

Report On
“Impact of Artificial Intelligence in Closing the Gender Gap
Among Women-Led Industries: A Developing Country
Perspective”

By

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A thesis submitted to the BRAC Business School in partial fulfillment of the requirements
for the degree of
Bachelors in Business Administration (BBA)

BRAC Business School
Brac University
October 2023

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Declaration

It is hereby declared that

1. The thesis report submitted is my own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Dear Madam,

It is writing to you with my utmost pleasure for submission of my thesis entitled “Impact of AI in Closing the Gender Gap in Women-Led Industries: A Developing Country Perspective” for completion of BBA degree.

I have devoted myself sincerely and tried my best to finish the report by collecting, analysing and researching essential data.

I heartily believe that this report will meet the standards and requirements.

Sincerely yours,

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Acknowledgement

I am extremely thankful and want to show my gratitude to our respected faculty Dr. Nusrat Hafiz and Dr. Asadul Islam for their immense and continuous support on the completion of this project. I would also like to extend my heartfelt gratitude to the SMEs organizations participated in the survey to provide all the information about the organization. And my sincere obligations to all the individuals who have helped me to complete the project, without their guidance, cooperation, encouragement, it would not have been possible to complete the project. I am also grateful to Brac University for giving me the opportunity and gratitude to my parents, their immense support motivates me to work hard.

Abstract

This study investigates the multifaceted relationship between artificial intelligence (AI), gender diversity, and business organizations administered primarily by women. The study focuses predominantly on developing nations, with Bangladesh serving as a case study. This study examines the detailed interrelationship between artificial intelligence (AI) and gender diversity by employing a substantial body of scholarly literature and empirical data where a sample size of 248 has been taken to conduct an online survey. The findings of the study reveal that artificial intelligence (AI) has the capacity to both reduce bias and enhance disparities. The study demonstrates the importance of mentorship opportunities for empowering women and furthering gender equality in AI-driven fields. In addition, the report includes recommendations for businesses, such as emphasizing the importance of including both genders in AI education, utilizing ethical AI algorithms, and nurturing inclusive work environments. Moreover, this technological advancement offers numerous opportunities for future scholarly research, thereby encouraging a greater emphasis on the examination of artificial intelligence's impact on gender equality and its potential contributions to sustainable development. This paper anticipates an alternative scenario in which the implementation of artificial intelligence (AI) addresses the challenges and obstacles associated with gender disparity in industries primarily run by women.

Keywords: Artificial Intelligence (AI); Gender Diversity; Mentorship Opportunities; Gender Equality; Gender Disparity

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List of Acronyms

AI	Artificial Intelligence
SME	Small and Medium Enterprises
PBA	Perceived benefits of AI
TA	Technological adaptation
GDW	Gender diversity in the workplace
MO	Mentorship opportunities
NLP	Natural Language Processing
STEM	Science, Technology, Engineering & Mathematics

Chapter 1- Introduction

Introduction

AI has been referred to as a "disruptive factor" due to its capacity to substantially alter corporate processes and create new market segments (Liam, 2023). The use of artificial intelligence (AI) has been the subject of a growing body of academic research, which suggests that its extensive implementation could contribute to the reduction of the gender gap observed in historically male-dominated fields (White et al., 2020). This study examines the potential role of artificial intelligence (AI) in addressing and mitigating gender inequality on a global scale, with an emphasis on its application in Bangladesh. Gender disparity is primarily responsible for the suboptimal utilization of human resources and consequent lacklustre economic growth in nations. In industries with a greater proportion of women in leadership positions, such as healthcare, education, and retail, gender equality has advanced at a relatively sluggish rate. Bangladesh, like many other developing nations, experiences gender gaps across several dimensions of its make-up. According to Alam (2023), by incorporating unemployed women into digital economic activities, the Bangladeshi government may maximize women's potential. Training and development programs, extra seminars and symposiums, government assistance, interest-free loans, an easy lending process, technology education, and childcare centers were all mentioned in the study. For instance, in terms of finance, women often face limited access to finance like credit, economic resources etc. Small enterprises play an important role in a country's economic success. It makes sense to highlight small enterprises by prioritizing underserved markets, (Hafiz et al., 2021). Again, socially they fall under the trap of traditional gender roles and norms that contribute to disparities in education, employment, and decision-making authority (Hossain, 2019). Additionally, the cultural biases and societal expectations hinder a woman's mobility and participation in public spaces. In brief, gender gaps in Bangladesh encompass financial, educational, occupational, healthcare, and social dimensions that needs a comprehensive effort in order to be addressed (Shafiq, 2019). These dimensions and the barriers related to the same must be considered in order to reduce the gender disparity in Bangladesh. Nevertheless, the emergence of artificial intelligence (AI) has provided potential avenues for addressing this inequality (Liam, 2023).

The use of artificial intelligence (AI) for the improvement of decision-making procedures and the reduction of biases across various sectors has the potential to significantly advance gender equality. Platforms propelled by artificial intelligence facilitate the expansion of female entrepreneurs' professional networks to include potential investors, clients, and role models. It is essential, when incorporating artificial intelligence (AI) into systems, to anticipate and resolve any potential challenges that may arise. The underrepresentation of diversity in the AI programming community, the unequal availability of AI technology for women in developing countries, and the prevalence of gender bias in AI algorithms are significant issues that require attention (Hafiz et al., 2023). Through the establishment of ethical frameworks, regulatory measures, and pedagogical activities, the development of gender-inclusive AI systems in the design, implementation, and use phases could be accelerated in developing countries like Bangladesh.

The primary objective of this study is to fill a significant gap in the existing corpus of scholarly literature by conducting an analysis that encompasses a wide range of perspectives on the topic at hand. The aim of this study is to inform readers about the potential effects of artificial intelligence on gender equality in service sectors staffed predominantly by women in marginalized income nations like Bangladesh. The purpose of this study is to increase the representation of women in artificial intelligence (AI) and related fields by analyzing existing initiatives, proposing legislative revisions, and developing innovative strategies in Bangladesh's perspective.

Background of the Study

Gender inequality is a complicated problem that has major effects on culture. It keeps people from reaching their best social and economic potential. As was already said, women have held important roles in medicine, education, and business for a long time. In many fields, though, progress has been slow on the road to gender equality. Even though women have made a lot of progress in many areas, they still face discrimination based on their gender, barriers in the workplace, and social forces that keep up unfavorable gender norms. White et al. (2020) say that the use of artificial intelligence (AI) technologies like machine learning algorithms, natural language processing, and robotics has the potential to make big changes in many fields and give marginalized groups, especially women, more power by giving them more freedom. AI could help close the gender gap by making decisions less biased, making information easier to find, and making it easier for female businesses to connect with the

right networks and resources. When artificial intelligence (AI) is used in developing countries, it is important to look at both the challenges and possibilities it brings. In these countries, traditional norms, a lack of resources, and economic differences make gender inequality worse (Arui, 2023). Several things get in the way of women's full participation and success in the workplace, such as unequal access to resources, a lack of computer skills, and the prevalence of stereotypes. For developing nations, artificial intelligence (AI) has both positive and negative implications. For instance, within the context of Bangladesh, the adoption of AI can drive innovation, enhance productivity, and create new opportunities for women's growth. AI has the power to improve healthcare services, optimize agricultural practices, and transform the garments sector which are all women-led industries (Shafiq, 2019).

On the contrary, AI can prove to be a problem to a lot of women as there may be job displacement, ethical concerns, and potential biases in AI algorithms. Bangladesh can harness the potential of AI while mitigating the risks that may hinder sustainable development. The majority of academic studies on the impact of artificial intelligence (AI) on gender inequality have ignored third world countries like Bangladesh (Hossain, 2019). The impact of artificial intelligence (AI) on women-owned and operated enterprises in economically disadvantaged nations warrants further study (Hafiz et al., 2023). This research seeks to increase comprehension of the role artificial intelligence can play in advancing women's rights and nurturing gender equality. This study seeks to advance the fields of artificial intelligence and gender equality. Given that women are disproportionately underrepresented in leadership positions, the prevalence of a gender imbalance poses a significant barrier to development in developing countries namely Bangladesh. The ability of artificial intelligence (AI) to resolve this issue depends on a comprehensive understanding of the unique circumstances and obstacles women confront in these industries (Ramos, 2022).

Problem Statement

Despite significant advances in the pursuit of gender equality, sectors managed by women in developing nations like Bangladesh continue to encounter significant obstacles in their efforts to confront and reduce the gender gap (Hossain, 2019). Representation, access to resources, and opportunities continue to be obstacles for women in the disciplines of healthcare, education, and retail (Ahmed & McGillivray, 2020). Women's advancement in these fields has historically been hindered by preconceived conceptions, and limited access to resources,

among others (Raynold, 2022). Insufficient research has been conducted on the use of artificial intelligence (AI) to address the gender gap in developing nations, particularly in the business sectors of Bangladesh where women are more prevalent (Daraz et al., 2022). Therefore, additional research must be conducted on the subject of gender gap (Rahman, 2021). The principal purpose of our investigation was to find an answer to the question of reducing gender disparity (Hossain, 2019). The purpose of this study is to investigate the underlying issues and potential solutions in order to aid policymakers in utilizing artificial intelligence (AI) to combat gender inequality (Shafiq, 2019).

Research Objective

1. To analyse the influence of artificial intelligence (AI) in bridging the gender gap among Women-Led industries
2. To identify the underlying factors influencing the application of artificial intelligence (AI) reducing gender biases in the workplace among Women-Led industries

Research Questions

1. What is the influence of artificial intelligence (AI) implementation in bridging the gender gap within industries led by women?
2. What are the underlying variables that contribute to gender biases in such workplace environments?

Significance of the study

This research could promote gender equality in economically challenged women-owned enterprises. This study examines how AI advances women and society. The findings can help create evidence-based policies, programs, and efforts to address the unique challenges women experience in these areas. By empowering women, this study could revolutionize economically impoverished societies. AI must reduce gender inequities in this age of automation. AI may remove obstacles, reduce preconceptions, and boost women-led businesses. This study encourages creative thinking among female AI researchers. This study could change AI policy in developing nations to benefit women and girls. Gender equality's economic benefits make the study important. Women-led enterprises benefit economically and creatively from workplace equality. This study shows how artificial intelligence may help women become entrepreneurs, political leaders, and economic development catalysts.

These findings may help accomplish UN Sustainable Development Goals 5 (Gender Equality) and 8 (Human Rights).

Conceptual definition of the terms

Artificial Intelligence: Cognitive technology simulates human intelligence as AI. It uses AI, NLP, and robots. AI mimics human intelligence to solve complicated problems and get insights (Davis, 2023). AI can alter businesses and society.

Gender Gap: Men and women have unequal opportunities, resources, and outcomes. Education, employment, healthcare, and decision-making are affected. Discrimination, sociocultural norms, and institutional biases cause gender discrepancies (Ramos, 2022). It threatens gender equality and requires collaboration to remove barriers, promote inclusiveness, and provide equal rights and opportunities for all genders.

Women-led Industries: These industries are led by women. Women affect healthcare, education, retail, and social services. Women-led industries include women-owned businesses and gender diversity and inclusion programs. For economic, social, and sustainable development, women must lead in these fields (Arui, 2023).

Structure of the study

The introduction includes the review of the study article focuses on AI's role in closing the gender gap in women-led firms in developing countries. This section will discuss the investigation's goals and relevance. Introduction to the research project and paper structure. In chapter 2, the literature on the effects of artificial intelligence (AI) on gender equality and women-led industries in developing nations is examined in this study. It will delve into the themes of gender equality and AI application. It also emphasizes women's empowerment. Empirical data, case studies, and scholarly publications are used in this study to identify gaps, trends, and emergent difficulties. This section summarizes the contextual setting and theoretical foundation for the following chapters. Following that, the methodology in chapter 3 will discuss the research design, methodology, and research strategy, data collection, analysis, and the research paradigm are all explained. This section discusses the research sample, target audience, and data sources. This research looks into the ethics and limitations of research. In chapter 4 this study looks at empirical research findings. This study looks at how artificial intelligence eliminates gender disparities in female-led businesses in emerging countries. This research looks at AI intervention challenges and success aspects. This

research looks at how artificial intelligence empowers women, promotes gender equality, and encourages inclusive economic growth. In Chapter 5 the discussion and analysis will highlight the key findings of the study while supporting the assumed hypotheses aligning the literature arguments. Recommendations for the policy makers, and practitioners of the same domain will be suggested for future development.

Chapter Summary

This study investigates how AI could assist low-income women with budgeting. This research demonstrates how AI enhances business and gender equality. This study demonstrates how AI could mitigate gender inequality in developing nations like Bangladesh. This research examines the impact of AI and female-led companies on gender equality in the workplace. Women-owned businesses with gender inequalities waste human capital and retard economic growth. AI eliminates workplace gender bias. Robotics, NLP, and ML eradicate bias in the workplace, improve communication, and assist women in launching businesses (Hoover, 2023). AI has tremendous potential, but its risks must be comprehended and managed. This study investigates AI algorithm biases, the diversity of AI development teams members, and AI access for disadvantaged women (Liam, 2023). AI development and deployment must incorporate ethics, laws, and gender equality training.

