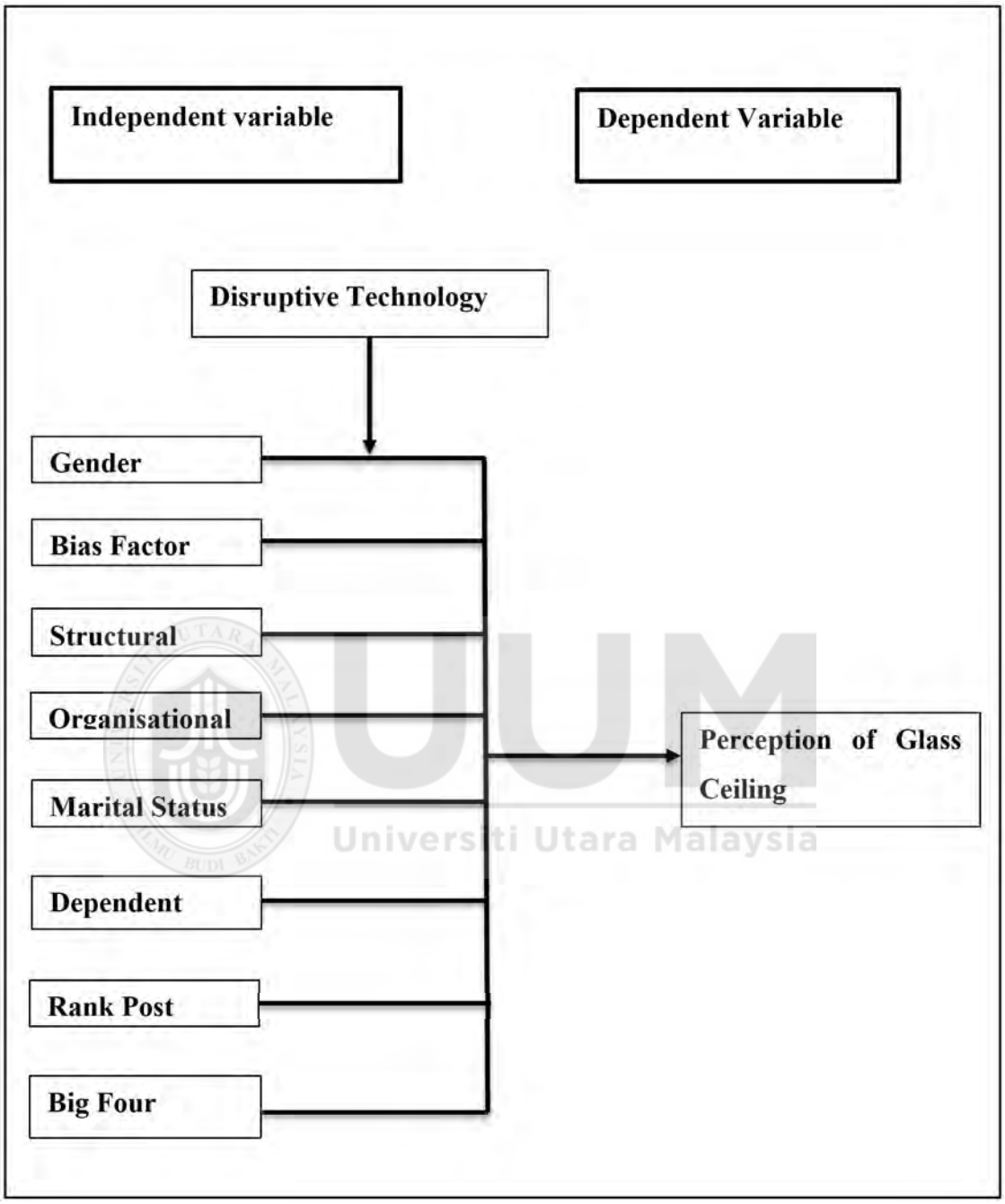

Figure 3.1
Theoretical Framework Perception of Glass Ceiling

3.2 Hypotheses Development

Gender

In Malaysia, gender inequality in the workplace continues to be one of the most challenging issues to deal with. A considerable number of studies suggest that women are less competent than males in managerial jobs (Hentschel et al., 2019; Quadlin, 2018). A study by Zarei et al. (2021) found that both male and female accountants suggest that the scarcity of women in partnership positions was due to women's poor performance in non-traditional jobs. In addition, the study finds that gender inequality does exist in the workplace, especially among men and women who hold the same occupation but work in different establishments or have different job titles within the same organisation.

Research through Zarei et al. (2021) also highlighted that much fewer girls are worried about managerial positions. Such matters occurred because of the belief of women having feminist act in the operating environment. This circumstance will result in scepticism and restrain women from serving in greater upper-stage control and attaining more superior managerial positions.

H_1: Female accountants are likely to have higher association with glass ceiling than male accountants.

Bias Factor

When women enter into the working world, they will face several barriers which will negatively impact their career progression. According to McKinsey's report, the "glass barrier" prevents women from progressing in their professions and achieving

leadership roles (Huang et al., 2019). Among the kind of formidable barriers that women confront in the working place are biases and stereotyping (Hill et al., 2016).

Women are usually abundant at the bottom of the corporate hierarchy and tend to be excluded from decision-making and top management positions (Struckmann, 2018). One of the reasons women's career advancements is hindered is that leading men prefer people with similar cultural preferences. It has also been proven that managers prefer to hire people who are similar to others already employed by the organisation. This situation proved that there was a prejudice and bias in the work environment.

Other than that, another significant stereotype inside a circle of working environment that maternity topics related to own circle of relatives and women's roles within the non-public sphere are loss of commitment. Higher control count on that woman is poor in a time of features that the higher required to reap achievement at pinnacle level (Ahmad & Naseer, 2015; Heilman, 2012). This type of situation is a contribution to the unfairness thing remedy in the accounting profession.

H_2: Female in accounting profession believe that there exists bias treatment between male accounting profession is differ regardless the performances evaluation.

Structural Factor

More and more women are preparing for their managerial and professional careers. Women set goals by working hard, entering and graduating from college, acquiring additional professional skills, working long hours, and gaining the years of experience needed to advance to higher levels of corporate management (Devillard et al., 2018; Einarsdottir et al., 2018; Islam et al., 2018). Despite the increasing number of women

being promoted to top management levels around the world, women are still in low-wage positions and tend to have no ambitious or aspirations to climb in a higher position.

According to Save the Student's new 2018 National Student Money Survey, men are a little more optimistic about wages than they were a year ago, women continue to rate themselves lower price than male graduates although female college applicants far outnumber male applicants (Megraoui, 2018). Career orientation is an essential driver of women's career development; therefore, an attention is needed to women's career orientation and career development in order to explain their career paths.

In order to obtain a better position in the workplace and career for women, they need appropriate knowledge that contributes to their promotion. When women have the knowledge and ability, they are affordable to fulfil the suitable and appropriate roles in the working community and promptly lead them to advance in their profession.

H_3: Female in accounting profession do not perceive an equal treatment compared to the male in accounting profession in term of career progression.

Organisational Culture

The working culture and values in the workplace reflect the inclusiveness for each organisation and profession. Studies by Kundu and Lata (2017), Purwanto et al. (2021), and Uddin (2021) stated that female workers lack social support from working surroundings to male workers. Culture is the continual environment in the world of human being. Culture in the workplace shares beliefs, values, attitudes, and compromises many things. Personal and social lifestyles and cultural contexts are also

affected by this. However, strategic leadership and management in an organisation can significantly affect a workplace culture. A good culture in a company uplifts productivity, efficiency, morale, and employee performance in the future (Agarwal, 2018).

Organisational culture comprises the underlying norms, values, and assumptions that outline the proper manner to act in an organisation. Using precise layout wondering equipment, including experimentation, can improve distinct organisational cultures (Isensee et al., 2020). Moreover, culture is the entire thought, work, and outcomes of human actions, which are not rooted in their instincts. Consequently, people can use the most straightforward practice after going through a studying process. Culture is the essence of what is essential in businesses to create a positive, healthful, and harmonised operating style.

H_4: Female in accounting profession do not perceive support from their senior leaders compared to the male in accounting profession within the organisation.

Marital Status

When a female worker is married, they are automatically bound to other commitments that are deemed more significant and important. This is because married women do not have flexible working hours due to the commitment to their families. As a result, married women in Malaysia and other Asian countries are more likely to quit their jobs after marriage and giving birth, compared to unmarried women (Subramaniam et al., 2015).

Thus, women believe that a flexible working arrangement will help them balance or manage their time between work and family to maintain a healthy work-life balance (Subramaniam et al., 2015). Women feel that flexible working hours can help make them more adaptable in dividing their time when prioritising their tasks. However, this makes it difficult for them to achieve career progression, as not all organisations offer flexible working hours.

Zhao and Lord (2016) pointed out that marital status can be detrimental to women regarding career advancement. Those women rarely occupy a senior high position or gain promotions. Such circumstances happen due to social structure, and work-family imbalances impede their career goals. Other than that, when women change their marital status, they often hold the responsibilities of childbirth and childcare. This situation is one of the factors that cause their interruption in career progression.

H_5: Female accountant who is married will likely report to have received glass ceiling treatment, compared to single female accountant and male accountant.

Dependents

Female accounting professionals are more likely to encounter the glass ceiling when they have dependents, as their care giving responsibilities can impede their ability to invest additional time and effort in professional development and career advancement. This hypothesis posits that female audit staff with dependents might confront hurdles in shattering the glass ceiling, given the additional responsibilities and time constraints associated with care giving. Consequently, their prospects for promotions, elevated assignments, and access to networking and mentor ship could be constrained compared to their female colleagues without dependents (Cohen et al., 2020).

Female audit staff juggling caregiving responsibilities may confront challenges in overcoming the glass ceiling, leading to potential hindrances in their career progression.

This could manifest as overlooked promotion opportunities or exclusion from consideration for high-profile clients or projects. The glass ceiling hypothesis contends that female audit professionals with dependents may encounter restricted upward mobility due to the demands of managing care giving responsibilities. Consequently, their career growth and advancement prospects within the audit firm may be hampered, contributing to the perpetuation of the glass ceiling phenomenon.

Therefore, it is hypothesised that female accounting professionals with dependents will be more likely to report a glass ceiling within their organisations than female accounting professionals without dependents.

H_6: Female accounting professionals with dependents are more likely to report encountering a glass ceiling within their organisations than female accounting professionals without dependents.

Rank Post

Research by Cohen et al. (2020) claimed that women employees in accounting professionals who have the higher rank in the organisation are less likely to report a glass ceiling situation than low-rank women employees in the organisation. They also claimed that higher-ranking accounting professional is prone to view their firms in more favourable terms than low-ranking accounting professionals.

Research by Manfrredi (2017) revealed that the elements like gendered based in leadership and cognitive bias had evaluated female workers less favourably than male workers. These issues prevent female workers from climbing high in their position and achieving high ranks in the organisation. Women, especially female workers, are usually known to be more emotional, leading to recklessness, sometimes making a hasty or easy decision, and impatience. These traits will give a primitive thought to employers, where they will question and underestimate the capability and abilities of their female worker to hold for an upper-level position of high rank and even the management position and levels.

Nevertheless, Vempati (2019) claimed that even when the performance and skills of male and female workers are even, the promotion rates are still on the male worker's sides. Undeniably, a female worker in the accounting profession achieved a high rank and was promoted to a high level in the organisation due to their outstanding performance. Nevertheless, the rates number of this achievement is still low. When the female accountant did not receive any promotion, the glass ceiling perception might contribute to this situation. Thus, they will tend to report more about glass ceiling perception than the female worker who received a higher rank in an organisation.

H_7: High rank female accountant will be less likely to report a glass ceiling compared to low rank female accountant in the organisation.

Big Four

A size of accounting firms can be a factor in the glass ceiling perception. For example, small firms create a more positive and healthy working style than more prominent

firms (Jeacle, 2011). In her study also, she revealed that Helen Lowe, the first female chartered in Scotland, obtained an excellent career progression and became more successful. Her hard work happened when she practices her accounting firm compared to working in a more prominent firm. This triumphant story of Helen Lowe is a shred of evidence that female accountants can give a better achievement in a small firm compared to a more prominent firm.

Working in a more prominent firm like in any of the Big Four can also be a dream for every accountant. They believe that a more prominent firm is a fountain of knowledge to learn many things. But the bigger for each firm, the higher the competition for each position. As a result, more glass ceiling perceptions will rise. These kinds of issues will make the social life environment in the company will lead to a stressful situation. Thus, the accounting firm Malaysia should learn to be more open and more empathetic in handling this act.

H_8: Female accountant profession in Big Four firms is likely less to report a glass ceiling compared to accountant profession in small firm.

The role of disruptive technology in the relationship between gender and perception of glass ceiling

The increasing role and number of women in accounting and auditing firms and businesses, in general, have provided many benefits in the accounting field. Prior studies regarding gender inequalities and gender theory indicate that women and men often bring divergent outlooks and performance into accounting and business processes, whereas these outlooks come with different styles but needed and beneficial for the organisation (Smith et al., 2013).

To increase work efficiency and effectiveness, many organisations, including audit firms, started to implement information technology in their service as the world nowadays started to run and operate digitally. The utilisation of technology needs to be par with the ability of employees so that the worker can fully utilise the technology in their daily tasks. Many organisations have started to practice more of artificial intelligence like machine learning, where human service can be replaced with a machine to reduce human error. However, not all services can be replaced entirely by technology. Human resources are still applicable in many sectors, but when combined with technology, the services in terms of effectiveness and efficiency will become better.

The accounting profession also becomes more effective when disruptive technology is involved. However, the relationship between female accountants with disruptive technology is slightly significant. The senior female accountant is comfortable using the traditional way in the tasks compared to the new method. They might think that disruptive technology is only for a male worker.

Alderman (2021) stated that female accountants who are willing to learn about the new technology that will be implemented in accounting might not receive any guidance from a male accountant or other superior due to the glass ceiling perception. The male accounting worker might be thinking and making an assumption that female accounting workers did not have any need or are willing to learn about technology, as they cannot make a career advancement later on. Thus, more barriers will exist among the female and male accountants in the organisation.

H_9: Disruptive technology acceptance moderates the relationship between gender and perception of glass ceiling.

3.3 Research Design

This research design aims to determine the sampling procedure, the population, the sample size, and the sampling strategy to be employed. The quantitative method with multi variate analysis, is chosen as this is the most appropriate approach to analysing this study and testing the hypothesis. In addition, it is more structured, broader in scale, and more numerically based.

3.4 Pilot Test

Pilot studies are carried out for various reasons, including estimating the standard deviation. Consequently, the researcher must choose an appropriate sample size for the pilot study. In this work, the approach used was retrieved from Whitehead et al. (2016) and Machin et al. (2018).

Sample size rules of thumb can be classified into two groups, according to Machin et al. (2018): flat and stepped. A single number is suggested for every case as a simple rule of thumb; for example, the number 30 is trendy.

A stepped rule of thumb is a number that is based on a tiny bit of information about the primary study, such as the required power or effect size relative value. This is based on Whitehead et al. (2016).

Therefore, a small group of 10 people were chosen for the pilot test, all of whom worked in Big Four firms. This pilot study was conducted in order to get the feedback

to improvise the survey in the next round. As a result, the survey for the actual data collection exercise was improvised.

3.5 Measurement of Variables/Instrumentation

At the data analysis step, the unit of analysis is identified, which represents the degree of processing of the collected data (Sekaran & Bougie, 2016). The goal of this study is to identify the factors that influence the glass ceiling perception and to determine the impact of disruptive technology acceptance on women's perception of the glass ceiling. Data collections through questionnaire were distributed among the public accountants that are registered in the Malaysian Institute of Accountants. The research model implemented in this study is constructed as follows, with reference from a previous work (Cohen et al., 2020).