This study investigates how AI impacts gender equality in businesses owned by women from a Bangladeshi perspective. Case studies, interviews, and data analysis produce AI solutions, policy recommendations, and methods for women's empowerment. This study will have an impact on policymakers, practitioners, and other stakeholders working to reduce economic disparity and promote inclusive development.

Chapter 2-Literature Review

Introduction

The impact of AI in this ever-growing gap has been a topic of discussion for a while now. The literature review discusses on the different studies conducted by people in different fields of their career.

According to a study by (Steinberg et al., 2023), a general preference for human evaluators than AI evaluator particularly in women in the labour market was identified by research. The area of research was the preference for evaluation done by humans over AI. The result concluded the preference of a human evaluator than an AI evaluator. The underpinning theory of the research was to examine the impact that AI tools have had on the demand and supply sides of the labour market, with a particular emphasis on how these effects have manifested in terms of the employment of individuals from underrepresented groups (Steinberg et al., 2023). Methodology included conducted online experiment on the candidates. The target market was the technological and labor-market.

Overview of Literature

Gender Diversity in the Workforce

According to a study by (Nusseir et al., 2021), it was found that gender discrimination exists globally. The area of the research was regarding the opinion of Gender Discrimination at work by AI and Machine Learning (ML). Theory of gender discrimination being rooted in societal norms, cultural beliefs and biases favouring men over women was identified. The research concluded that the existence of gender discrimination is prominent in industries (Nusseir et al., 2021). Some of these include discrimination in workplace in terms of unequal employment opportunities, wage disparities and biased behaviour. The methodology of the research was information collected from existing studies, reports and published articles.

According to Islam et al., (2023), Bangladeshi women's digital economic engagement faces many hurdles. Lack of government funding, digital technology access, security concerns, and social and cultural barriers are these obstacles. Women entrepreneurs receive insufficient government funds, and nepotism compounds matters. These hurdles demoralize women,

causing business closures. Street security, transit issues, and a male-dominated society further limit women's digital economy engagement. A study conducted by (Mongan et al., 2020) was about the dependency of AI's Future Success on Women which highlighted the gender gap and lack of diversity in the field of AI. The research found that there was a lack of gender diversity in AI and women were underrepresented in their respective industries. The methodology included survey results, insights from Women & AI Faring Circle and information from the Women's Forum for the Economy & Society. The gender gap in leading AI positions showed limited representation of women in the field (Mongan et al., 2020). It also included the evidence of biased data sets against women.

According to another research conducted regarding the contribution of AI to hurting gender diversity by (Avery et al., 2023), showed that the use of AI in recruiting results in an increase in the percentage of female applicants and results in an improvement in the assessment scores of female candidates in comparison to male applicants (Avery et al., 2023). However, this effect is magnified for applicants with a particularly high level of qualifications. AI-Demand reduced the gender bias in this case. The methodology of the study included two field experiments and studies conducted by the authors.

According to (Mari et al., 2022), concentrating on mentorship and role models. AIS could solve the gender gap in surgical training and education, according to the study. The study found that work-life balance, training time, and gender discrimination prevented women from becoming surgeons. Early exposure to surgical specialties, mentorship, and role models piqued women's interest in surgery (Mari et al., 2022). The analysis also highlighted the underrepresentation of women in AI research and leadership roles, emphasising the hazards of biased data and erroneous applications due to a lack of diversity. Gender diversity boosts AI and economic growth, according to the text. A thorough literature review and data analysis underpinned the study.

According to (Ivarsson, 2010), gender prejudice, lack of diversity, and biased data can affect AI development. They suggested "AI to promote gender equality" to combat gender inequality. The study stressed gender equality in AI domains. AI and gender equality projects attracted experts in gender equality but not AI. The report also underlined the necessity to address data access, digital gender hurdles, and sex-disaggregated data difficulties to adequately analyse gender concerns in AI development (Ivarsson, 2010). Gender equality AI

technologies were also stymied by privilege-holders' opposition. Their study used surveys, interviews, hackathons, and workshops.

Artificial Intelligence (AI)

Artificial intelligence (AI) applies to the capacity of technology, particularly computers, to replicate human intelligence, (Du-Harpur et al., 2020). The basic objective of artificial intelligence (AI) is to construct a machine that possesses the ability to exhibit intelligent behaviour. And the second objective is to the investigation of the fundamental characteristics of intelligence.

Women Personnel in AI in Managerial Position

(Tschopp and M., 2020) found that underrepresentation of women in AI and bias against women in machine learning and algorithms may reinforce existing inequalities. female-based violence, health inequalities, the female wage gap, unpaid labour, and uneven funding were studied to promote gender equality. The article addressed gender gaps using a transdisciplinary approach that considered social and technological factors (Tschopp and M., 2020). Blind spot identification, education, self-help, and autonomy were opportunities. The study advocated hackathons to test academic research ideas, emphasising conceptual groundwork. Stakeholder management and cross-disciplinary thinking were crucial to implementation. 12 interviews, 4 workshops (1 global, 3 local), and desk research were used.

(Gibert et al., 2022) researched on Building a Territorial Working Group to Reduce the AI Gender Gap in 2022. The study found that women are underrepresented in AI education and employment, which limits their effect on AI technology. The researchers suggested a gender working group model for Catalan donesIAcat to solve this imbalance (Gibert et al., 2022). Through school programmes, conferences, and networking events, the donesIAcat organisation has promoted AI among girls, resulting in a rise in female AI students. The donesIAcat group's methods and experiences informed the research.

(Solar and G., 2022)'s Intersectional Study of the Gender Gap in STEM examined women's STEM representation and contributions. Pierre Bourdieu's theory of capital—educational, material, and cultural—explained STEM power dynamics and inequalities. The paper stressed intersectionality and the lack of STEM women data. It exposed workplace biases, family responsibilities, and the underrepresentation of women in key scientific institutes and leadership roles (Solar and G., 2022). The report recommended using intersectional

viewpoints and robust data to assess the STEM gender gap. Strategic, case-based research was used.

(Barbieri et al., 2021) studied gender discrimination in AI and platform work in 2021. The article showed a gender gap in AI. It stressed the need to address gender disparity from a transdisciplinary approach, taking into account social and technical concerns. Education, self-help, and autonomy were recognised as progress opportunities (Barbieri et al., 2021). The report also suggested hackathons to test academic research ideas, emphasising the significance of conceptual clarity. Stakeholder management and transdisciplinary thinking were necessary for execution. The publication does not give study technique details.

West and Colleagues (2019) studied AI Discriminating Systems in Gender, Race, and Power in 2019. The essay focused on AI diversity and human involvement in AI decision-making and power allocation. AI systems mimic industrial gender and racial dynamics, harming underrepresented groups. Facebook and Google had few black and transgender AI researchers, professors, and conference speakers. Diversifying AI failed and could worsen inequality. Diversity and bias must be addressed jointly since AI prejudice could perpetuate discrimination. It examined industrial resistance to diversity schemes, cultural variables, stereotypes, resource availability, and computer science discrimination against women and minorities. Qualitative analysis supported the article (West et al., 2019).

Bank (2021) revealed prejudice against women and gender imbalance in machine learning. AI has the potential to make gender differences worse. The study suggested a model for gender working groups for the donesIAcat group in Catalonia, boosting women's involvement in AI through networking, skill development, and motivation. While addressing data access and digital gender obstacles, education and mentoring were promoted along with gender equality in AI. People who feared losing their privileges resisted (Bank and E., 2021). Analyzing studies, bank reports, and published papers was part of the methodology.

AI implementation for Recruitment

(Korsvik et al., 2020) studied gender roles and AI in 2020 using Rational Choice Theory (RBT). The study found that gender imbalance in AI and IT jobs is worsened by artificial intelligence. Automation favored bosses over workers. Automation threatens jobs less in female-dominated fields like education and healthcare, where people interact more (Korsvik et al., 2020). These sectors and agriculture are least threatened by automation, regardless of gender. The study also found that artificial intelligence increases women's sexual harassment,

notably in digital gaming and other platforms. Reviewing 24 Norwegian papers—21 scientific articles and three research reports—was the research approach. Small enterprises are crucial to economic prosperity. Boosting small firms in underserved sectors makes sense. This research examines women-owned small businesses (WOSB) and their issues. The study links the WOSB and urban platform privileges to boost business growth. Originality: The authors found that wealthy countries mostly covered the desired research-domain, poor countries rarely did, and Bangladesh nearly never did, (Hafiz, and Abdul, 2020).

Despite the belief that the digital world is gender-neutral, women's presence and access to ICT are much lower than men's. Men control women's ICT access. 2 billion Global South women lack digital access. Digital advances are limited for women and girls by patriarchal standards. Saudi men use technology to curb their female relatives' freedom and independence, increasing male guardianship. Women's insufficient IT and science education exacerbates the situation. Scholarly and other research papers were reviewed to support the conclusions (Wajcman et al., 2019). The high-tech industry needs women's AI and machine learning perspectives. However, women face many hurdles, including the need to prove themselves and their credibility in STEM disciplines, more scepticism than men, unequal STEM educational options, and the risk of being mistreated. These factors hinder women from AI employment (Prabhakar et al., 2023). The study found a shortage of mentorship and female AI experts. To understand women in AI, the researchers interviewed and analyzed their responses. (Roberts et al., 2019) studied gender equality in the automation industry in 2019. The study examined how automation might affect men and women over time. Automation can reshape job and reward distribution to achieve gender equality, according to the study. It could lower working hours and raise pay for low-paid women, relieving the "double shift" of waged and unpaid labor many women suffer (Roberts et al., 2019). Women can get decent jobs in the future sector and profit from technology's productivity gains with adequate intervention. To realize this positive vision, decision-making processes surrounding automation, its deployment, benefits, and distribution must be reshaped to promote gender equality. Data from authorized national and international sources, publications, and papers supported their conclusions. The study examined how automation might affect men and women over time. Automation can reshape job and reward distribution to achieve gender equality, according to the study. It could lower working hours and raise pay for low-paid women, relieving the "double shift" of waged and unpaid labor many women suffer (Zhang et al., 2019.). Women can get decent jobs in the future sector and profit from technology's

productivity gains with adequate intervention. To realize this positive vision, decision-making processes surrounding automation, its deployment, benefits, and distribution must be reshaped to promote gender equality. Data from authorized national and international sources, publications, and papers supported their conclusions.

Cultural and Social Perceptions of AI

According to (Yi et al., 2015), the cultural and societal beliefs around artificial intelligence (AI) have a significant impact on the extent of women's involvement in AI-related positions within industries mostly led by women. By acknowledging and questioning biases, advocating for good role models, and cultivating inclusive narratives, industries led by women can strive to establish a conducive climate that promotes the involvement of women in the use of artificial intelligence (AI). The examination and alteration of cultural and societal perspectives have the potential to not only foster gender diversity but also enhance the overall prosperity of enterprises run by women in developing nations, as they embrace the possibilities offered by artificial intelligence (AI) technologies.

As (Reddy, and Jadhav, 2019) argued that, cultural and social perceptions refer to the shared views, attitudes, and values of a culture in relation to artificial intelligence (AI) technologies. Those perceptions possess the potential to exert a substantial impact on the level of women's involvement in businesses driven by artificial intelligence. The influence of cultural biases and preconceptions might shape judgments regarding the capacity of women to effectively interact with artificial intelligence (AI), (Andrieu et al., 2023). By acknowledging and mitigating these prejudices, as well as fostering inclusive narratives on women's capabilities in the field of artificial intelligence, it is possible to cultivate a greater inclination among women to pursue AI-related positions inside companies that are predominantly led by women. The familiarity and comfort of women with artificial intelligence might be influenced by cultural norms pertaining to technology. The influence of societal expectations on women's involvement in technology can impact their inclination and self-assurance in pursuing professions in artificial intelligence. The prominence of women role models in AI-led businesses can be influenced by cultural attitudes of AI, (Kostenko et al., 2016). The promotion of positive portrayals of women achieving success in AI-related positions has the potential to disrupt prevailing prejudices and serve as a source of inspiration for other women considering pursuing careers in these sectors, particularly within companies that are predominantly led by women. The societal impact of AI can be influenced by cultural beliefs,

which in turn can have an impact on women's inclination towards pursuing professions in AI. If women consider artificial intelligence (AI) as a tool to tackle societal concerns and have an impact, they may exhibit a greater inclination to engage in enterprises managed by women that prioritize the use of AI, (Acquavit et al., 2009). As per (Hogg, 2016), individuals' construction of self and identity is influenced by their affiliation with various social groups. In the context of AI adoption and the pursuit of the gender gap termination, this hypothesis proposes that women's attitude to identify with AI areas may be shaped by cultural and social beliefs pertaining to AI.

Technological Adaptation

(Olsson and E. A., 2022) studied gender equality and AI diversity in 2022. Legal literature on artificial intelligence and gender showed a movement from descriptive to prescriptive discrimination approaches. Technical breakthroughs, legislative changes, team diversification, corporate governance, and hiring processes were suggested to address gender bias. The thesis's concentration on gender discrimination and lack of intersectionality and technical solutions were acknowledged in the article (Olsson and E. A., 2022). The comprehensive examination revealed AI biases in employment, justice, advertising, healthcare, and social services, expanding the AI and gender landscape. A thorough literature review with manual article selection was used to acquire pertinent insights.

(Lamm et al., 2022) researched Policies and Safeguards to Regulate New Technologies in 2022, focusing on gender equality in AI development, implementation, and use. AI systems perpetuate gender prejudices and inequalities, especially in digital skills education, technical teams, and AI enterprises, resulting in biased outcomes. The study showed how statistical flaws, developers' conscious or unconscious assumptions, and institutional practices can skew AI algorithms and cause digital gender inequities. UNESCO, OECD, IMF, and Women's Policy Research publications, research, and data were used (Lamm et al., 2022).

(Daraz et al., 2022) studied AI Ecosystem Gender Parity Challenges in 2022. In accordance with the UN's Sustainable Development Goals, the article highlighted Canada's gender gap and underrepresentation of women in AI sectors. The study examined Canada's gender gap in AI, including schooling, recruitment, employment retention, salaries, leadership positions, and AI developments (Daraz et al., 2022). The paper stressed inclusivity, equality, and unconscious prejudice to promote gender equality in AI. Empowering women, providing inclusive places, and expanding women in leadership positions were key to gender parity in

AI. The research found that low STEM participation, recruitment and retention issues, earnings disparities, and male AI development dominate the Canadian AI sector. The publication did not specify the research technique. The report suggested major structural changes to prevent gender inequity during the AI transition. Identifying and correcting gender asymmetries and inequalities throughout this process was stressed. Gender preconceptions caused female underrepresentation in scientific and technology departments, according to research. From 1988 to 2021, 133 biased systems in diverse industries showed gender and racial discrimination in every fourth system and gender bias in nearly every second system. Automation raised women's job replacement risk, according to the study (Herrera et al., 2022). The topic was assessed using scholarly publications and journals. However, the approach was not explained. A 2020 AI-gender parity study was undertaken. RBT and anthropology underpin the research. The study found that human-created AI inherited human traits and prejudices. Only 10-15% of AI scholars at Google and Facebook were women, and only 12% attended key AI conferences. Lack of confidence and education among women caused this imbalance. Women typically feel inferior to males, which deters them from STEM industries. Professionals, interviews, and scholarly articles informed the research. Methodology was not specified (Daraz et al., 2020).

(Young et al., 2021) analyzed gender jobs in AI in 2021. The study concluded that men dominate artificial intelligence and data science occupations in the UK and elsewhere. Women accept lower-ranking IT jobs than men. Women in data science and AI turnover more (Young et al., 2021). Women have better IT qualifications than men, while men self-report more reporting skills. The underrepresentation of women in AI led to gender bias in machine learning algorithms. Quotacom was interviewed to obtain database information, which was used to access LinkedIn and scrape candidates' education, talents, and professional profiles.

H1: Organizational technological adaption has a significant impact on authorities hiring women in managerial roles.

Perceived Benefits of AI

According to (Tussyadiah, and Miller, 2019), perceived benefits cover the favorable consequences that both individuals and organizations anticipate arising from the integration of artificial intelligence. Industries that are governed by women and utilize artificial intelligence (AI) have the potential to gain several benefits. The concept that AI technologies

possess the capability to optimize processes and enhance efficiency has the potential to appeal to women and encourage their participation in AI-related positions. The enhancement of task completion speed and accuracy has the potential to foster a sense of empowerment among women, hence promoting their engagement in industries predominantly led by women, (Lee et al., 2023). This also refers that the use of artificial intelligence (AI) stimulates innovation and confers a competitive edge and has the potential to appeal to women who are actively seeking opportunities for personal and professional development along with seeking for the possibilities to make meaningful contributions. As (Akdin, and Casalo, 2023) pointed out, industries that are led by women and are viewed as progressive and adaptable have the potential to attract a greater number of women to join their workforce, thereby enhancing the pool of talent available. Artificial intelligence (AI) technologies have the potential to automate specific tasks has the capacity to foster more adaptable work settings. The inherent adaptability of such industries may prove to be especially tempting to women who strive to strike a harmonious equilibrium between their professional and personal obligations, therefore interpreting women-led sectors as more enticing as potential career paths. The idea that artificial intelligence facilitates the implementation of data-driven decision-making has the potential to appeal to women who prioritize evidence-based approaches. This view can also contribute to the mitigation of prejudices and the advancement of gender-neutral decision-making, hence fostering greater equity in industries led by women. According to (Kim, 2020), the participation of women on the upper-level management and the efficacy of the board seems to be not associated since strategic control, organizational innovation, and decision-making authority, demonstrates a significant impact on the performance of the corporation. It is important for public institutions to actively facilitate initiatives aimed at attaining a substantial representation of women in directorial and managerial positions. This is crucial in order to ensure that women are not confined to a symbolic presence on corporate boards, but rather have the opportunity to cultivate their abilities and attributes. By doing so, the efficacy of boards and overall business performance can be enhanced.

According to (Dearing, and Cox, 2018), the process of acceptance and distribution of cutting-edge innovations within both societal and organizational contexts. Within the contexts of AI implementation and gender inclusivity, this theoretical framework facilitates comprehension of the processes involved in the acceptance and incorporation of breakthroughs like AI. According to the theoretical framework, the adoption of an innovation is determined by

various factors, including the perceived properties of the invention, the communication channels through which information about the innovation is disseminated, and the specific characteristics of the entity that is considering its adoption. When applied to industries led by women, this theory can provide insight into the elements that either support or impede the integration of AI technology, as well as the resulting effects on gender diversity. This hypothesis holds significance in the context of the research as it can contribute to the understanding of the various aspects that impact the adoption of artificial intelligence (AI) technologies inside industries run by women. Assessing AI's perceived attributes, communication channels, and stages of adoption can reveal how AI is being integrated into women-led industries and its potential impact on gender diversity.

H2: Perceived Benefits of AI has a significant impact on authorities hiring women in managerial roles

Research on artificial intelligence and its effects on gender diversity was done in 2022 by (Pisanelli and E., 2022) who used the Rational Choice philosophy (RBT) as her guiding philosophy. According to the study, companies can use AI to solve the continuing underrepresentation of women in senior positions. Contrary to expectations, AI can, however, support prejudice against women (Pisanelli and E., 2022). While using evaluation tools throughout the employment process can aid in reducing labour inequality, using AI for hiring does not materially differ from decisions made by human decision-makers. In order to gather information for the study, the research approach involves analysing data from American and European companies that will be included in the Fortune Global 500 in 2021.

AI technologies were investigated to determine their objectivity and how bias could affect outcomes and policy (O'Connor et al., 2023). The study stressed that eliminating interacting prejudices is required to improve results for everyone, as treating one form of prejudice does not solve inequality. In an experiment dubbed 'He/She is a (work position),' detectors were constructed to engage in an experiment where gender roles were visible and the AI classified females as nurses and males as scientists and engineers. A thorough literature study and an information selection approach were employed to gather data. The study found that supporting young women's STEM programmes, guaranteeing representation parity in AI businesses, and incorporating different stakeholder groups in technology creation could promote AI transparency and equity. The digital gender gap affects enrolment and graduation rates, according to the study. Women are also underrepresented in AI (Kiden and S., 2019)).

The study found that women's underrepresentation in AI development and policy creation perpetuates societal and algorithmic discrimination. The study analysed verified authors' research papers and publications. AI solutions were found to promote gender equality in recruiting, health, and men's violence against women. The investigation found no examples of unpaid chores, equal authority, or education equality. However, experts contacted for the study said AI could help address gender concerns. Interviews, desk research, and global and local workshops assessed the topic (Vinnova, 2020). AI recruiting expands the candidate pool and eliminates personal prejudices, boosting the likelihood of individuals getting their preferred jobs (Ivarsson and S., 2020). The study indicated that neither human recruiters nor AI technologies can eliminate bias in recruitment. Thus, each approach's pros and negatives must be considered. In decision-making, human-machine intelligence is often recommended. Academic articles and databases were analyzed for insights. The research found that equality and justice issues are typically overlooked due to these rules' technicality and parties' lack of political conflict. A closer look indicated that lack of knowledge and information is the main issue (Rönblom et al., 2015). Women and society may achieve equality and maximize digitization benefits through increasing knowledge. The research method involved analyzing authorised research papers.

Mentorship Opportunities

Mentorship performs an important position in cultivating the enhancement of skills, confidence, and the advancement of one's career development, particularly the women's demography because of the possibility to promote technical expertise, ("Can mentoring," 2021). The examination of the influence of artificial intelligence (AI) on gender diversity within industries led by women necessitates the recognition of mentorship as a pivotal element in enabling women's participation and progression in AI-related positions. Mentorship offers an encouraging setting that assists women in properly recognizing and addressing obstacles such as imposter syndrome, the absence of role models, and discrimination based on gender that frequently exist within technical domains. By offering additional support and guidance, mentorships can facilitate the development of essential skills, enhance their voices within the workplace, and foster possibilities for career advancement. In order to promote women's interest in pursuing careers in technology and provide them with the necessary support, mentorship has been identified as an effective

strategy. As (Maity, 2019) argued, the process of recruiting employees might unintentionally serve as a significant obstacle in achieving a workforce that is diverse. Applicants addressing from diverse backgrounds face a disadvantage while seeking employment with the organization. This occurs because of the unconscious biases that interviewers have. Likewise, such biases could also have resulted because the dominant group or the executive or administrative personnel is always given more attention during the hiring process in the company. Such incidents can be prevented by mentorship and sessions. When applying for a job, people who have easy access to the community or group that the firm represents can learn a lot about the application process, the company itself, and how things work inside the company, (Cronin, 2020). They can also gain relevant experience. This then sets off a self-reinforcing cycle that leads a company to favor a certain group of people. To implement such values in the workplace setting up training programs that make it easy for all candidates to meet relevant workers can help them during the hiring process. Mentorship programs provide women the opportunity to acquire AI skills at a self-determined pace. Women develop confidence in their artificial intelligence (AI) skills and make valuable contributions to industries led by women through direct learning experiences with experienced experts. As (Baily, 2019) highlighted that, mentors play a crucial role in assisting women in navigating and addressing challenges related to bias, imposter syndrome, and resource limitations within the field of artificial intelligence. Mentors provide guidance and impart their knowledge and experiences in order to assist mentees in overcoming these obstacles. Mentorship facilitates the establishment of professional connections for women, enabling them to engage with individuals who possess extensive industry knowledge, potential collaborators, and opportunities for career progression. This exposure enhances their prominence inside AI-driven and women-led enterprises. The implementation of mentorship programs has been shown to have a positive impact on the advancement of women in leadership positions inside firms that focus on artificial intelligence (AI). Mentors play a crucial role in facilitating the progression of mentees toward leadership positions, hence fostering gender equality in managerial roles.

According to (Sicat et al., 2020), a global population of around 9.34 million formal small-to-medium firms (SMEs) are owned by women. Since developing countries need an economic backup for upgrading their position on the global map. And these exclusive revenue streams held by the women workforce can be a considerable aspect for emerging countries to develop their economies of scale. Although female company owners have the ability to make

substantial economic contributions, they encounter difficulties in obtaining the necessary support services for their growth. These constraints include limited access to networks, training opportunities, financing options, and markets. The underlying assumption of the analysis is that digital technologies, specifically online platforms, have the potential to empower women by allowing them to utilize their unique strengths and overcome various obstacles associated with conventional methods of commerce. Diversity mentorship programs allow minority employees to advance their careers and build leadership networks. To diversify talent pipelines, organizations match high-potential minority employees with senior management which leads to reverse mentoring. Diversity mentorship programs can use several mentoring methods, but reverse mentoring is the most frequent that can be used to avoid gender biases. As with any mentoring program, firms launching a diversity mentoring program must set goals, (Cronin, 2020). Other than placing diversity as an additional framework for the company, the mentors or the top level employees or the upper level management should cultivate the culture of diversity by increasing minority employee retention or women in leadership roles can be a goal in determining the accomplishment.

According to (Schunk, 2012), a comprehensive framework for comprehending the influence of social interactions, observational learning, and self-efficacy on individuals' behaviors, beliefs, and attitudes. In the context of AI adoption and gender diversity within industries led by women, this theory suggests that women's perceptions of AI, their self-efficacy beliefs in acquiring AI-related skills, and their exposure to accomplished female role models in AI fields collectively shape their choices to pursue careers in AI. This theory holds significant relevance to the research, as it offers potential insights into the factors that may influence women's career choices in AI-driven industries. Specifically, it can shed light on the impact of women's perceptions of AI, their exposure to successful female role models in these industries, and their self-beliefs regarding the acquisition of AI-related abilities and offers valuable insights into the potential mechanisms by which the adoption of artificial intelligence could influence gender diversity within industries predominantly led by women.