Research model:

The following Ordinary Least Squares (OLS) regression models test the hypotheses in this study:

$$av\_glass = \beta + \beta 1gender + \beta 2av\_bias + \beta 3av\_struc + \beta 4av\_org + \beta 5marital + \beta 6depend + \beta 7rank\_post + \beta 8big4 + \varepsilon \quad \text{(Model 1)}$$

$$av\_glass = \beta + \beta 1av\_bias + \beta 2av\_struc + \beta 3av\_org\_cul + \beta 4marital + \beta 5depend + \beta 6rank\_post + \beta big4 + \varepsilon \quad \text{(Model 2)}$$

where,

av_glass = Perception of glass ceiling, an average score of the glass ceiling;

gender = Coded '1' for woman, and '0' for man;

av_bias = An average score of bias-centred factor;

av_struc = An average score of structural-centred factor;

av_org = An average score of organisational cultural-centred factor;

marital = Marital status, coded '1' if the respondent is married, and '0' if not;

depend = Coded '1' if the respondent has dependents (e.g., spouse, children, and parents);

rank_post = Assigned '1' if the respondent is an audit partner or a senior manager, and '0' if the respondent is a junior manager or below;

big4 = Assigned '1' if the respondent's firm is a Big Four firm

(e.g., PricewaterhouseCoopers, KPMG, E&Y, or Deloitte), and '0' if otherwise; and

ε (constant) = Error terms

Model 1 was used to estimate the determinants of the glass ceiling of all participants, regardless of gender (n = 160); while Model 2 was used to estimate the glass ceiling of women only (n = 96).

3.5.1 Research Approach

From the most abstract to the most concrete, deductive reasoning was used. This methodology is sometimes referred to as a "top-down" manner. To begin, hypotheses in this research field were formulated. Subsequently, data collection and analyses were done, resulting in deductive reasoning that is used for this study.

3.6 Data Collection Procedures

Data collection for a survey titled, "A Survey on Career Advancement at Accounting/Auditing Firms" is the main topic discussed in Chapter 3 of this thesis. The survey was divided into three main parts: Part A poses 24 questions about respondents' perceived barriers to career advancement; Part B poses 12 questions about respondents' perception of the benefits and usability of disruptive technologies; and Part C poses 11 questions about the respondents' demographic. A combination of Google Forms and paper forms was used to distribute the survey. The survey was conducted on 11 January 2023, at the *Konvensyen Akauntan Nasional 3.0* (KAN 3.0) conference. A total of 187 questionnaires were distributed, where 27 of them were returned incomplete, while the remaining 160 contained completed responses that were deemed usable for analysis in this work. The goal of the survey was to assess how employees of accounting and auditing firms perceived barriers to career advancement and how disruptive technologies may impact their work. The demographic data collected were then evaluated for trends or links between demographic variables and perceptions of technology.

3.6.1 Population and Sample

One hundred eighty-seven (187) individuals who are working in accounting and tax firms received the questionnaires, where a total of 160 of the returned questionnaires

were accepted for work, representing a response rate of 85.6%. The majority of the respondents (135 out of 160) who had completed the questionnaires were of Malay ethnicity, as revealed by an analysis of the racial composition of the respondents. The shows that KAN 3.0 is heavily represented by Malay accountants and auditors from their respective firms. The Chinese formed the second largest group with 19 respondents from the KAN 3.0. Although they are less represented in the KAN 3.0, their views are critical to understanding the spectrum of experiences in the industry. Table 3.1 shows the distribution and collection of the questionnaires for the sample selection.

Table 3.1
Sample Selection

Description	**Quantity**
Online distributed and returned	45
Hand distributed and returned	142
Minus Incomplete and discarded	(27)
Usable responses	160

3.6.2 Probability Sampling Methods

The term, “probability sampling” refers to the fact that every member of the population has an equal chance of being chosen, and this is mostly employed in quantitative studies. In view of studies conducted on the contributory factors of the glass ceiling in the Malaysian accounting profession, convenience and purposive sampling can both play practical roles in selecting a representative and relevant sample of accountants who have direct experience or knowledge of these barriers.

3.6.3 Convenience Sampling

In this work, convenience sampling was used to initially gather responses from accountants who are easily reachable, such as those working in firms or professional associations that the researcher has contact with. The advantages of method includes its cost-effectiveness and time-efficient criteria, especially when reaching out to accountants within known networks. However, this method does have its limitations. Since convenience sampling may not represent all subgroups within the accounting profession, it could introduce bias if certain groups (e.g., women, individuals in small firms) are underrepresented. Thus, findings from convenience samples should be interpreted as exploratory rather than fully generalisable.

Meanwhile, the purposive sampling done in this study involved targeted accountants who are more likely to have relevant insights into the glass ceiling issue, such as those in managerial roles, those with extensive experience, or those who have faced or observed career advancement barriers. The advantages of using purposive sampling include its ability to ensure that the data collected is directly relevant to understanding the factors that contribute to the glass ceiling, enhancing the study's validity. However, one of its limitations is that while purposive sampling improves relevance, it may also limit the diversity of responses if overly focused on specific demographics. To counteract this, purposive sampling should aim for a range of experiences within the sample to capture broader perspectives.

Therefore, this study combined convenience and purposive sampling in order to reach a larger pool of accountants quickly while also ensuring that certain key perspectives on the glass ceiling are represented.

3.7 Techniques of Data Analysis

3.7.1 Descriptive Analysis

According to Sekaran and Bougie (2016), the descriptive statistics for one variable are defined by its frequencies, central trend measures, and dispersion. Descriptive analysis involves frequencies, mean, variance, and cross tabulation that will be used to summarise samples and provide descriptive information about the data.

3.7.2 Multiple Linear Regression

Multiple Linear Regression analysis is used to test numerous independent factors that allow a single dependent variable to be predicted. It also indicates the relationship between the two variables (Sekaran & Bougie, 2016). In this study, the multivariate analysis performed utilised the Ordinary Least Squares (OLS) and Ordinal Logistic Regression (OLR) in order to examine the influence level of independent variables toward the dependent variable.

3.7.3 Content Validity and Development of Instrument

It is vital to seek opinion and feedback from two experts in the research methodology in order to prepare the correct questionnaire. Two experts were one senior academician at a higher learning institution and one practitioner in the area of research studies and accounting firm environment. Reason being is they have the required knowledge to validate the proposed questionnaire. Once the draft of the survey was done, it was passed to the academician for checking. The development of the questionnaire for this study involved multiple stages of refinement and input from experts to ensure its validity and relevance. In August 2022, I consulted Prof Madya Dr. Selamah, a senior lecturer in Research Methodology, who provided valuable

advice on improving the structure and content of my proposed questionnaire. The questionnaire was primarily based on previous studies, with significant references drawn from Cohen's article. For questions related to the influence of the Industry Revolution 4.0 (IR4), I referred to the National Policy on Science, Technology, and Innovation (DSTIN) 2021–2030 for guidance. In November 2022, I sought further input from a subject matter expert, a Partner at PWC audit firm. She, along with her team of 10 auditors, reviewed and provided suggestions to refine the questionnaire from an auditor's perspective. After finalizing the questionnaire based on this feedback, it was distributed to respondents for data collection. This thorough development process ensured the questionnaire was comprehensive and aligned with the study's objectives.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter discusses the empirical findings of the association between independent variables characteristics and perception of glass ceiling. Furthermore, it reports the moderating effect of disruptive technology acceptance on that relationship between gender and the dependent variable. Specifically, Chapter Four aims to supply answers to the research questions: (1) How will the gender give effect on the likelihood of progression/promotion and the level at the public accounting firms; (2) What are the factors that influence the glass ceiling perception among accountants in the public accounting firms; and (3) What is the impact of disruptive technology acceptance moderating the relationship between gender and glass ceiling perception.

The structure of this chapter is as follows. Descriptive statistics for the variables this study looked at are given in the next section. Subsequently, the outcomes of the data's diagnostic tests—which include outliers, normality, heteroskedasticity, autocorrelation, and multicollinearity—are displayed. These are followed by the findings of a thorough multivariate regression analysis that looks into the hypotheses via the adoption of Ordinary Least Squares (OLS) and Ordinal Logistic Regression

(OLR). The results of the analyses are discussed and summarised accordingly in this chapter.

4.1.1 Difference Between Ordinary Least Squares and Ordinal Logistic Regression

The main difference between Ordinary Least Squares (OLS) and Ordinal Logistic Regression (OLR) lies in the types of dependent variables they are designed to model and the underlying assumptions they make.

In view of its dependent variable, OLS regression is typically used when the dependent variable is continuous (e.g., income, age) and normally distributed. OLS assumes a linear relationship between the independent and dependent variables, homoscedasticity (equal variance of errors), and normally distributed residuals. This means that in its application, OLS estimates the coefficients by minimising the sum of squared residuals, making it suitable for predicting continuous outcomes (Wooldridge, 2016).

Meanwhile, OLR is used when the dependent variable is ordinal, meaning it has ordered categories but the distances between them are not necessarily equal (e.g., Likert scale responses: “strongly agree,” “agree,” “neutral,” etc.). OLR assumes that the relationship between each pair of outcome groups is the same, known as the “proportional odds” or “parallel lines” assumption. OLR models the cumulative probability of the outcome categories and is useful for ordinal dependent variables that do not meet the requirements of OLS (Agresti, 2010).