H3: Mentorship Opportunities have a significant impact on reducing gender bias in industries

Relevant Literature of the Study

Study	Focus	Findings
Avery, M., Leibbrandt, A., & Vencchi, J. (2023). Contribution of AI to hurting gender diversity	Gender Diversity in the workplace	In artificial intelligence (AI), women are underrepresented in their fields. Using AI-Demand has reduced gender discrimination in this case. Work-life balance, training time, and gender discrimination have slowed women's surgical advancement. Gender diversity boosts AI development and economic progress.
Artificial Intelligence and gender parity. (2020).		
Discrimination at work by AI and Machine Learning (ML)		
Lee, M., Russen, M., Dawson, M., & Madera, J. M. (2023). Enhancing Performance and Perceived Justice in Hospitality Organizations: An Integrated Model of Gender Diversity Within Top Management Teams.		
Mari, V., Spolverato, G., & Ferrari, L. (2022). Gender Gap and Barriers faced by women in		
Surgical Specialties (lack of mentors, role models etc.)		
Nusseir, M. T., Alkurdi, B., Alshurideh, M. T., & Alzoubi, H. M. (2021).		
Onososen, A. O., & Musonda, I. (2022). Perceived benefits of automation and artificial intelligence in the AEC sector: An interpretive structural modeling approach.		
Steinberg, A. L. S., & Hohenberger, C. (2023). Preference for evaluation done by humans over AI		
Daraz, L., Chang, B. S., & Bouseh, S. (2022). Challenges of Gender Parity in AI Ecosystem	Technological adaptation	These studies explain the complex relationship between technological adaptation and gender equality. These studies emphasize the essential need to address biases, inequities, and gender disparities in AI development, implementation, and use.
Herrera, E. G. -, & Koeszegi, S. T. (2022). Digital gender inequality		
Lamm, E., Ramos, G., & Ronchi, E. (2022). Policies and Safeguards to Regulate New Technologies		
Olsson, E. A. (2022). AI and gender equality (study by legal scholars)		
Young, E., Wajcman, J., & Sprejer, L. (2021). Analysing gender jobs in AI Industry		
Prabhakar, K., & Drane, L. (2023). Role of women in the artificial intelligence sector.	The perceived value of AI	This study examines the relationship between the adoption of artificial intelligence (AI), perceived advantages, gender diversity, upper-level management, and the theoretical construct of innovation dissemination. The findings of this research contribute to the existing literature and provide a
Dearing, J. W., & Cox, J. G. (2018). Diffusion of innovations theory, principles, and practice.		
Kim, J. (2020). The influence of perceived costs and perceived benefits on AI-driven interactive		

recommendation agent value.		foundation for future investigations in industries managed by women.
Tussyadiah, I., & Miller, G. (2019). Perceived impacts of artificial intelligence and responses to positive behaviour change intervention.		
Bao, Z. (2022). Impact of AI on gender equality	Adaptation of AI in the workplace	These studies demonstrate the complex relationship between artificial intelligence (AI) and gender diversity, emphasizing its capacity to both promote and impede equality. They underscore the importance of well-informed policies and equitable decision-making in this context.
Ivarsson, S., Legrand, G., Stertman, E., & Lycken, H. (n.d.). AI promoting gender equality		
Kiden, S. (2019). Impact of technological innovation on gender roles		
O'Connor, S., & Liu, H. (2023). The Connection between Gender Prejudice and AI. An Investigation Asserts the Objectivity of Such Innovations and How Its Perception of Bias Could Influence Outcomes and Policy.		
Pisanelli, E. (2022). Artificial Intelligence and its Impact on gender diversity		
Rönblom, M., Carlsson, V., & Pettersson, A. Ö. -. (n.d.). Gender Equality in AI Policies		
Vinnova. (2020). Artificial intelligence and gender equality		
Baily, C. (2009). Reverse intergenerational learning: a missed opportunity?	Mentorship Opportunities	The findings highlight the importance of mentorship, the potential of technology for enabling individuals, and the relevance of psychological theories in advancing gender diversity and women's involvement in companies that use artificial intelligence.
Cronin, N. (2022, November 1). How to Improve Diversity and Inclusion With Mentoring. Guider.		
Can mentoring help to improve gender diversity in tech? (2021, October 12).		
Maity, S. (2019). Identifying opportunities for artificial intelligence in the evolution of training and development practices.		
Schunk, D. H. (2012). Social cognitive theory.		
Sicat, M., Xu, A., Mehetaj, E., Ferrantino, M., & Chemutai, V. (2020). Leveraging ICT technologies in closing the gender gap.		

Table 2.1 Relevant Literature of the Study

Research Gap

Despite the fact that the current literature highlights the possibilities for AI to reduce gender biases and foster gender equality in a variety of industries, there is a lack of rigorous study

that evaluates the actual impact of applying AI for recruiting on gender diversity in the workforce. After reviewing the current studies it can be pointed out that AI can improve the quality of female employee assessments and reduce gender bias in the hiring process. For this further research is needed to highlight the importance of addressing biases in AI algorithms and data sets in terms of adapting recruitment approaches. Also, the minority of women in AI research and leadership positions hinders the creation of equitable and inclusive AI systems in the technology industries. Because of the particular gender discrimination practices in the evolving industries, further research is needed to determine how AI recruitment affects the gender ratio in the workforce. Also, research on such practices is needed to determine how the employment of AI technologies affects the demand and supply sides of the labour market for minority or underprivileged groups, particularly women in the top-level management of a company. It is also important to explore how organizational policies and practices have an affect on women and other minority groups' presence in AI development with an aim to eliminate gender bias towards women in workforce.

Also, while the literature has discussed the potential benefits of AI in promoting gender equality, there is a lack of in-depth research on the potential risks and adverse impacts of AI technologies on gender roles and gender inequality. Addressing these research gaps will inform evidence-based policy recommendations and best practices for designing AI systems that promote gender diversity and inclusivity in the workplace.

Scope of the study

This study examines how artificial intelligence closes the gender gap in women-dominated fields in third-world countries. Health services, education, and shopping are prioritized. This study examines how AI tools like machine learning, NLP, and robotics can reduce these discrepancies and make the workplace more egalitarian for men and women. This study evaluates all AI treatments, methods, and best practices in poor countries. This study examines the barriers to AI adoption in women-owned developing countries enterprises. These firms aim to achieve gender parity. First, one must understand the cultural, economic, and technological reasons that cause gender inequality. This study examines AI algorithm prejudice against women, women's AI technology adoption, and the digital divide. The study illuminates the barriers to gender equality using AI technology. This study evaluates AI projects and initiatives that promote gender equality in low-income nations ruled by women. Case studies, significant actors, and public data can help one find the best methods and ideas.

Theoretical Framework

The UTAUT (Unified Theory of Acceptance and Use of Technology) model can be used to examine the research gap on AI's impact on gender diversity in sectors and its ability to reduce gender bias. It can examine industry usage and acceptance of AI technology to reduce gender bias, (Jain et al., 2022).

Performance Expectancy (PE)

Recent studies shows that AI can improve how efficiently female employees are evaluated and make the hiring process less biased against women. This corresponds in with the idea of performance expectations since AI is supposed to make the hiring process better and encourage gender diversity.

Effort Expectancy (EE)

The research gap also suggests that effectively addressing such workplace biases in artificial intelligence algorithms and data sets, with the aim of adapting recruitment tactics can be beneficial for the practitioners. This suggests that mitigating these biases may necessitate a certain degree of adaptation, which is consistent with the concept of effort expectancy.

Social Influence (SI)

This study examines the significance of mentorship programs in fostering gender diversity and mitigating gender bias within various businesses. Mentorship can be conceptualized as a mode of social influence, wherein seasoned mentors possess the capacity to apply a constructive influence on the perception and acceptance of artificial intelligence (AI) technology among women occupying leadership roles.

Gender Differences

The UTAUT model acknowledges that gender differences can influence technology adoption. In this case, the research recognizes the gender-specific challenges and disparities in AI adoption and its impact on gender diversity.

Behavioral Intention

The existence of a research gap underscores the significance of conducting additional research in order to create evidence-based policies and establish best practices. Behavioral

intention is fundamental elements within the UTAUT paradigm, as they represent the intentions of humans to adopt technology and their subsequent behavior in utilizing it.

Conceptual Framework

This conceptual framework visualizes the multifaceted relationship between AI adoption and gender diversity in women-led enterprises. The study examines the correlations between these variables to understand how AI adoption affects gender diversity and identifies crucial areas for intervention to build an inclusive workforce in women-led sectors.

Dependent Variable of the study

Gender Diversity in the Workforce (GDW): Gender diversity is the primary outcome measure for women-led industries, representing the presence and representation of both genders in the workforce.

Independent Variables of the Study

Technological Adaptation (TA): This variable measures how often women-led industries use AI. Greater technology adoption may give both genders equal job prospects.

Perceived Benefits of AI (PBA): The perceived benefits of AI adoption in women-led industries. If perceived benefits match women's career goals, they may pursue AI-related professions.

Mentorship Opportunities (MO): The availability and quality of mentorship programs for AI-related women. Mentorship can improve gender diversity by guiding, empowering, and developing skills.

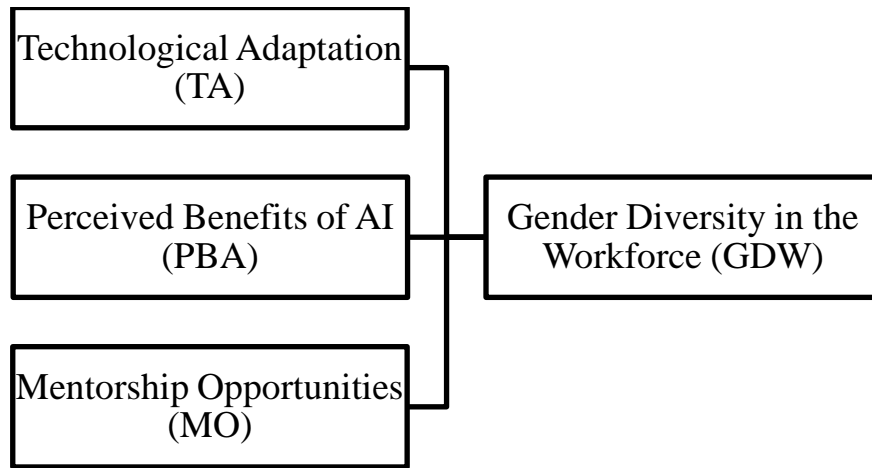


Figure 2.1 Conceptual Framework of the Study

Chapter 3-Methodology

Introduction

In this section of the study, a proper description of the methodology to conduct this study will be discussed. According to (Kazdin, 2016), the presence of a well-defined, and well-structured methodology is crucial in research because of its ability to offer a systematic and organised framework for conducting the study. Since there strategies and procedures adapted for different study tends to be different from one another based on their requirements. It helps researchers of any project to outline the specific steps, procedures, and techniques that they will employ to gather, analyse, and interpret data for that particular project, (Kazdin, 2016). Without a clearly defined, and processed methodology, research studies can lack organization and effectiveness in supporting arguments and obtaining credible data findings, (Ferrer-i-Carbonell, and Frijters, 2004). Furthermore, the implementation of an accurately crafted methodology serves to enhance the authenticity, legitimacy, and dependability of research outcomes. Also, it helps enabling researchers to mitigate any errors and biases in the study and to take actions to prevent such inaccuracies. Moreover, the implementation of a clearly defined methodology enhances the efficiency of the research process by establishing practical timetables and minimizing unwanted diversions along the study timeline. Moreover, this transparency facilitates the evaluation of the study's robustness and pertinence by external events, and factors. (Kazdin, 2016) also pointed out that, significantly, a meticulously organized and well delineated methodology guarantees that the selected research methodologies are consistent with the research objectives. Researchers are able to effectively determine the most suitable strategy, such as quantitative, qualitative, mixed methods, or experimental, in order to address their research inquiries.

According to (Ferrer-i-Carbonell, and Frijters, 2004), the implementation of an appropriately crafted approach serves to mitigate the influence of researcher bias and subjectivity where the recommendations outlined in this framework aim to mitigate the risk of any potential bias in data collection and analysis, hence enhancing the integrity of the obtained results. The process serves to help researchers find any flaws or limits in their research plan so they can make the necessary changes to improve the quality of their study as a whole. In essence, methodology is the most important part of scientific research that is carried out in a systematic, ethical, and rigorous way leading to more reliable and substantial insights, which helps the growth of expertise in various domains.

The worldwide environment has changed due to rapid technological breakthroughs, and AI is considered to be a major force in this transformational revolution. This study examines the effects of artificial intelligence (AI) deployment on Bangladeshi SMEs in a fast-growing, ever-changing environment. For this, this study will apply a quantitative research methodology to examine the effects of AI implementation on Small and Medium-sized Enterprises (SMEs) across different areas in Bangladesh. The specific focus of the study is on the influence of AI adoption on gender diversity and the mitigation of gender discrimination within these organizations across different sectors to get a more in-depth, and a wider perspective. This section will identify the objectives, and aims of the research strategy along with highlighting the sample size, sampling procedure, data analysis process, required tools, and instruments, conducted pilot study, and ethical considerations undertaken to conduct this research project.

Aims and Objectives of the Study

In the context of Bangladesh's small and medium-sized enterprise (SME) sector, the purpose of this research is to determine the extent to which artificial intelligence (AI) is helping to close the gender gap in industries that are led by women.

The key study objectives are:

- To examine the impact of artificial intelligence (AI) adoption on gender diversity in small and medium-sized enterprises (SMEs) in Bangladesh.
- To evaluate the impact of AI implementation on reducing gender-based discrimination across multiple industries.
- To offer valuable insights and propose recommendations aimed at cultivating a fair and equitable atmosphere for industries run by women in the setting of a developing nation.

Research Design

This study primarily employs a quantitative research methodology and a cross-sectional structure. The chosen study methodology employs a cross-sectional design, in which data will be gathered from a specific sample of small and medium-sized enterprises (SMEs) in Bangladesh at an individual point in time. This method will enable the researcher to obtain a brief overview of the present scenario of artificial intelligence (AI) implementation and its impact on gender-related dynamics.

According to (Fryer et al., 2018), the systematic collection and study of numerical data is what quantitative research implies. This methodology is well-suited for the research study since it allows for a methodical and objective assessment of AI adoption rates, gender diversity, and gender bias mitigation. This instrument facilitates in the discovery of patterns, correlations, and statistical relationships between variables which will be able to provide credible, and reliable research outcomes. According to (Thomas, 2020), simple random sampling is the sampling technique that is used to randomly select a subset from the population. The method is adopted as in the study as it represents equal probability of selection of the all the sample thereby signifying any bias free data.

Moreover, according to (Zangirolami-Raimundo et al., 2018), the cross-sectional methodology comprises collecting data from multiple subject matter experts in this case the SMEs at the same time. Therefore, this preceding design is appropriate to capture an assessment of the current state of AI use and its impact on gender imbalances through small and medium-sized firms (SMEs) in Bangladesh. This approach demonstrates efficiency and appropriateness in assessing the consequences of AI applications. It allows for concurrent comparisons of various small and medium-sized firms (SMEs), providing significant insights into the current condition of operations.

Research Philosophy

The present study can be considered to be accordance with a positivist research philosophy. This focuses on empirical observation and the objective examination of data in order to derive significant results for the thesis.

According to (Ashworth, 1997), since positivism places significant emphasis on the use of empirical observation and the objective study of evidence in order to derive conclusions that hold substantive significance. In the present investigation, this philosophical perspective tend to entail a reliance on empirical and quantifiable evidence for the purpose of testing hypotheses and deriving conclusions that is expected to be reliable for the practitioners, and pertinent stakeholders. The approach also suggests that this research would effort to achieve objectivity by minimizing biases and subjectivity in the process of data gathering and analysis.

Research Approach

The selected methodology adopts a deductive approach, wherein hypotheses are formulated by drawing upon established theories and empirical evidence which are subjected to thorough empirical analysis.

The deductive approach involves the formulation of hypotheses by drawing upon existing ideas and empirical facts, (Shaffer, 1989). In this particular scenario, it is probable that the theoretical frameworks informing the analysis would encompass theories pertaining to the adoption of artificial intelligence, gender diversity, and discrimination for the study. These assumptions will serve as guiding principles for the systematic collection and proper analysis of data for the researcher. In order to conduct a thorough examination of these hypotheses, it is also imperative for the researcher to establish a strong foundation in current knowledge and ensure that the study's outcomes will make a valuable contribution to the existing body of research on the adoption of artificial intelligence (AI) and its implications for gender.

Research Strategy

The research strategy breaks down a fundamental layout or structure that directs the entirety of the research project, encompassing the manner in which the study will tackle the predetermined research objectives and amass data. The paper functions as a strategic guide for properly conducting research. In the present study, which focuses on the influence of AI implementation on gender-related dynamics within small and medium-sized enterprises (SMEs) in Bangladesh, the research strategy could consist of the following aspects:

The population of the Research

This research comprises the entire population of operating Small and Medium-sized Enterprises (SMEs) in Bangladesh, which is estimated to be 684 SMEs. The SMEs sectors that will be included for the survey comprises- Healthcare, and Diagnostics; Knitwear, and Read-Made Garments; Software Development, and Leather-Making, and Leather Goods, (SME Entrepreneurs Directory, 2015).

Sampling Strategy

In order to achieve a thorough examination, the study sample will be divided into several groups according to industry sectors, encompassing manufacturing, services, and technology, as well as their respective levels of artificial intelligence implementation. This phenomenon will result in the emergence of discrete categories of individuals who either adopt or do not

adopt artificial intelligence. The sample will be formed by randomly selecting participants from each strata. The scope of this study encompasses Small and Medium-sized Enterprises (SMEs) that are currently operational in Bangladesh which are primarily collected from the directory of SME led by women. The aim of this initiative is to develop the situations, and work settings of women entrepreneurs in Bangladesh. It is predicted that there are a total of 684 SMEs within this demographic.

Sampling Procedure

The categorization of small and medium-sized firms (SMEs) will be conducted based on their industry sector, encompassing manufacturing, services, products and technology across Bangladesh. Additionally, the classification will consider their utilization of artificial intelligence (AI), differentiating between SMEs that have adopted AI and those that have not to identify the factors creating gender biases. The sample will consist of small and medium-sized enterprises (SMEs) that will be selected in a random manner from each strata as a survey respondent. The stratified sampling technique have been used for this study.

Through a methodical process of categorization and careful selection of small and medium-sized enterprises (SMEs), this research project primarily aims to offer significant insights into the intricate influences, and underlying relationships between the adoption of artificial intelligence (AI) and the distinctive attributes of SMEs impacting gender discrimination across women led various sectors of Bangladesh. By doing so, this study seeks to contribute to a full comprehension of the intricate interaction between AI and gender dynamics within this specific context.

Sample Size

A total of 248 small and medium-sized enterprises (SMEs) will be chosen from the population as the sample size for data collection to collect the survey responses, and analyse the computed data for the research findings. The sample will be chosen by the utilization of stratified random sampling, which will guarantee the inclusion of participants from diverse industry sectors and varying levels of AI usage.

The researchers carefully selected a sample size of 248 small and medium-sized enterprises (SMEs) in Bangladesh to achieve a reasonable balance between statistical reliability, accuracy, and available resources, while also assuring alignment with the research objectives. The sample size chosen allows for thorough analysis and the drawing of reasonable inferences about the impact of AI adoption on gender-related dynamics. By using a stratified

random sampling technique, the inclusion of participants from various industry sectors and levels of AI usage ensures the sample's accessibility and authenticity. In general, the sample size chosen has been determined to be both practical and statistically robust, allowing for a comprehensive assessment of the influence of artificial intelligence (AI) on small and medium-sized firms (SMEs) in connection to gender dynamics.

Research Instruments

A specifically structured questionnaire will be used to collect data from the sample of SMEs. The survey will use closed-ended and Likert scale questions to acquire quantitative data on AI adoption, gender diversity, and gender bias reduction.

A data gathering tool will be created to document the demographic features of small and medium-sized firms (SMEs), including organizational size, industrial sector, and AI adoption level.

Data Analysis

The data will be analyzed with SPSS 26.0, which includes both descriptive and inferential statistics, in order to provide a thorough understanding of the research objectives.

According to (Statistics, 2013), descriptive statistics will summarize the data, and since this research seeks to understand the mean, median, standard deviation, and range of variables related to AI use, gender diversity, and gender bias mitigation in small and medium-sized enterprises (SMEs), it will assist to detect and resolve data anomalies or outliers that may need further investigation or purification before inferential analysis.

In addition to that, inferential statistics will be used to examine and evaluate hypotheses developed within the setting of this research. The purpose of this research is to suggest thoughts about the potential relationship between the use of artificial intelligence (AI) and the promotion of gender diversity, as well as the mitigation of gender bias. To determine the statistical significance of observed differences, inferential tests such as analysis of variance (ANOVA) can be used, (Statistics, 2013) which may also assess the degree of association between AI adoption and gender diversity, as well as determine whether specific traits can predict the removal of gender discrimination using correlation and regression analysis.

Because of its user-friendly interface and vast data processing capabilities, the SPSS software package is widely used in statistical analysis, (Verma, 2012). Since the software offers a wide

range of statistical techniques and tools that are ideal for conducting both descriptive and inferential studies, the application of descriptive and inferential statistics using SPSS 26.0 can be beneficial to this particular research investigation to address the research objectives. In short, where the descriptive statistics will provide a foundation for understanding the data, alternatively the inferential statistics will allow for the testing of hypotheses and the extraction of significant findings concerning the impact of AI adoption on gender-related dynamics within small and medium enterprises (SMEs) in Bangladesh.

Ethical Considerations

Informed Consent: Prior to data collection, the small and medium-sized enterprises (SMEs) will be provided with comprehensive information regarding the research aims, and their consent, based on this informed understanding, will be duly obtained.

Data confidentiality is ensured in this study, as respondent data will be treated with utmost confidentiality. Only aggregated results will be presented and reported, ensuring the privacy and anonymity of individual participants.

Research Ethics: The study will strictly follow to established ethical rules and principles, thereby assuring the safeguarding of the rights and privacy of small and medium-sized enterprises (SMEs).

Chapter Summary

This chapter offers a comprehensive analysis of the methodology that was applied in the research study. It primarily highlights the significance of designing a methodology that is well-defined, and well-structured within the context of the topic of research. To assess the impact of the widespread adoption of AI technologies could have on Bangladesh's small and medium-sized enterprises (SMEs) influencing gender biases towards women, the current study employs a quantitative, cross-sectional study design to explore the gender dynamics at play across multiple business sectors. This chapter explores the philosophical underpinnings of research, with a particular emphasis on positivism and the application of a rational methodology to the generation of hypotheses that are firmly established for the study. The methodology for the research takes into account a number of essential aspects, which collectively guarantee the incorporation of a variety of viewpoints and reliable statistical data. These factors include choosing an optimum sample size of 248 small and medium-sized businesses (SMEs), defining the demographic that will serve as the focus of the study, and

utilizing a stratified random selection approach. This methodology also included the administration of questionnaires, the conduct of a pilot study, and the utilization of the statistical software program SPSS 26.0 for the analysis of collected data. Incorporating ethical components, such as obtaining participants' informed consent and ensuring data security, emphasizes the importance of conducting methodical and research that is ethically appropriate.

Chapter 4-Data Analysis

Introduction

Understanding the significance of demographic profiles and the assessment of scale reliability are fundamental variables in the field of data analysis. In this section of the chapter, the present study intends to conduct a comprehensive analysis of demographic variables, including gender, age, education, employment roles, job duration, income, and geography, based on a sample of 248 survey participants. Furthermore, this study investigates the reliability of measuring scales used to assess variables of interest. The paper additionally employs correlation studies to establish connections between gender diversity within the workplace and many significant factors, such as technology adoption, perceived advantages of artificial intelligence, and opportunities for mentorship. The present study aims to utilize data analysis and statistical techniques to identify significant findings pertaining to gender equality in the workplace and the promotion of diversity within various organizational frameworks.

Descriptive Statistics

Response Rate

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	22	8.9	8.9	8.9
	Female	226	91.1	91.1	100.0
	Total	248	100.0	100.0	

Table 4.2 Frequency distribution based on Gender

The data given includes a sample size of 248 participants, and their gender distribution follows:

The table reveals that there were 22 male respondents, comprising 8.9% of the whole sample. Alternatively, the female participants in the study comprised 226 respondents where 91.1% of the is accountable in the whole sample. The data also shows a notable gender gap within the determined sample, wherein a much larger proportion of female respondents (91.1%) is

observed in comparison to male respondents (8.9%). Here, the "Valid Percent" and "Percent" results exhibit consistency across both gender categories that suggesting the absence of any missing or inaccurate data points in the measurement of the gender distribution portfolio of the demographics.

Age (In Years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 25	15	6.0	6.0	6.0
	25 to 40	76	30.6	30.6	36.7
	40 to 55	128	51.6	51.6	88.3
	More than 55	29	11.7	11.7	100.0
	Total	248	100.0	100.0	

Table 4.3 Frequency distribution based on Age

The provided table illustrates the age distribution of the demographic and response rates that follows:

The table reveals that the sample included 15 individuals between the ages of 18 and 25 (6.0%) of the total population. In the survey, 76 participants were between the ages of 25 and 40 which represents 30.6% of the whole group of participants. Also, there were 128 responses from individuals aged 40 to 55, constituting 51.6% of the total sample. Again, 39 respondents (11.7%) of the total population, indicated that their age was above 55. The age distribution of the participants is represented with 51.6% of the sample being between the ages of 40 and 55, representing a significant portion of the total sample. The remaining age groups are fairly proportionate, with those aged 25 to 40 comprising 30.6% of the sample and those aged 55 and older constituting 11.7%.

Educational Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	26	10.5	10.5	10.5
	Graduate	64	25.8	25.8	36.3
	Post-Graduate	138	55.6	55.6	91.9

	PhD.	16	6.5	6.5	98.4
	Other	4	1.6	1.6	100.0
	Total	248	100.0	100.0	

Table 4.4 Frequency distribution based on Educational Qualification

For this demographic portfolio, the participants were categorized into distinct groups according to their level of education.