In summary, while OLS is suitable for continuous outcomes, OLR is specifically designed for ordinal outcomes, making each appropriate for different types of data.

4.2 Descriptive Statistics

Table 4.1 gives demographic details of the respondents. The data includes information on years of experience, gender, race, marital status, number of dependents, rank position, and kind of audit firm. As shown in the table, the audit staff is generally experienced, as seen by the mean length of involvement for the ongoing working environment, which is 6.31 years. However, the mode and mean characteristics for a long duration of involvement with the ongoing work environment are one (1) and four (4) years, respectively, suggesting that there is a sizable portion of workers with typically lower experience levels.

The data also revealed that the respondents of this study comprised of 96 women (60%) and 64 males (40%). The higher proportion of female members reflects that the audit industry in Malaysia is not dominated by male. This is consistent with the statistics issued by the Malaysian Institute of Accountants, which suggests there are more female chartered accountants than their male counterparts in the country.

According to the data, 25% of the respondents have partnership or senior manager roles, while the other 75% occupy junior manager positions or lower. This information points to a hierarchical organisational structure at this audit firm, with a smaller percentage of employees occupying top roles. A major portion of the group (81.25%) works in non-Big Four firms, while only 18.75% works at Big Four audit firms. The Big Four—in the context of Malaysian audit market—refers to Deloitte, KPMG, PricewaterhouseCoopers (PwC), and Ernst & Young; these firms are also among the biggest firms in the world.

Meanwhile, a sizable percentage of the group's members have family obligations (i.e., 135 respondents or 84%) which could affect their ability to manage their work and personal lives. The data revealed that among the group, children (39.38%) are the most prevalent form of dependent, followed by parents (45.63%) and spouses (32.50%).

Table 4.1
Descriptive Statistics

	MEAN	MODE	MEDIAN	# (160)	%
YEARS OF EXPERIENCE:					
Current workplace	6.31	1	4		
Prior workplace	1.88	0	0		
GENDER:					
Men				64	40.00%
Women				96	60.00%
RACE:					
Malay				135	84.38%
Chinese				19	11.88%
Indian				4	2.50%
Others				2	1.25%
MARITAL STATUS:					
Married				83	51.88%
Otherwise				77	48.13%
DEPENDENTS:					
Children				63	39.38%
Spouse				52	32.50%
Parent(s)				73	45.63%
RANK POST:					
Partnership or Senior Manager				40	25.00%
Junior Manager and below				120	75.00%
TYPE OF AUDIT FIRMS:					
Big 4				30	18.75%
Non-Big 4				130	81.25%

4.3 Data Diagnostic Tests

This study adopts an Ordinary Least Squares (OLS) analysis to examine the determinant factors of glass ceiling within the audit firms in Malaysia. To avoid misleading results and verify the data's compatibility for the multiple regression analysis, regression diagnostic tests must be performed before the model is accepted. Therefore, several procedures are undertaken to assess the compatibility of the data, starting with the diagnostic tests on data distribution: outliers, normality, heteroscedasticity, autocorrelation, and multicollinearity are common diagnostic tests to be conducted before econometric modelling can be done (Carneiro, 2006). In this study, the abovementioned tests were discussed in the following sections.

4.3.1 Unusual and Influential Data

In the context of regression analysis, the identification of unusual observations becomes imperative. If a singular observation or a small group of observations markedly alters the outcome, it becomes essential to detect and examine these anomalies. This process is fundamental for maintaining the integrity of the analysis. In order to detect any outlier, the present study utilised scatter plot analysis. Upon examinations, an outlier for variable 'AV_ORG' was identified and investigated. It was found that the value recorded was an error, where it was corrected accordingly.

4.3.2 Multicollinearity

Multicollinearity among the contributory factors was assessed through the computation of pair-wise correlations. Table 4.2 presents the pair-wise correlation coefficients for nine variables (1 to 9), illustrating the magnitude and direction of their associations. These coefficients range from −1 to 1, where a value of 1 signifies a perfect positive linear relationship, while −1 indicates a perfect negative linear

relationship. A value of 0 denotes the absence of a linear relationship. For instance, the correlation of 1.00 between av_glass and itself (variable 1) is expected, indicating a perfect correlation. Conversely, the correlation coefficient between GENDER (variable 2) and AV_BIAS (variable 3) is −0.07, suggesting a modest negative linear association between these two variables. The table elucidates correlations between different pairs of variables, elucidating the varying strengths and directions of their linkages and offering insights into their interconnections within the dataset. Importantly, larger positive correlations signify a more substantial positive linear relationship, while stronger negative correlations indicate a more pronounced negative linear relationship between the variables. High correlation, as indicated by the Pearson correlation coefficient, between independent variables in a regression analysis can give rise to multicollinearity. This issue typically arises when there is a high degree of correlation between two or more explanatory variables. The general guideline stipulates that if the simple correlation coefficient between two regressors exceeds 0.8 or 0.9, multicollinearity becomes a serious concern. Since no correlation exceeds 0.8, multicollinearity is not a significant issue.

Moreover, to confirm the absence of multicollinearity, Variance Inflation Factor (VIF) statistics were calculated. The analysis of the VIF values presented in Table 4 reveals that none of the model's variables exhibit VIF values exceeding 3, which is commonly regarded as an indicator of relatively low multicollinearity according to established criteria. Additionally, the Mean VIF, currently standing at 1.61, represents the average VIF for all variables. This value falls below the widely accepted threshold of 5, frequently interpreted as acceptable and not necessarily indicating the presence of severe multicollinearity issues. Hence, the evaluation conducted using the VIF

values suggests that the degree of multicollinearity in the model is comparatively minor, implying that it does not pose a substantial obstacle to the analysis.

Table 4.2
Pearson Correlation

	Var	1		2		3		4		5	6	7		8	9	10
1	AV_GLASS	1.000														
2	GENDER	-0.093		1.000												
3	AV_BIAS	0.639	***	-0.066		1.000										
4	AV_STRUC	0.763	***	-0.069		0.790	***	1.000								
5	AV_ORG	0.660	***	-0.132		0.583	***	0.670	***	1.000						
6	AV_USETECH	-0.075		-0.038		-0.040		-0.157	**	-0.102	1.000					
7	MARITAL	0.099		-0.276	***	-0.068		0.015		0.079	0.008	1.000				
8	DEPEND	0.139		-0.141		0.072		0.106		0.111	0.094	0.343	***	1.000		
9	RANK_POS	-0.040		-0.236	***	-0.080		-0.048		0.028	-0.053	0.267	***	-0.030	1.000	
10	BIG4	-0.190	**	0.033		-0.009		-0.052		-0.040	-0.150	-0.242	***	-0.102	-0.019	1.000

Note: Values with asterisks *, **, and *** indicate significance at the 10, 5, and 1% level.

Table 4.3
Variance Inflation Factor (VIF)

Variables	VIF	1/VIF
av_struc	2.93	0.34
av_bias	2.73	0.37
marital	1.38	0.73
av_org	1.30	0.77
depend	1.19	0.84
rank_pos	1.16	0.86
gender	1.13	0.88
big4	1.07	0.93
Mean VIF	1.61	

4.4 Multivariate Analysis

4.4.1 Ordinary Least Square (OLS)

Table 4.4
Multivariate Analysis using OLS (n = 160)

AV_GLASS	Coef.	Std. err.	t	P>t
GENDER	-0.009	0.078	-0.120	0.908
AV_BIAS	0.081	0.088	0.920	0.360
AV_STRUC	0.517	0.088	5.860	0.000
AV_ORG	0.244	0.063	3.880	0.000
AV_USETECH	0.016	0.071	0.230	0.819
MARITAL	0.062	0.084	0.740	0.459
DEPEND	0.038	0.107	0.350	0.726
RANK_POS	-0.052	0.088	-0.600	0.552
BIG4	-0.261	0.096	-2.740	0.007
_cons	0.293	0.336	0.870	0.384
Prob > F	0.000			
R-squared	0.650			
Adj R-squared	0.629			

Table 4.4 presents the results of multivariate analysis utilising the Ordinary Least Square (OLS) method, providing insights into the factors influencing perceptions of glass ceilings among accounting professionals. These findings offer valuable insights from a social science perspective, contributing to the understanding of gender dynamics and organisational structures within the accounting field.