The data reveals that approximately 10.5% of the group, consisting of 26 individuals were classified as undergraduates. On the other hand, in the graduate group, a total of 64 individuals responded (approximately 25.8%) a total of 138 participants, constituting 55.6% of the entire sample, were classified as "Post-Graduate" responders. A total of 16 individuals possessing a PhD degree responded to the survey, constituting 6.5% of the overall sample size. Alternatively, four respondents submitted responses, constituting 1.6% of the total sample size who do not belong to any of the groups. This data reveals insight into the educational background of the respondents where the largest group among responders is the "Post-Graduate" category, comprising 55.6% of all participants who have completed advanced education. The category labeled "Graduate" accounts for 25.8% of the group, making it the second-largest category. The category labeled "Undergraduate" represents 10.5% of the group and the proportions for individuals with a "Ph.D." and those categorized as "Other" are comparatively smaller, standing at 6.5% and 1.6% respectively. In addition to that, the conducted survey of the distribution of educational qualifications does not reveal any missing or incorrect data points for the thesis, as evidenced by the uniformity value of the "Valid Percent" and "Percent" across all education groups.

Job position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Entry-Level	16	6.5	6.5	6.5
	Mid-level	65	26.2	26.2	32.7
	Senior Level	133	53.6	53.6	86.3
	Executive	32	12.9	12.9	99.2
	None	2	.8	.8	100.0

	Total	248	100.0	100.0	
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Table 4.5 Frequency distribution based on Job Position

The table reveals that for this particular demographic portfolio, the participants were categorized into distinct groups according to their employment or job status.

The computed data reveals that, in the entry-level category, a total of 16 individuals responded, representing 6.5% of the entire sample. Alternatively, in the mid-level category, a total of 65 individuals, accounting for 26.2% of the entire group, and in the senior-level category, and a total of 133 individuals, accounting for 53.6% provided their responses, thereby constituting the majority. As for the executive, the survey received responses from 32 individuals, constituting 12.9% and a total of 0.8% of the entire group responded with the answer "none," with two individuals providing this response. This data reveals that the respondents are in a position of employment where the largest group, with 53.6 percent of respondents, consists of individuals who hold positions at the "Senior Level" or above in their respective occupations. The category labelled as "Mid-level" constitutes the second largest group, comprising 26.2% of the sample, which represents individuals who are currently in the intermediate phase of their occupational status. According to the data, 12% of the job positions fall under the "Entry-Level" category, while 6% are classified as "Executive" positions. Additionally, a minority of respondents (0.8%) fall into the "None" category, suggesting that they may be either unemployed or not fitting into any of the professional-level classifications that participated in the survey

Job Duration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 Year	19	7.7	7.7	7.7
	1 Year to 5 Years	84	33.9	33.9	41.5
	5 Years to 10 Years	108	43.5	43.5	85.1
	More than 10 Years	37	14.9	14.9	100.0
	Total	248	100.0	100.0	

Table 4.6 Frequency distribution based on Job Duration

Based on the provided data, the participants of this demographic portfolio were categorized into distinct groups according to the duration of their job duration or tenure in their present employment in their respective organizations.

A total of 19 individuals, including 7.7% of the entire sample, responded during a duration of less than one year. The group consisting of individuals with 1 to 5 years of experience accounted for the largest proportion (33.9%) of the entire sample, with 84 respondents providing their input. Within the duration of 5 to 10 years, a significant proportion of the sample, comprising 108 individuals, responded, and accounted for 43.5% of the total population. A total of 37 individuals, being 14.9% of the entire sample, responded to the question "More than 10 Years." This data reveals that the distribution of respondents according to their professional backgrounds where the majority of respondents fall into the "1 Year to 5 Years" category, indicating that a significant portion of the sample possesses job experience ranging from one to five years. The "5 Years to 10 Years" group, which ranks as the second largest, comprises of a substantial number of individuals possessing a range of five to ten years of professional experience. The groups labelled "Less than 1 Year" and "More than 10 Years" reveals relatively lower percentages, indicating that respondents in these categories possess relatively shorter and longer durations of work experience, respectively.

Income (BDT)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10,000 to 25,000	16	6.5	6.5	6.5
	25,000 to 40,000	44	17.7	17.7	24.2
	40,000 to 65,000	106	42.7	42.7	66.9
	More than 65,000	82	33.1	33.1	100.0
	Total	248	100.0	100.0	

Table 4.7 Frequency distribution based on Income (BDT)

According to the provided data, the survey respondents have been categorized into distinct categories based on their annual income.

The data reveals that, between the ranges of 10,000 to 25,000, a total of 16 individuals provided responses, constituting approximately 6.5% of the entire sample. Out of the total group, 44 individuals, constituting 17.7% of the sample, responded to the survey with a range of 25,000 to 40,000. Out of the overall sample group, a majority of 106 individuals, comprising 42.7% of the respondents, provided responses that were within the range of 40,000 to 65,000. Out of the overall group, a proportion of 33.1% (82 individuals) responded

to the survey, amounting to a figure above 65,000. This data illustrates the distribution of response rates according to annual income levels. The group with an annual income ranging from 40,000 to 65,000 exhibits the largest representation within the sample, indicating a substantial number of individuals falling within this income range. The group including more than 65,000 individuals represents the second-largest group indicating a substantial proportion of respondents reporting higher yearly incomes. The lower income respondents are shown by the smaller figures within the "10,000 to 25,000" and "25,000 to 40,000" categories.

Location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dhaka	160	64.5	64.5	64.5
	Chattogram	26	10.5	10.5	75.0
	Rajshahi	29	11.7	11.7	86.7
	Khulna	12	4.8	4.8	91.5
	Mymensingh	21	8.5	8.5	100.0
	Total	248	100.0	100.0	

Table 4.8 Frequency distribution based on Location

Based on the provided data, the participants have been categorized into several groups based on their residential or geographic locations among Bangladesh.

The data shows that a total of 160 individuals residing in Dhaka, comprising 64.5% of the entire sample, participated in the study, thereby constituting the largest segment of respondents. In Chattogram, a total of 26 individuals responded to the survey, representing 10.5% of the entire sample population. In Rajshahi, a total of 29 individuals, constituting approximately 11.7% of the entire sample population, provided responses. In Khulna, a total of 12 individuals participated in the survey, constituting 4.8% of the overall sample size. And a total of 21 individuals from the Khulna region participated in the survey, constituting 8.5% of the overall sample size. This data primarily reveals the geographical distribution of the respondents according to their place of residence. The largest demographic subset, including 64.5% of the respondents, resides in Dhaka. The group from Chattogram is the second-largest portion of the sample, accounting for 10.5%. A somewhat lesser proportion of participants belong to the regions of Rajshahi and Khulna. On the other hand, Mymensingh group

represents 8.5% of the respondents.. The values for "Percent" and "Valid Percent" are identical across all city groups. This implies that the geographical distribution study has no evidence of any inaccurate or incomplete data points.

Reliability Test

Scale	Variable	Cronbach's Alpha	Status
03	GDW-Gender Diversity Workforce	.782	Accepted
02	TA-Technological Adaptation	.669	Accepted
02	PBA-Perceived Benefit of AI	.672	Accepted
02	MO-Mentorship Opportunities	.628	Accepted

Table 4.9 Reliability Test for the four presumed variables

The collected survey data set required evaluating each scale based on a number of different factors to measure the reliability and consistency of each scale by using Cronbach's Alpha coefficients. Generally, a Cronbach's Alpha coefficient exceeding 0.7 is regarded as indicative of satisfactory internal consistency for the scale items, (Shelby, 2011).

In this case, the table reveals that Cronbach's Alpha coefficient for the scale utilized to measure gender diversity in the workforce (dependent variable) is 0.782. It reveals that the elements within this scale exhibit a high degree of internal consistency which suggests that the items comprising the scale are likely to possess accuracy and reliability in assessing workplace gender diversity for the thesis.

On the other hand, the Cronbach's Alpha coefficient for the scale employed to assess technological adaptation (independent variable) yielded a score of 0.669. The acquired value here falls slightly below the recommended threshold of 0.7 with a moderately considered acceptable value. So, it can be concluded that the observed scale has a moderate level of internal consistency, which also indicates its potential utility for assessing technological adaptation with a reasonable degree of reliability.

The Perceived Benefit of AI (independent variable) as assessed by Cronbach's Alpha coefficient, exhibits a value of 0.672. Like the preceding variable this indicator also slightly below the threshold of 0.7 which makes it is still considered acceptable. The scale primarily

reveals a moderate level of internal consistency, indicating its efficacy as a reliable measure for assessing individuals' perceptions of the advantages of artificial intelligence.

Lastly, the Cronbach's Alpha coefficient obtained for the scale utilized to assess the Mentorship Opportunities (independent variable) is 0.628. The value acquired in the data set seems to be slightly below the optimal threshold of 0.7, however, it is generally considered acceptable like the other two preceding independent variables. So it can be indicated that the scale has a moderate level of internal consistency, indicating its suitability as a reliable measure for assessing mentorship opportunities.

In general, Cronbach's Alpha coefficients indicate that the scales used to assess gender diversity in the workforce, technological adaptation, perceived benefits of AI, and mentorship opportunities demonstrate a reasonable level of reliability and internal consistency in capturing their respective constructs. However, it is worth noting that a few of these coefficients fall slightly below the recommended threshold of 0.7.

Frequency Distribution

	N	Mean	Std. Deviation
Gender_Diversity_Workforce	248	3.9784	.43188
Technological_Adaptation	248	4.0484	.58979
Perceived_Benefits_of_AI	248	4.1895	.45924
Mentorship_Opportunities	248	4.1452	.47732

Table 4.10 Frequency distribution of the variables

The descriptive statistics in this table provide an overview of the distribution of responses across the assumed four variables within the dataset.

In this case, for the variable gender diversity workforce (GDW), the calculated mean value is 3.9784, and the standard deviation is 0.43188. This data reveals that a majority of survey respondents assigned it a score of 4 (agree) or in close proximity to 4 (agree). Alternatively, the relatively small standard deviation of 0.43188 indicates that there is limited variability among the responses. This indicates that the majority of individuals who participated in the survey demonstrated comparable scores for the given variable, (Lotka, 1926).

For the variable technological adaptation (TA) the mean score is approximately 4.0484, indicating that a majority of survey respondents assigned a rating somewhat above 4 (agree) or 5 (Strongly agree). The presence of a standard deviation of 0.58979 indicates that there

was variability among the replies, suggesting that they were not uniformly identical which means individuals assigned varying rankings to this particular variable, (Lotka, 1926).

Again in relation to the variable perceived benefits of AI (PBA), the average mean value is approximately 4.1895, indicating that the majority of individuals assigned a score slightly exceeding 4(agree) on the measurement scale. The relatively small standard deviation of 0.45924 indicates that there is limited variability among the responses.

Lastly, the variable mentorship opportunities (MO) reveals a mean score of approximately 4.1452, indicating that a majority of survey respondents assigned a rating somewhat above 4(agree) to this aspect. The data exhibits a low standard deviation of 0.47732, indicating a majority of participants provided identical scores for this particular characteristic.

In conclusion, the descriptive statistics presented above provide information regarding the mean, which represents the central tendency, and the standard deviation, which reflects the dispersion of values, for all four variables assumed for this study. The data indicates that a majority of respondents provided favorable ratings (above 4=agree) for the variables under question. The standard deviations indicate the degree of dispersion among the responses, and they exhibit relatively low values across all four variables.

Inferential Statistics

Correlations

Correlations (Gender Diversity in Workforce & Technological Adaptation)

		Gender_Diversity_Workforce	Technological_Adaptation
Gender_Diversity_Workforce	Pearson Correlation	1	.312**
	Sig. (2-tailed)		.000
	N	247	247
Technological_Adaptation	Pearson Correlation	.312**	1
	Sig. (2-tailed)	.000	
	N	247	248

Table 4.11 Correlation of Gender Diversity in the Workforce and Technological Adaptation

The correlation analysis presented in this study analyses the correlation between two variables, respectively "Gender Diversity in the Workforce" and "Technological Adaptation."

The correlation coefficient in this table is employed for quantifying the significance and direction of this relationship. Within this particular situation, it is consistent with the presumed hypothesis H1:

H1: Organizational technological adaption has a significant impact on authorities hiring women in managerial roles

The Pearson correlation coefficient between the variables "Gender Diversity in the Workforce" and "Technological Adaptation" is estimated to be roughly 0.312. Here the correlation in consideration has a significance value of 0.000, indicating that it is statistically significant at a level lower than the widely accepted alpha level of 0.05, (Schober et al., 2018). This finding suggests that there is a statistically significant relationship. Also, the correlation coefficient, which is around 0.312, indicates a positive linear relation between the degree of technological use within organizations and the recruitment of women in managerial positions. In a nutshell, as organizations aspire to enhance their technological capabilities, there is a visible tendency among administrations to increase the recruitment of women in executive roles.