GENDER, a focal variable in the analysis, exhibited no statistically significant impact on the perception of glass ceilings (coefficient = −0.009, p = 0.908). This observation challenges the traditional notion that gender alone dictates perceptions of glass ceilings, indicating that other factors may play a more substantial role in shaping individuals' perceptions within the profession. While gender diversity and equality remain crucial issues in accounting and other fields, this finding underscores the need for a nuanced understanding of the complexities underlying perceptions of career barriers.

Conversely, the analysis revealed that perceived inequality in career development opportunities (AV_STRUC) significantly influenced perceptions of glass ceilings (coefficient = 0.517, p = 0.000). This suggests that individuals who perceive gender-based disparities in career advancement within their organisations are more likely to perceive glass ceilings. Such findings highlight the critical importance of fostering equal access to career progression pathways, irrespective of gender, to mitigate perceptions of institutional barriers to advancement.

Marital status (coefficient = 0.062, p = 0.459) and the presence of dependents (coefficient = 0.038, p = 0.726) did not exhibit significant impacts on perceptions of glass ceilings among accounting professionals. This suggests that factors such as marital status and family responsibilities may not strongly influence individuals' perceptions of career barriers within the accounting profession. However, it is essential to recognise the potential intersectionality of these factors with other variables, such as gender and organisational culture, which may warrant further investigation in future research.

Similarly, rank or position in the organisational hierarchy did not significantly affect perceptions of glass ceilings (coefficient = −0.052, p = 0.552). This finding suggests that individuals across different hierarchical levels within accounting firms may share similar perceptions of institutional barriers to career advancement. While hierarchical position may influence access to resources and opportunities within organisations, it appears to have limited bearing on perceptions of glass ceilings among audit staff in the accounting field.

Furthermore, employees at Big Four accounting firms reported a significant negative association with perceptions of glass ceilings (coefficient = −0.261, p = 0.007) . This indicates that individuals working in non-Big Four firms are more likely to perceive the existence of glass ceilings within their organisations. This finding underscores the potential impact of organisational culture, policies, and practices on shaping perceptions of career barriers, highlighting the need for industry-wide efforts to promote diversity, equity, and inclusion.

To deepen one's understanding of glass ceilings among women accountants, a separate analysis was conducted using a women-only sample (n = 96). The results mirrored those of the full sample regression analysis, reaffirming the significance of factors such as perceived inequality in career development opportunities and inadequate support from senior managers in shaping perceptions of glass ceilings. Notably, correlations for structural bias and organisational structure bias were notably stronger in the women-only sample, indicating that these factors constitute primary sources of glass ceilings for women in the accounting profession.

In conclusion, the findings from the multivariate analysis offer valuable insights into the complex interplay of factors influencing perceptions of glass ceilings among accounting professionals. While gender diversity remains a salient issue, other factors such as perceived inequality in career development opportunities and inadequate support from senior managers also play significant roles in shaping individuals' perceptions of institutional barriers to advancement. Addressing these systemic issues requires concerted efforts from organisations to promote inclusive leadership practices, foster equal access to career advancement opportunities, and cultivate supportive work environments for all employees. By addressing these underlying factors, organisations can mitigate perceptions of glass ceilings and foster a more equitable and inclusive accounting profession for future generations.

4.4.2 Diagnostic Tests: Normality and Heteroscedasticity

In the context of Ordinary Least Squares (OLS) regression, linearity and normality tests are run after estimating the model to ensure that the OLS assumptions have been met. Running these tests helps verify whether the model outputs are reliable and interpretable. The importance of these checks are explained as below.

For linearity check, the purpose is to determine whether there is a linear relationship between the independent variables and the dependent variable, which is a core assumption of OLS. This ensures that the model's linear predictions are appropriate and is done after OLS. Running a linearity check post-regression allows you to analyse the residuals (differences between observed and predicted values) and detect any non-linear patterns. If these residuals show patterns (non-randomness), it indicates that the linear assumption may not hold, and a non-linear model might be more appropriate.

For normality check, normality tests assess whether the residuals of the OLS model are approximately normally distributed. OLS estimates remain unbiased even if normality is not perfectly met, but normality is important for constructing valid confidence intervals and significance tests (especially with smaller sample sizes). This test is also done after OLS by examining the residuals after running the model to evaluate if they are normally distributed. Otherwise, transformations or different estimation methods might be needed for accurate inference.

These diagnostics ensure that the OLS assumptions are not violated, which can lead to unreliable estimates if not addressed.

While OLS does not require the data to be normally distributed, the assumption is about the normality of residuals. This assumption is not critical for large sample sizes due to the Central Limit Theorem, but for smaller sample sizes, non-normality might affect the precision of hypothesis tests. In order to assess the normality of the residual, the Shapiro–Wilk test was estimated.

Table 4.5
Shapiro–Wilk Test for Assessing the Normality of the Residual

Variable	Obs	W	V	z	Prob>z
r	160	0.94988	6.164	4.137	0.00002

Given the small p-value (0.00002), the Shapiro–Wilk test suggests strong evidence against the null hypothesis that the residuals follow a normal distribution. Therefore, it is concluded that the residuals are not normally distributed. Given that non-normality of residuals could impact the validity of certain statistical inferences, the test using alternative modelling approaches is necessary. In fact, using Ordinary Least

Squares (OLS) regression with an ordinal dependent variable, such as a Likert scale, is not ideal because OLS assumes a continuous, normally distributed dependent variable. Since Likert scale data is ordinal and often exhibits characteristics like non-normality and discrete values, it violates the assumptions of OLS regression. The alternative approaches that are more appropriate for analysing ordinal data, is Ordered logistic regression.

4.4.3 Ordinal Logistic Regression

When analysing Likert scale data, it is imperative to choose a regression method that aligns with the nature of the data. Ordinary Least Squares (OLS) regression may not be the most suitable approach due to several critical reasons. Likert scales, which represent ordered categorical data, often have non-equal intervals between response categories, violating OLS assumptions of linearity and equal intervals. Additionally, Likert data tends to exhibit non-normal distributions, skewness, and a bounded range, further challenging the assumptions of OLS regression. Moreover, OLS does not inherently account for the ordered nature of Likert scale categories, potentially leading to misleading interpretations of coefficients.

In contrast, Ordinal Logistic Regression (OLR) is specifically designed for analysing ordinal outcomes, making it better suited for Likert scale data analysis. OLR acknowledges the ordered structure of Likert scale responses and accommodates the proportional odds assumption, capturing the cumulative probabilities of moving into or above specific response categories. As a non-linear model, OLR provides more appropriate inference for Likert scale data, yielding interpretable odds ratios and facilitating a more accurate understanding of the relationships between independent variables and ordered response categories.

Therefore, OLR emerged as a more suitable choice for modelling and interpreting Likert scale data in regression analyses. To ensure the robustness of the findings in this work, the authors subsequently conducted the analysis using OLR, which offers greater compatibility with the inherent characteristics of Likert scale data.

Table 4.6
Multivariate Analysis using OLR (n = 160)

AV_GLASS	**Coef.**	**Std. err.**	**z**	**P>z**
GENDER	0.215	0.328	0.660	0.512
AV_BIAS	0.307	0.388	0.790	0.429
AV_STRUC	2.362	0.422	5.590	0.000
AV_ORG	1.192	0.283	4.220	0.000
AV_USETECH	-0.022	0.296	-0.070	0.941
MARITAL	0.225	0.360	0.620	0.533
DEPEND	-0.012	0.426	-0.030	0.978
RANK_POS	-0.141	0.368	-0.380	0.702
BIG4	-1.363	0.435	-3.130	0.002
LR chi2(9)	*=169.90*			
Prob > chi2	*=0.000*			
Pseudo R2	*=0.2458*			

The results find that structural factor (AV_STRUC), organisational factor (AV_ORG) and Big Four firm (BIG4) are significantly associated with the perception of glass ceiling, which is consistent with the results of the OLS model.

4.4.4 Gender-Based Analysis

To provide further understanding on the specific gender effects, an OLR analysis on both the women and men groups was performed. The results seem to be identical in respect of significant variables. However, there are evidence that the women group coefficient is smaller than the men group with regard to structural-biased factors but higher for organisational cultural factors.

Another interesting result is the finding of the Big Four variable. The coefficients of the two groups suggest that while the BIG4 variable of both groups are negatively significant, the coefficients of the men group seems to be negatively higher, indicating that men who work at Big Four firms perceived less glass ceiling than women working in the same type of firm.

Table 4.7
OLR analysis on men and women groups

	Women only (n=96)				Men only (n=64)			
AV_GLASS	**Coef.**	**Std. err.**	**z**	**P>z**	**Coef.**	**Std. err.**	**z**	**P>z**
GENDER	0	(omitted)			0	(omitted)		
AV_BIAS	0.564	0.549	1.030	0.304	0.193	0.696	0.280	0.781
AV_STRUC	2.097	0.566	3.710	0.000	2.229	0.745	2.990	0.003
AV_ORG	1.650	0.478	3.450	0.001	1.355	0.486	2.790	0.005
AV_USETECH	0.051	0.419	0.120	0.903	-0.035	0.476	-0.070	0.941
MARITAL	0.173	0.457	0.380	0.705	0.127	0.703	0.180	0.857
DEPEND	-0.703	0.544	-1.290	0.196	1.430	1.003	1.430	0.154
RANK_POS	-0.715	0.576	-1.240	0.214	-0.021	0.589	-0.040	0.971
BIG4	-1.102	0.544	-2.030	0.043	-1.481	0.798	-1.850	0.064
LR chi2(9)	*83.110*				*84.190*			
Prob > chi2	*0.000*				*0.000*			
Pseudo R2	*0.213*				*0.314*			

4.4.5 Moderating Effect Analysis of IR4 (AV_USETECH)

These are additional tests on gender and interaction with IR4 (AV_USETECH). Both tests resulted that the moderating effect of usage in IR4 technology does not have a significant impact on both genders on perception of glass ceiling. Tables 4.8 and 4.9 show that both variables, gender and IR4, as well as interaction gender and IR4 are not significant. This may be due to various reasons, one of which is a lack of variability—if the outcome variable is unaffected by gender or the gender distribution is skewed, it may not be significant. Similarly, if technology use (IR4) does not differ considerably across the ordinal outcome or is consistent among respondents, its

impact may be negligible. Another cause could be a weak interaction effect, which suggests that the effect of technology use varies by gender. However, if both genders react identically to technology use, the interaction term will be irrelevant.

Table 4.8
OLS test on GENDER and interaction with IR4

AV_GLASS	**Coef.**	**Std. err.**	**z**	**P>z**
GENDER	-0.077	0.558	-0.140	0.890
GENDERxUSETECH	0.017	0.140	0.120	0.902
AV_BIAS	0.081	0.089	0.910	0.364
AV_STRUC	0.517	0.089	5.840	0.000
AV_ORG	0.245	0.063	3.860	0.000
AV_USETECH	0.008	0.098	0.080	0.935
MARITAL	0.060	0.085	0.710	0.480
DEPEND	0.037	0.107	0.350	0.727
RANK_POS	-0.051	0.089	-0.580	0.565
BIG4	-0.262	0.096	-2.730	0.007
_cons	0.326	0.430	0.760	0.449
Prob > F	0.000			
R-squared	0.650			
Adj R-squared	0.626			

Table 4.9
OLR test on GENDER and interaction with IR4

AV_GLASS	**Coef.**	**Std. err.**	**z**	**P>z**
GENDER	0.401	2.354	0.170	0.865
GENDERxUSETECH	-0.047	0.591	-0.080	0.937
AV_BIAS	0.308	0.389	0.790	0.427
AV_STRUC	2.363	0.423	5.590	0.000
AV_ORG	1.189	0.286	4.150	0.000
AV_USETECH	0.003	0.427	0.010	0.995
MARITAL	0.231	0.370	0.630	0.532
DEPEND	-0.013	0.427	-0.030	0.975
RANK_POS	-0.143	0.370	-0.390	0.698
BIG4	-1.362	0.435	-3.130	0.002
LR chi2(9)	169.910			
Prob > chi2	0.000			
Pseudo R2	0.246			

4.5 Summary

Chapter 4 presents a comprehensive examination of the data through various analytical methods. It begins with a **descriptive statistics**, providing an overview of the dataset's main characteristics. Following this, a **data diagnostic test** is conducted to assess the quality and suitability of the data for further analysis.

The chapter then addresses **multicollinearity** to ensure that independent variables are not highly correlated, which could distort the results. **Multivariate analysis** is performed to explore the relationships between multiple variables simultaneously.

Ordinary Least Squares (OLS) regression is employed to estimate the relationships between the dependent and independent variables, while tests for **normality and heteroscedasticity** are conducted to validate the assumptions of the regression model. **Ordinal Logistic Regression** is used to analyse ordinal dependent variables, providing insights into the ordered nature of the data.

Finally, **additional tests** is included to further substantiate the findings. This comprehensive approach ensures the robustness and reliability of the results presented in the subsequent chapters.

This summary encapsulates the key elements and tests performed in Chapter 4, providing a clear overview of the analytical methods used.

CHAPTER FIVE

CONCLUSION

5.1 Introduction

The accounting industry has worked hard over the last few decades to grow the number of female accountants in its ranks. There is still a large gender gap in the accounting profession at the highest levels, notwithstanding these efforts. Finding out more about the variables linked to female accountants' perceptions of a glass ceiling is the main goal of this study. Through a social science lens, the study examines the variables that impact audit staff members' opinions regarding the glass ceiling. Types of tests that are used in the study are Ordinary Least Square test which consists of normality test, linearity test, Pearson correlation, heteroscedasticity, and multicollinearity test.

The following study questions were posed in order to examine the participants' life experiences and perceptions:

1) How will the gender give effect on the likelihood of progression/promotion and the level at the public accounting firms?

2) What are the factors that influence the glass ceiling perception among accountants in the public accounting firms?

3) What is the impact of disruptive technology acceptance moderating the relationship between gender and glass ceiling perception?

The findings offer insightful information for businesses and provide light on the characteristics of the glass ceiling phenomena which policymakers looking to advance workplace gender parity.

The findings indicate that opinions of the glass ceiling among female accountants are not significantly influenced by gender. This challenges the widely held belief that, at least in the Malaysian context, gender is the only element contributing to the glass ceiling effect. Rather, the perception of the "glass ceiling" was found to be significantly influenced by beliefs about unequal professional growth opportunities and inadequate leadership support. The perception of a glass ceiling inside their organisations was found to be more prevalent among female accountants who perceived gaps in professional progression prospects between male and female colleagues. This emphasises how crucial it is for a company to guarantee that all workers, regardless of gender, have equal access to possibilities for professional growth.

Reducing the glass ceiling and advancing gender equality in the auditing profession can be accomplished through developing thorough policies and procedures that provide equal opportunities for all. The glass ceiling was also greatly impacted by views of insufficient assistance from male leaders, which included exclusion from male-dominated social networks. This emphasises the importance for businesses to foster a culture that gives female workers equal access to mentor ship and support. Breaking down barriers and dispelling the notion of a glass ceiling can be facilitated by inclusive leadership and the promotion of a varied network.

Table 5.1 below summarises the hypotheses and their alignment with the research objectives in this study, where it provides a concise overview of the study's focus by linking its objectives to testable hypotheses.

Table 5.1
Hypotheses and Their Aligned Research Objectives in This Study

Research Objectives	Hypotheses	Findings
RO1: To explore the role of gender in shaping perceptions of the glass ceiling among accountants in public accounting firms. RO2: To examine the influence of disruptive technology on perceptions of the glass ceiling among accountants in public accounting firms.	H1: Female accountants are likely to have higher association with glass ceiling than male accountants. H2: Women accountants are perceived to be less savvy in technology, which may widen the inequality gap.	RO1 & RO2 do not appear to be supported, as there is no statistical evidence to suggest that gender (RO1) or disruptive technology (RO2) affect perceptions of the glass ceiling.
RO3: To identify the factors contributing to women accountants' perceptions of the glass ceiling in public accounting	H3: Factors contributing to women accountants' perceptions of the glass ceiling in public accounting firms include gender, structural- and cultural-biased factors, marital status, dependent, rank post, and Big Four factors.	For RO3, there is evidence to suggest that structural-centered factors, organizational culture-centered factors, and workplace characteristics (e.g type of audit firms) influence respondents' perceptions of the glass ceiling.