So, consistent with hypothesis H1, which argues that *the* adoption of technology within organizations has a substantial influence on the recruitment of women in managerial positions, the statistical analysis provides evidence in support of this hypothesis. The obtained results demonstrate a significant positive correlation ($p < 0.05$) between the level of technological adaptability within organizations and the likelihood of recruiting women in managing positions. Consequently, the findings of this research provide empirical support for hypothesis H1, suggesting a favorable correlation between technological adaptation and the recruitment of women in managerial roles within organizational settings.

Correlations (Gender Diversity in Workforce & Perceived Benefits in AI)

		Gender_Diversity _Workforce	Perceived_Benefi ts_of_AI
Gender_Diversity_Workforce	Pearson Correlation	1	.303**
	Sig. (2-tailed)		.000
	N	247	247
Perceived_Benefits_of_AI	Pearson Correlation	.303**	1
	Sig. (2-tailed)	.000	

	N	247	248
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Table 4.12 Correlation of Gender Diversity in the Workforce and Perceived Benefits of AI

The correlation analysis conducted evaluates the relationship between two variables, "Gender Diversity in the Workforce" and "Perceived Benefits of AI." The Pearson r is employed as an indicator to assess the significance and direction of this relation. In this case, it is consistent with the presumed hypothesis H2:

H2: Perceived Benefits of AI has a significant impact on authorities hiring women in managerial roles

The Pearson correlation coefficient between the variables GDW and PBA is estimated to be roughly 0.303. The correlation in consideration reveals a significance value of 0.000, which falls below the usually accepted alpha level of 0.05, (Schober et al., 2018). This observation suggests that the association exhibits statistical significance. So, here the correlation coefficient of around 0.303 indicates a positive linear association between the perceived advantages of artificial intelligence (AI) in organizational settings and the recruitment of women in managerial positions. In essence, when organizations ascertain greater advantages in the adoption of artificial intelligence, there exists a tendency for authorities to increase the recruitment of women in managerial roles.

So, corresponding with hypothesis H2, which argues that the perceived advantages of artificial intelligence (AI) have a substantial influence on the recruitment of women in executive positions by authorities, the statistical analysis provides support for this hypothesis. The findings of this study reveal a statistically significant positive association ($p < 0.05$) between organizations' perception of increased benefits from AI and their propensity to hire women in managerial roles, (Schober et al., 2018). Consequently, the findings of this research provide empirical support for hypothesis H2, suggesting a positive correlation between the perceived advantages of artificial intelligence (AI) and the recruitment of women in leadership positions within corporate entities.

Correlations (Gender Diversity in Workforce & Mentorship Opportunities)

		Gender_Diversity_Workforce	Mentorship_Opportunities
Gender_Diversity_Workforce	Pearson Correlation	1	.305**
	Sig. (2-tailed)		.000
	N	247	247
Mentorship_Opportunities	Pearson Correlation	.305**	1
	Sig. (2-tailed)	.000	
	N	247	248

Table 4.13 Correlation of Gender Diversity in the Workforce and Mentorship Opportunities

The correlation analysis examines "Gender Diversity Workforce" and "Mentorship Opportunities for this study." This relationship's effectiveness and direction are measured by Pearson's r. In the present context, it is consistent with the presumed hypothesis H3:

Hypothesis 3: Mentorship Opportunities have a significant impact on reducing gender bias in industries

Here, the Pearson correlation coefficient of roughly 0.305 indicates the relationship between GDW and MO. The correlation in consideration reveals a significance value of 0.000, indicating a level of significance lower than the commonly accepted alpha level of 0.05, (Schober et al., 2018). This finding suggests that there is a statistically significant association. So, the correlation value, which is roughly 0.305, indicates a positive linear correlation between the availability of mentorship programs in organizations and the level of gender diversity in the workforce. In short, the offering of more mentorship opportunities by organizations has been observed to correlate with a higher likelihood of achieving a more diverse gender representation within the workforce.

Consistent with hypothesis H3, which argues that mentorship opportunities have a substantial influence on mitigating discrimination based on gender in many sectors, the statistical analysis provides support for this hypothesis. The observed association, which is statistically significant at a significance level of $p < 0.05$, suggests that an increase in the availability of mentorship opportunities is associated with a higher probability of decreased bias towards gender within the workplace. Consequently, the findings of this research provide empirical

support for hypothesis H3, suggesting a favorable correlation between mentorship opportunities and the mitigation of gender bias within various industries.

Chapter Summary

This extensive review analyses the data, whereas the study evaluates the demographic characteristics of 248 survey respondents, evaluates the precision of measuring scales, and discovers possible relationships among significant variables. The findings indicated a considerable disparity in the sample composition between males and females, with women accounting for 91.1% of the responses and men comprising only 8.9%. A diverse range of age groups appeared, with the majority falling between the 40–55 age group, accounting for 51.6% of the total population. Moreover, the group demonstrating the highest proportion of individuals holding "Post-Graduate" degrees (55.6%) demonstrated the highest level of educational achievement. A variety of job positions were occupied, with a significant proportion (53.6%) being classified as "Senior Level" obligations. In terms of professional work experience, a significant proportion of individuals belonged to the "5 to 10 Years" category, accounting for 43.5% of the total. The majority of individuals possessed earnings ranging from 40,000 to 65,000 BDT, constituting 42.7% of the population. The majority of respondents (64.5%) indicated Dhaka as their primary place of employment. The results of the dependability test further indicated that the measurement scales exhibit strong internal consistency. The hypothesis was supported by correlation studies, which demonstrated favorable associations between the presence of women in a group and three variables: technological adaptability, perceived benefits of artificial intelligence (AI), and mentorship opportunities. The findings presented here offer valuable assistance for the promotion of gender diversity and inclusion within organizational settings. The results mentioned above demonstrate the significance of technology, artificial intelligence (AI), and mentorship developments in mitigating gender bias in women-led industries.

Chapter 5- Conclusion & Recommendations

Introduction

This study's conclusion summarises and explores more extensively the multifaceted relationship between artificial intelligence (AI), gender diversity, and women-owned enterprises. The chapter discusses how AI has the potential to alter many disciplines, as well as the problems and challenges it can pose. It summarises the key findings, including what triggers gender bias, the potential advantages of using artificial intelligence, and the role mentorship programs can play in promoting gender equality. Organizations are provided with actionable recommendations emphasizing the significance of teaching AI in a manner that includes both men and women, establishing moral standards for AI programs, and creating welcoming workplaces. The chapter also discusses future research needs, focusing on how AI affects gender diversity and other potential future research needs in this constantly evolving field. The study presents an extensive picture of how technology and gender interact in the workplace and considers a future in which AI is a driving force for gender equality.

Discussion

The present study explores the interdependence, and relationship between gender diversity in the workforce among women-led industries focusing on the assumed underlying factors, technological adaptation, perceived benefits of AI, and mentorship opportunities.

H1: Organizational technological adaption has a significant impact on authorities hiring women in managerial roles

The study's assumptions for H1 are supported by the literature which provides a strong framework for determining the research objective, and addressing the research questions on analyzing how artificial intelligence (AI) affects gender diversity in women-led firms. The literature argued by Nusseir et al. (2021) and Avery et al. (2023) highlights gender discrimination in the workplace, particularly in employment opportunities which aligns with the findings of the study. The argument also highlights the lack of women in leadership roles in artificial intelligence. Additionally, mentorship, role models, and addressing discrimination are crucial to artificial intelligence development, (Mari et al., 2022) which also supports the objective of the study. Gibert et al. (2022) also argued for technical adaptation, legislative

changes, and gender parity activities in addressing AI-related gender inequalities which is similar to the research findings.

H2: Perceived Benefits of AI has a significant impact on authorities hiring women in managerial roles

The argument highlighted by Pisanelli and E. (2022) brings to light the possibility of using artificial intelligence (AI) to help fix the problem of the lack of women in positions in top management. Despite this, it is important to be aware that artificial intelligence could make gender bias worse. This finding supports the findings of the study that artificial intelligence (AI) technologies can both help and hurt gender diversity in the workplace. The study also shows that AI-based hiring practices are a lot like how people make decisions. This supports the idea that AI may not totally get rid of bias in the hiring process, which is supported by (Ivarsson and S., 2020).

Hypothesis 3: Mentorship Opportunities have a significant impact on reducing gender bias in industries

O'Connor et al. (2023) show how important it is to deal with and get rid of shared biases in order to get fair results. This statement aligns with the study objective that bias in AI technologies needs to be fixed right away to make things more open and fair because of proper mentorship opportunities. The experiment used to show how the AI categorized gender roles shows how important it is to reduce biases, as explained in the hypothesis. Also, the study that has already been done shows that training programs are very helpful in promoting gender diversity. The research by Maity (2019), Baily (2019), and Sicat et al. (2020) explained how important mentorship is for improving women's skills, confidence, and professional growth, which leads to more equal management jobs for men and women. Schunk's (2012) theoretical argument also stresses how important self-efficacy beliefs, views on AI, and exposure to successful role models are in influencing the job choices of women working in AI-driven fields. This study supports the idea that mentorship programs can make a big difference in reducing gender bias.

In conclusion, the literature that was looked at supports the study's hypotheses and data analysis. This shows that artificial intelligence (AI) can both help and hurt gender diversity in businesses that are run by women. Additionally, it shows how important mentorship programs are for reducing bias and promoting female equality in AI-related fields.

Theoretical and Practical Implications of the Study

Theoretical Implications of the Study

This study considers how many complicated underlying factors, such as technical adaptability, perceived AI benefits, and mentorship opportunities, affect gender diversity in women-led companies in Bangladesh. This level of complexity makes it even more important to take a multifaceted approach to gender diversity issues in the workplace. Additionally, the study supports the argument that AI can both lessen and increase gender bias in a workplace pertaining to women. This highlights the need for more research into how AI algorithms can unknowingly reinforce biases and the importance of AI ethics in the workplace in such male dominated industry. The study also backs up the argument that mentorship opportunities can help get rid of gender bias and promote equality between men and women in AI fields. Also, the study gives an additional insights of gender diversity incorporating with AI in developing economies like Bangladesh where the practices are different than that of other developed industries. This makes it possible to do more research into how AI affects gender diversity in a wide range of cultural, economic, and social settings. Additionally, the study provides an extension of the UTAUT model by incorporation of gender differences in the workplace replacing the facilitating conditions factor representing a new addition in the theory.

Practical Implications of the Study

This study provides actionable guidance for companies and policymakers that are interested in installing AI in their workplace or engaged in mitigating gender biases in the workplace through different proactive measures. To begin, the thesis highlights the importance of gender-inclusive AI education and training programmes in order to attract and retain female AI talent while also fostering diversity and innovation. Furthermore, it advocates for ethical AI algorithm principles, such as regular audits and assessments to detect and rectify biases, in order to ensure fairness and inclusiveness in AI technology. The research also highlights the importance of promoting gender equality and eliminating workplace prejudices in order to foster women's entrepreneurship and leadership. Work-life balance, family-friendly benefits, and reporting discrimination and harassment can all contribute to more inclusive workplaces. Finally, the study paves the way for further research into how artificial intelligence affects labour, healthcare, and education for women in economically disadvantaged areas, giving politicians, organisations, and researchers with practical measures to advance gender equality in AI-driven industries.

The primary purpose of the study was to understand the factors that are leading to cause gender biases in the workplace particularly in the women led SMEs where the organization might not have a proper policy framework or ethical practices. The findings of the study shows that, mentorship opportunities by the managers or the top managers tend to become the most efficient approach to create a gender diversified work environment. Also, technological utilization via adapting AI for recruitment, performance appraisal, and evaluation could eliminate the unethical practices that might be conducted by the authorities. In addition to that, the perceived benefits of women being able to perform the similar actions has also the potential to bridge the gender gap.

Limitations of the Study

A prominent limitation of this study belongs to the challenges associated with gathering data, as the accessibility and quality of the data may be inadequate. This argument holds particular significance within the context of a developing nation such as Bangladesh. The scarcity of reliable data pertaining to the impact of artificial intelligence on gender diversity may undermine the generalizability and utility of the findings in broader contexts. The study's limited scope, focusing just on Bangladesh, raises concerns about its applicability to countries characterized by distinct social and economic contexts. While it provides valuable insights, it is crucial to acknowledge several limitations associated with the research population and sample size. The sample size of 248 participants in the study may not be totally representative of the broader population. The cross-sectional nature of our study poses challenges in establishing direct causal relationships. The outcomes could potentially be influenced by respondent bias and the reliance on self-reported data. The study also incorporates a diverse range of literary sources, thus introducing a degree of bias or subjectivity into the findings. Establishing a conclusive answer may involve challenges due to variations in methodologies and definitions of gender diversity employed across different studies. The accuracy and reliability of the utilized research may be compromised due to the presence of bias. Gender variety encompasses a wide-ranging concept that is influenced by numerous social, cultural, economic, and institutional factors. The association between artificial intelligence (AI) and gender diversity may be overly simplified due to potential limitations in the scope of this study, which may not comprehensively consider the multifaceted nature of these elements. Certain factors may not be adequately considered, such as cultural norms, historical background, and policy frameworks.