5.2 Significance of All Factors

The analysis's focal variable, gender, had no statistically significant effect on people's perceptions of glass ceilings. This observation casts doubt on the conventional wisdom that views of glass ceilings are solely determined by gender and suggests that other variables might have a greater influence on how people view their career. This research emphasises the importance of having a detailed understanding of the complexity that underlie perceptions of career hurdles, even while gender diversity and equality are still important issues in accounting and other areas.

The present study of gender, bias, structural, organisational, marital status, high rank, and business type to investigate the factors related to the views of the glass ceiling. The findings suggest that the glass ceiling is seen differently by female accounting professionals depending on organisational and structural factors. This theoretical framework can also help one in understanding why female accountants in industry report a higher glass ceiling perception than their counterparts in public accounting. That is, structural and organisational reasons are more likely to be reported by female accounting professionals in industry than by their counterparts in public accounting, and this raises perceptions of the glass ceiling. In summary, the structural and organisational perspectives on the glass ceiling offer a useful foundation for an enhanced comprehension of the research results.

Regarding the gender-centred factor, it was discovered that it had no bearing on the theoretical framework and is, therefore, considered irrelevant. Data also show that other factors were irrelevant as well. The research findings indicate that, with regard to the gender-centred factor, accounting firms can benefit from offering additional training to the entire staff on gender-based biases, such as the homophobia principle

and gender-role theory, which can unintentionally prejudice certain leaders against female promotions to high positions. Providing organisational leaders with this type of training may help them to identify gender-based biases that are practiced in the workplace, which could result in a fairer work environment. Certain gender-based prejudices will probably be addressed. As a result, more workplace support and utilisation of other women's initiatives, such work-life balance programme, is anticipated.

It is noteworthy that perceptions of the glass ceiling are not considerably impacted by factors like marital status, the makeup of the family, or rank and prestige within the organisational hierarchy. This study implies that these factors might not be the primary cause of the glass ceiling effect in this study's sample of female accountants, even though they might have different effects in various situations.

The study also indicates that employees of large firms (the "Big Four") are less likely to report experiencing a glass ceiling. This is because Big Four firms are associated with the most well-known and successful firms in the world, and as such, they may have more progressive policies and practices that support diversity and inclusion, mentor ship programme, opportunities for leadership development, and flexible work schedules.

On the other hand, the data showed that views of glass ceilings were strongly impacted by perceived inequity in career advancement prospects. This implies that people are more prone to experience glass ceilings if they believe there are gender-based differences in professional advancement inside their organisations. These results emphasise how crucial it is to provide equal access to professional

development pathways for all individuals, regardless of gender, in order to reduce the perception of institutional hurdles to promotion.

In examining "The Contributory Factors of the Glass Ceiling in the Malaysian Accounting Profession," the study will yield several implications, recognise certain limitations, and suggest avenues for future research.

5.3 Implications of the Study

In examining "The Contributory Factors of the Glass Ceiling in the Malaysian Accounting Profession," the study will yield several implications, recognise certain limitations, and suggest avenues for future research. The breakdown is listed out and explained as follows:

Implications for Accounting Firms:

Organisational Policy and Culture: Insights into the impact of specific organisational practices (e.g., mentorship programs, promotion criteria) provide actionable recommendations for firms. Accounting firms can use these findings to create inclusive policies that reduce career barriers and promote a more diverse leadership pipeline.

HR Practices and Training: The study may highlight the importance of policies such as diversity training, gender-sensitive promotion criteria, and flexible work arrangements. Firms can leverage these insights to develop training programs aimed at mitigating biases and enhancing equity within the organisation.

Implications for Policymakers and Professional Bodies:

Informed Policy Development: The study can help policymakers understand the career barriers faced by women and other underrepresented groups in accounting. This could inform gender equality and workforce policies, supporting national goals for a fair and inclusive labour market.

Benchmarking Standards for the Profession: Professional accounting bodies may use the findings to develop or update industry standards related to equitable recruitment, evaluation, and promotion practices, encouraging a more level playing field for career advancement across firms.

Social Implications:

Advancing Gender Equality and Social Equity: By addressing the glass ceiling in the accounting sector, the study contributes to the larger societal goal of gender equality. Its findings may inspire other sectors to investigate and address similar barriers.

Empowering Employees: Understanding factors that influence career progression empowers individuals to seek supportive environments, advocate for fair policies, and make informed career choices in the accounting profession.

The research thus demonstrates that the outcome can also be advantageous to policymakers. The Ministry of Human Resources, as the government's representative, can create a comprehensive labour law that will provide a gender-neutral workplace. To help corporate sectors stay informed and adjust to changing circumstances, the HR department should provide additional lines of communication.

For organisations seeking to advance gender parity and dispel the myth of a glass ceiling among female accountants, the findings have important policy ramifications. The following policy suggestions are put out in light of the findings.

First and foremost, companies ought to prioritise giving accounting professionals—male and female—equal opportunities for professional growth. This can be accomplished by ensuring that mentoring programmes are in place, having equitable access to high-profile jobs, and having networking opportunities distributed fairly. Policies ought to be centred on eradicating gender prejudice and fostering an inclusive workplace that encourages each employee's development and advancement.

Secondly, in order to counter the notion of a "glass ceiling," companies ought to promote collaborative leadership approaches that ensure equitable support for both male and female accounting experts. It is recommended that managers provide guidance and support for the professional development of women professionals, including but not limited to facilitating their access to networks and possibilities for progress. Within an organisation, fostering collaboration and support can assist overcome exclusionary views through the cultivation of diverse and inclusive networks.

Third, organisations should take action to counteract bias in order to guarantee the impartiality of performance reviews. To promote fairness in the review process, managers and supervisors should get training on identifying and reducing bias. Gender disparities that may lead to the notion of a glass ceiling can be found and addressed with the support of routine monitoring and assessment of performance rating systems.

The fourth thing that organisations should do is work to promote an inclusive culture that honours gender equality and diversity. Policies and programme that support flexible work schedules, family-friendly behaviours, and work-life balance can help achieve this. The idea of a "glass ceiling" can be lessened by promoting an environment at work that accommodates the obligations and requirements of both male and female workers.

From a theoretical and literary standpoint, it is anticipated that this research can expand and improve the current understanding of the glass ceiling perception. By sharing the findings of this work, the authors hope to contribute fresh research knowledge that will help aspiring post-graduate students finish their theses.

5.4 Limitations and Recommendations

Limitations of the study include generalisability, data limitations, and complexity of glass ceiling phenomenon.

5.4.1 Generalisability

Sample Limitations: The study's sample may be limited to specific regions or types of firms within Malaysia, potentially affecting the generalisability of findings to the entire Malaysian accounting profession or to accounting professions in other cultural or economic contexts.

Industry-Specific Focus: Since the study focuses on the accounting profession, the findings may not be directly applicable to other sectors where the nature of work, organisational structure, and promotion criteria differ.

5.4.2 Data Limitations

Self-Reported Data and Bias: If the study relies on survey data, there is a potential for self-reporting bias, as respondents may feel inclined to answer in a socially desirable manner or may perceive organisational policies differently than they function in practice.

Cross-Sectional Data: If the study uses a cross-sectional design, it will capture perceptions at a single point in time, limiting its ability to determine causality or track changes in perceptions and practices over time.

5.4.3 Complexity of Glass Ceiling Phenomenon

Multifaceted Nature of Glass Ceiling: The glass ceiling involves various intersecting factors—individual, organisational, and societal—which may be challenging to fully capture and isolate within a single study. Some contributory factors may also be difficult to measure quantitatively, which could affect the depth of analysis.

Many limitations in the study provide avenues for further investigation in the future. For instance, this research only utilised a sample size of 160 out of the 228 accountants engaged. Therefore, this work is unable to remark the extent to which women's beliefs of a glass ceiling inhibit them from entering the field in the first place. It is strongly recommended that future studies would involve larger sample sizes and assess the variations of glass ceiling perception by generation, if any. It is also proposed that future studies should look into the fundamental disparities between male and female accountants' perspectives of the glass ceiling and how these variations affect the organisational cultures of accounting firms. Additionally, future studies are highly recommended to explore whether disparities in gender equality

exist between different industries. In order to achieve better results, future research should consider conducting qualitative investigations and triangulating them with quantitative studies.

5.5 Future Research Directions

5.5.1 Longitudinal Studies

Future research could benefit from a longitudinal design that tracks changes in perceptions and experiences over time. This would allow for examining how career advancement opportunities evolve and whether specific policies or interventions have a lasting impact on reducing the glass ceiling.

5.5.2 Comparative Studies Across Sectors

Conducting similar studies in other professional sectors (e.g., law, engineering, or finance) could provide insights into whether the glass ceiling operates similarly across professions. A cross-sectoral comparison would contribute to understanding the unique and shared factors influencing career barriers in various fields.

5.5.3 Exploration of Intersectionality

Future studies could examine how different identity factors (e.g., gender, ethnicity, socioeconomic status) intersect to influence experiences of the glass ceiling. This approach would provide a richer understanding of the unique challenges faced by individuals who belong to multiple underrepresented groups in the accounting profession.

5.5.4 Expanding Beyond National Boundaries

Comparative studies across different countries in Southeast Asia or other emerging economies would help reveal cultural and institutional factors specific to each region. This could lead to a more comprehensive understanding of how national and regional contexts shape the glass ceiling phenomenon.

5.5.5 Qualitative Approaches for Deeper Insight

While this study may rely on quantitative methods, future research could include qualitative methods (e.g., interviews or case studies) to gain deeper insights into personal experiences, organisational dynamics, and the nuanced ways the glass ceiling operates. Such approaches could reveal context-specific details that are not captured through quantitative analysis alone.

5.5.6 Impact of Technological and Remote Work Trends

Given the rise of remote work and digital technologies, future studies could investigate how these trends impact the glass ceiling. Research could focus on whether increased remote work options facilitate career advancement for underrepresented groups or introduce new forms of barriers in the accounting profession.

5.5.7 Summary

This study's implications extend to accounting firms, policymakers, and the broader society, offering guidance for fostering more inclusive workplaces. However, limitations related to generalisability, data collection, and the complex nature of the glass ceiling may affect the study's scope and conclusions. Future research could address these limitations by employing longitudinal designs, comparative studies,

intersectional analysis, and qualitative methods to deepen one's understanding of the glass ceiling in accounting and beyond.

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Appendix A

Questionnaire

A SURVEY ON
CAREER ADVANCEMENT AT ACCOUNTING/AUDITING FIRMS

The goal of this survey is to gather data and feedback from audit firm employees regarding the difficulties they face throughout their careers while also having to foresee and adopting the disruptive digitisation technologies that are drastically altering organisations and business models.

The survey is divided into three main sections:
Part A : Perceptions of career advancement impediments
Part B : Perceptions of the usefulness and usability of disruptive technology
Part C : Demographic

This survey will take less than 10 minutes to complete. We would like to express our heartfelt gratitude for taking the time to complete this questionnaire honestly and cooperatively. Our survey is only for the purpose of providing information and gaining a better understanding of job barriers in the audit firm, and it will not be used for any other purpose.

If you have any questions about this survey, please contact:

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Part A: Perceptions of career advancement impediments

Please indicate your level of agreement of the following statements by circling the appropriate number based on the following scale.						
		1 = strongly disagree	2 = disagree	3 = not sure	4 = agree	5= strongly agree
1.	Employees of my gender are frequently excluded from decision-making at work.	1	2	3	4	5
2.	My gender is underrepresented in the top management team at my workplace.	1	2	3	4	5
3.	Women with maternity leave records at my workplace are assigned less important tasks.	1	2	3	4	5
4.	Talent of my gender is less accepted as new employees at my workplace.	1	2	3	4	5
5.	My gender is overrepresented in low-wage positions at my workplace.	1	2	3	4	5
6.	Employees of my gender continue to be valued less than those of the opposite gender at my workplace.	1	2	3	4	5
7.	Employees of my gender in my workplace require more career development resources than employees of the opposite gender.	1	2	3	4	5
8.	Employees of my gender at my workplace have much less career knowledge than employees of the opposite gender.	1	2	3	4	5
9.	Employees of my gender are not treated equally in terms of career	1	2	3	4	5

	progression at my workplace.					
10.	Employees of my gender in my workplace receive less social support from their coworkers than employees of the opposite gender.	1	2	3	4	5
11.	My workplace's working culture prevents staff of my gender from being promoted equally with staff of the opposite gender.	1	2	3	4	5
12.	At my workplace, personal and social lifestyle are affected by the organisation working culture.	1	2	3	4	5
13.	A good working culture is created by good management and strategic leadership in my workplace.	1	2	3	4	5
14.	A good working culture fosters a positive operating style in my workplace.	1	2	3	4	5
15.	New technologies such as data analytic, artificial intelligence, and cloud accounting will aid in increasing productivity at my workplace.	1	2	3	4	5
16.	In my workplace, employees of my gender are less open to new technology than employees of the opposite gender.	1	2	3	4	5
17.	Not all human services in accounting can be replaced by new technology services such as data analytic.	1	2	3	4	5
18.	Young and junior staff of my gender (age under 30 years) at my workplace will adapt to new technology more easily than senior staff.	1	2	3	4	5
19.	When compared to the opposite gender, employees of my gender	1	2	3	4	5

	in my workplace receive less guidance and technical training regarding new technology from superiors.					
20.	Employees of my gender face more immense barriers to advancement at my workplace than employees of the opposite gender.	1	2	3	4	5
21.	Employees of my gender in my workplace are more impacted by barriers to career progression than employees of the opposite gender.	1	2	3	4	5
22.	Employees of my gender are given less job responsibility at my workplace, despite holding the same rank as their opposite gender colleagues.	1	2	3	4	5
23.	In my workplace, married employees of my gender are more impacted by the career progression barrier than non-married employees.	1	2	3	4	5
24.	In my workplace, employees of my gender are less likely to report any career progression barriers than employees of the opposite gender.	1	2	3	4	5

Part B: Respondent's perception of the usefulness and usability of disruptive technology

(Note: Disruptive technology in the context of audit work includes, but not

Please indicate your level of agreement of the following statements by circling the appropriate number based on the following scale.						
		1 = strongly disagree	2 = disagree	3 = not sure	4 = agree	5= strongly agree
1.	Using disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) in my job would enable me to accomplish tasks more quickly.	1	2	3	4	5
2.	Using disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) would improve my job performance.	1	2	3	4	5
3.	Using disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) in my job would increase my productivity.	1	2	3	4	5
4.	Using disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) would enhance my effectiveness on the job.	1	2	3	4	5
5.	Using disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) would make it easier to do my job.	1	2	3	4	5
6.	I would find disruptive technology	1	2	3	4	5

	(such as data analytic, artificial intelligence, and cloud accounting) useful in my job.					
7.	Learning to operate disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) would be easy for me.	1	2	3	4	5
8	I would find it easy to get disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) to do what I want it to do.	1	2	3	4	5
9.	My interaction with disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) would be clear and understandable.	1	2	3	4	5
10.	I would find disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) be flexible to interact with.	1	2	3	4	5
11.	It would be easy for me to become skilful at using disruptive technology (such as data analytic, artificial intelligence, and cloud accounting).	1	2	3	4	5
12.	I would find disruptive technology (such as data analytic, artificial intelligence, and cloud accounting) easy to use.	1	2	3	4	5

Please give your views and suggestions regarding how adoption of new technology such as data analytic, artificial intelligence and cloud accounting might positively or negatively impacted your career progression (if any).

Part C: Demographic

Please answer all questions. Fill in the blanks or tick (√) in the appropriate column.

1. Age: _____years old

2. Gender: ☐ Male ☐ Female

3. Race:
   ☐ Malay ☐ Chinese ☐ Indian
   ☐ Others (Please Specify): _____

4. Marital Status:
   ☐ Single ☐ Married ☐ Divorced/Widow

5. Dependents (You may tick more than one answer):
   ☐ Children ☐ Spouse ☐ Parents

6. Highest Academic Qualification
   ☐ Diploma ☐ Degree
   ☐ Postgraduate ☐ Professional Qualification

   Please state your professional qualification(if any):

   _____

7. Numbers or years working at audit firms
   Previous audit firm :_____years (if any)
   Current audit firm:_____years

8. Current Work position:
   ☐ Partners/HOD ☐ Senior Managers/Directors
   ☐ Managers ☐ Auditors/Associates & Senior Auditors/Senior Associates
   ☐ Others

9. Current workplace:

   ☐ Big Four Audit firms

   ☐ Non Big Four audit firms with international affiliates

   ☐ Local audit firms

10. Location of current workplace (city/state): _____

11. If you would like to view overall result, please provide your email address: _____

THANK YOU FOR YOUR COOPERATION.