Scope for Future Research

There are significant prospects at the convergence of gender equality and artificial intelligence (AI) within industries predominantly occupied by women, which present academics with a wide range of complex subjects to explore. Researchers possess the ability to thoroughly analyze the complex dynamics between gender and many contextual factors, develop ethical frameworks for artificial intelligence, and assess the enduring consequences of mentorship initiatives. The investigation of artificial intelligence's capacity to improve work possibilities, healthcare accessibility, and educational prospects for women in economically deprived areas is of utmost significance. Moreover, one intriguing area of inquiry is the impact of artificial intelligence (AI) on leadership, decision-making procedures, and the advancement of inclusive AI education. The examination of various countries and industries, the evaluation of the integration of gender-inclusive policies, and the assessment of the influence of artificial intelligence on sustainable development all offer significant opportunities for promoting gender equality and the use of AI in sectors predominantly occupied by women.

Conclusion

This study investigates the multifaceted connection between gender diversity and sectors led by women, focusing on the underlying factors, technological adoption, the benefits of artificial intelligence, and the potential for mentoring. The reviewed literature is consistent with the study's objectives because it demonstrates the existence of gender discrimination in the professional sphere, particularly in regard to employment opportunities and managerial positions. In addition, this observation highlights the importance of mentorship, the presence of positive role models, and active efforts to overcome discrimination in promoting the development of artificial intelligence. The study sought to identify the causes of gender biases in women-led SMEs without a policy framework or ethical procedures. The study found that manager or top management mentorship is the most effective way to establish a gender-diverse workplace. Using AI for recruiting, performance rating, and evaluation could eliminate unethical government activities. Additionally, the perceived benefits of women performing similar acts may bridge the gender divide. The findings of this study offer credibility to the hypothesis that artificial intelligence (AI) has the potential to contribute to and prevent efforts to address gender diversity issues within women-led businesses. This highlights the importance of promptly addressing prejudice in AI systems, in line with

existing research that emphasizes the need to eliminate shared biases to guarantee fair outcomes. The study's primary conclusion is that mentorship programs play a crucial role in reducing gender bias against women. In the end, the study clarifies the potential impact of artificial intelligence (AI) on gender parity in women-led businesses, particularly in economically developing nations like Bangladesh. The discussion emphasizes the significance of addressing gender biases in artificial intelligence (AI), advocating for inclusive educational systems, and encouraging entrepreneurial projects and leadership positions among women. In the future, researchers can investigate how gender interacts with other factors, as well as ethical AI models and the long-term impacts of mentorship programs in these workplace scenarios. The paper recognizes the potential of artificial intelligence (AI) to enhance decision-making processes, mitigate biases, and empower women. However, it also highlights concerns such as the insufficient representation of diverse perspectives within AI development and basic shortcomings incorporated within the technology. The study emphasizes the significance of mentorship programs in facilitating women's engagement in AI-related domains. The use of Bangladesh as an empirical investigation facilitates in comprehending the impact of artificial intelligence on gender equality in developing countries. The study highlights the significance of implementing social standards and regulations to ensure the development of inclusive AI systems that cater to the needs and perspectives of both genders. Finally, this study holds significance in advancing gender equality within underdeveloped regions, aligning with global objectives pertaining to women's rights and empowerment.

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Appendix

Survey Question

Gender

- Male
- Female
- Others

Age

- 18 to 25
- 25 to 40
- 40 to 55
- More than 55

Education

- Undergraduate
- Graduate
- Post-Graduate
- PhD.
- Other

Job position

- Entry-Level
- Mid-level
- Senior Level
- Executive
- None

Job Duration

- Less than 1 Year
- 1 Year to 5 Years
- 5 Years to 10 Years
- More than 10 Years

Income (BDT)

- 10,000 to 25,000
- 25,000 to 40,000
- 40,000 to 65,000
- More than 65,000

Location:

- Dhaka
- Chattogram
- Rajshahi
- Barisal
- Khulna
- Mymensingh
- Rangpur
- Sylhet

Please share your response for the following questions.

Gender Diversity in the Workforce (GDW)

Constructs	Statements	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
GDW01	The presence of AI technologies in women-led industries positively influenced gender diversity by providing equal opportunities for both genders					
GDW02	I believe that there are equal opportunities for career advancement regardless of gender within my organization					
GDW03	My organization actively promotes and supports gender diversity in the workplace					

Technological Adaptation (TA)

Constructs	Statements	Strongly Disagree	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)

		e (1)				
TA01	The use of AI technologies is common in our women-led industries					
TA02	Women-led industries are quick to adopt new technological advancements, including AI tools and applications.					

Perceived Benefits of AI (PBA)

Constructs	Statements	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
PBA01	AI technologies have led to increased efficiency and productivity in women-led industries					
PBA02	The adoption of AI in women-led industries has positively impacted their competitiveness and innovation					

Mentorship Opportunities (MO)

Constructs	Statements	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
MO01	Women-led industries offer mentorship programs that help women employees develop their AI skills and advance in their careers.					
MO02	Mentorship opportunities have contributed to a more equitable representation of women in AI-related roles within women-led industries.					

Excel (Data)

1	Gender	Age (In Years)	Quali	Job position	Job Duration	Income (BDT)	Location	GDW01	GDW02	GDW03	TA01	TA02	PBA01	PBA02	MO01	MO02
2	Female	25 to 40	Post-Gradu	Senior Level	Less than 1 Year Year to 5 Years	40,000 to 65,000	Dhaka	Strongly Dis	Disagree	Disagree	Strongly Dis	Disagree	Strongly Dis	Disagree	Neutral	Disagree
3	Female	18 to 25	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Chattogram	Disagree	Strongly Dis	Disagree	Strongly Dis	Disagree	Neutral	Strongly Dis	Disagree	Disagree
4	Female	25 to 40	Graduate	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Rajshahi	Strongly Ag	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Strongly Ag	Agree	Strongly Agree
5	Female	25 to 40	Post-Gradu	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Dhaka	Strongly Ag	Agree	Strongly Ag	Strongly Ag	Agree	Agree	Agree	Neutral	Agree
6	Female	40 to 55	Post-Gradu	Mid-level	Less than 1 Year Year to 5 Years	40,000 to 65,000	Rajshahi	Strongly Ag	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree	Agree	Agree
7	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Strongly Ag	Strongly Ag	Agree	Neutral	Agree	Strongly Ag	Strongly Ag	Agree	Agree
8	Female	18 to 25	Undergradu	Entry-Level	Less than 1 Year	10,000 to 25,000	Khulna	Agree	Agree	Strongly Ag	Agree	Strongly Ag	Agree	Strongly Ag	Agree	Agree
9	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Rajshahi	Agree	Strongly Ag	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Agree
10	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Mymensing	Agree	Strongly Ag	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Strongly Agree
11	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Rajshahi	Agree	Strongly Ag	Agree	Neutral	Agree	Agree	Agree	Strongly Ag	Agree
12	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Mymensing	Strongly Ag	Agree	Agree	Strongly Ag	Strongly Ag	Agree	Strongly Ag	Agree	Agree
13	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Strongly Ag	Agree
14	Female	40 to 55	Post-Gradu	Executive	More than Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree
15	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Chattogram	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree	Agree	Agree
16	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree
17	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Agree
18	Female	40 to 55	Post-Gradu	Senior Level	More than Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Strongly Ag	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Agree
19	Female	40 to 55	Other	Senior Level	More than Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Agree	Strongly Ag	Strongly Ag	Agree	Strongly Ag	Agree	Agree	Agree
20	Female	40 to 55	Graduate	Mid-level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Chattogram	Agree	Agree	Strongly Ag	Agree	Neutral	Agree	Agree	Agree	Strongly Agree
21	Female	40 to 55	Post-Gradu	Senior Level	More than Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Neutral	Agree	Agree	Agree	Agree	Agree	Neutral	Agree
22	Female	25 to 40	Graduate	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Neutral	Agree	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Agree
23	Female	40 to 55	Other	Mid-level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Neutral	Agree	Agree	Agree	Agree	Strongly Agree
24	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Rajshahi	Agree	Neutral	Agree	Agree	Agree	Neutral	Agree	Agree	Agree
25	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Neutral	Agree	Agree	Agree	Agree	Agree	Agree	Agree
26	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Strongly Ag	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Agree
27	Female	25 to 40	Graduate	Mid-level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree	Agree
28	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Khulna	Agree	Strongly Ag	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Agree
29	Female	25 to 40	Post-Gradu	Mid-level	Less than 1 Year Year to 5 Years	40,000 to 65,000	Dhaka	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Strongly Ag	Agree	Strongly Agree
30	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Strongly Ag	Agree	Strongly Ag	Agree	Agree

31	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
31	Female	25 to 40	Post-Gradu	Mid-level	Less than 1 Year Year to 5 Years	40,000 to 65,000	Dhaka	Agree	Agree	Neutral	Agree	Neutral	Agree	Agree	Agree	Agree
32	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Rajshahi	Agree	Neutral	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Strongly Agree
33	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Neutral	Agree	Agree	Strongly Ag	Agree	Agree	Agree
34	Female	18 to 25	Undergradu	Entry-Level	Less than 1 Year Year to 5 Years	10,000 to 25,000	Chattogram	Agree	Agree	Strongly Ag	Agree	Neutral	Agree	Agree	Agree	Neutral
35	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Strongly Ag	Agree	Agree	Agree	Neutral	Agree	Agree	Agree	Neutral
36	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Neutral	Agree	Strongly Ag	Agree	Agree	Neutral	Agree
37	Female	40 to 55	Other	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Agree	Neutral	Agree	Strongly Ag	Agree	Agree	Agree
38	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Dhaka	Neutral	Agree	Agree	Agree	Agree	Agree	Strongly Ag	Agree	Strongly Agree
39	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Strongly Ag	Agree	Agree
40	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Agree	Strongly Ag	Agree
41	Female	18 to 25	Undergradu	None	Less than 1 Year	10,000 to 25,000	Dhaka	Disagree	Disagree	Neutral	Strongly Dis	Strongly Dis	Agree	Agree	Agree	Agree
42	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Mymensing	Neutral	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree
43	Female	40 to 55	Other	Senior Level	5 Years to Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Agree	Agree	Agree	Agree	Strongly Agree
44	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Neutral	Agree	Agree	Agree	Neutral	Agree	Agree
45	Female	55 and above	Post-Gradu	Senior Level	More than Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Agree	Strongly Ag	Agree	Agree	Agree
46	Female	40 to 55	Ph.D	Executive	5 Years to Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Neutral	Strongly Ag	Agree	Agree	Agree	Neutral	Agree	Agree
47	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Neutral	Agree	Agree	Agree	Strongly Ag	Neutral	Agree	Neutral
48	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	More than 65,000	Chattogram	Agree	Agree	Strongly Ag	Neutral	Agree	Agree	Agree	Agree	Agree
49	Female	55 and above	Post-Gradu	Senior Level	More than Less than 1 Year0 Years	More than 65,000	Khulna	Agree	Neutral	Agree	Agree	Agree	Agree	Agree	Agree	Agree
50	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Strongly Ag	Agree	Agree	Agree	Agree
51	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Agree	Strongly Ag	Agree	Agree	Neutral	Agree	Agree	Agree
52	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Dhaka	Agree	Neutral	Agree	Agree	Agree	Agree	Agree	Agree	Neutral
53	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Neutral	Agree	Agree	Agree	Neutral	Agree	Agree	Agree
54	Female	40 to 55	Post-Gradu	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Chattogram	Agree	Agree	Agree	Agree	Agree	Neutral	Agree	Neutral	Agree
55	Female	25 to 40	Post-Gradu	Senior Level	Less than 1 Year Year to 5 Years	40,000 to 65,000	Khulna	Agree	Strongly Ag	Agree	Agree	Agree	Strongly Ag	Agree	Agree	Agree
56	Female	25 to 40	Undergradu	Entry-Level	Less than 1 Year	10,000 to 25,000	Dhaka	Agree	Agree	Neutral	Neutral	Neutral	Agree	Agree	Agree	Neutral
57	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Dhaka	Agree	Agree	Agree	Neutral	Neutral	Agree	Neutral	Agree	Agree
58	Female	25 to 40	Graduate	Senior Level	5 Years to Less than 1 Year0 Years	40,000 to 65,000	Chattogram	Agree	Agree	Agree	Neutral	Agree	Agree	Agree	Neutral	Agree
59	Female	18 to 25	Undergradu	Entry-Level	Less than 1 Year	25,000 to 40,000	Dhaka	Agree	Agree	Neutral	Neutral	Agree	Agree	Neutral	Neutral	Agree
60	Female	25 to 40	Graduate	Mid-level	Less than 1 Year Year to 5 Years	25,000 to 40,000	Dhaka	Agree	Neutral	Neutral	Neutral	Agree	Agree	Agree	Agree	Neutral
61	Female	25 to 40	Ph.D	Executive	More than Less than 1 Year0 Years	More than 65,000	Dhaka	Agree	Neutral	Agree	Agree	Agree	Agree	Agree	Agree	Agree
62	Female	18 to 25	Undergradu	Entry-Level	Less than 1 Year	10,000 to 25,000	Dhaka	Agree	Neutral	Agree	Agree	Neutral	Agree	Agree	Agree	Neutral

