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Breaking the Glass Code : Mentorship-driven empowerment in Malaysia's ICT sector

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Abstract

This study explores the role of mentoring in advancing women's careers in Malaysia's ICT sector, where women are underrepresented in leadership roles. This conceptual study is primarily centered on examining the role of mentorship in advancing women's careers in Malaysia's Information and Communication Technology (ICT) sector. It examines societal, organizational, work-life balance, and individual factors influencing the career paths of women in the ICT sector in Malaysia. This study is significant in providing the importance of promoting diversity in the workforce, in line with the Sustainable Development Goal SDG 5 i.e Gender Equality.

Keywords: Women In ICT; Mentorship; Glass Ceiling; Diversity, Equity & Inclusion, SDG 5

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1.0 Introduction

The advancement of women in the ICT (Information and Communication Technology) sector is a critical issue in today's increasingly digital world. While the ICT sector offers vast opportunities for innovation and economic growth, it also presents unique challenges for women seeking career advancement. This study aims to explore the moderating effect of mentoring support on women's career progression in the Malaysian ICT sector. The research addresses a significant gap in understanding how mentorship can influence career trajectories and success in this field. By examining this relationship, the study seeks to contribute to the discourse on gender equality and empowerment in the workplace, particularly within the dynamic and fast-paced environment of the ICT industry. This introduction sets the stage for an in-depth exploration of the barriers women face in the ICT sector and the potential role of mentoring in overcoming these challenges

1.1 Background of Study

Despite Malaysia's dynamic ICT sector, gender disparities persist. A study on women's career advancement highlights enduring challenges, including a persistent gender pay gap, with male ICT professionals earning more than their female peers (Gabey Goh,

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2014). This disparity, which continues after a decade (Yvonne Khor, 2023), extends beyond earnings to representation and career advancement opportunities, revealing untapped potential and gender imbalances in the sector.

Despite these challenges, there has been progress in women's representation in Malaysia's tech workforce. As of 2019, women constituted 35% of the technology workforce, with initiatives by the government and agencies like the Malaysia Digital Economy Corporation (MDEC) expected to boost this figure further (Priya Sunil, 2021). This improvement is a positive sign, indicating gradual changes towards greater gender equality in the sector.

Furthermore, tackling digital gender inequality requires multifaceted approaches. This includes implementing holistic digital technology curriculums, establishing open online public platforms for women's participation and networking, recognizing women tech leaders, and providing scholarships for women in Information Technology (IT) / Science, Technology, Engineering and Mathematics (STEM) field (Tasir, 2021). These initiatives are crucial in empowering women, providing them with the necessary skills, opportunities, and support to thrive in the ICT sector.

While Malaysia's ICT sector is rapidly advancing, addressing the gender disparities and harnessing the potential of women in this field remains crucial. Mentorship, as suggested in the study, could play a pivotal role in guiding and supporting women through the challenges in the tech sector, contributing to a more inclusive and dynamic ICT industry in Malaysia.

1.2 Problem Statement

In Malaysia's ICT sector, women still encounter significant barriers to reaching leadership positions despite notable progress in the tech industry. A World Economic Forum (2023) report reveals that 57% of women in tech experience gender discrimination, with 48% facing bias related to their technical abilities (Azrita Abdul Kadir, 2023). This highlights the persistent challenge of achieving gender equality in the field. While women make up just 35% of the technology workforce in Malaysia, there is a gradual shift toward greater gender balance in leadership, with the nation nearing a 30% representation of women in top positions within public-listed companies as of 2023 (Tasir, 2021) (Malaysia Close to Having 30% Women in Leadership Roles, n.d.)

The study could explore how strategic mentorship might serve as a powerful tool for women, providing the necessary support, guidance, and networks to overcome these challenges. The focus on mentorship aligns with the recognition that women require more exposure to STEM jobs and female role models to break into leadership roles. Programs like Perkhidmatan eDagang Setempat (PeDAS) and eUsuhawan Muda, which have high female participation, are steps in the right direction, yet there is still a need for more initiatives and support systems to draw women into tech and leadership roles (Women in Tech: How the Female Workforce Is Leading Malaysia's Digital Industry | SEEK Employer, 2021)

1.3 Objectives of Study

This study aims to explore the advancement of women in Malaysia's Information and Communication Technology (ICT) sector, with a focus on mentorship's role in navigating the challenges they face. Acknowledging the underrepresentation of women in this sector, where they constitute about 35% of the workforce and are even less represented in leadership roles, the research seeks to understand the impact of gender discrimination and pay disparities on their career progression. Reports indicating that 57% of women in tech experience gender bias underscore the need for this investigation.

The research will evaluate the efficacy of mentorship programs in empowering women within the ICT sector, taking inspiration from successful initiatives like PeDAS and eUsuhawan Muda. These programs have shown promise in encouraging women's participation in technology and entrepreneurship, suggesting the potential of mentorship as a tool for professional development and leadership in ICT. The study's outcomes aim to offer actionable strategies and policy recommendations to foster a more inclusive environment for women in Malaysia's ICT sector, thereby contributing to a more equitable and dynamic industry.

1.4 Scope and limitation of the Study

The scope of this conceptual study is primarily centered on examining the role of mentorship in advancing women's careers in Malaysia's Information and Communication Technology (ICT) sector. This study will analyze existing literature and theories related to women's participation in the ICT workforce, the impact of mentorship programs, and the barriers to career advancement faced by women in this sector.

However, the study's conceptual nature presents certain limitations. Since it does not involve the collection of primary data, the findings will be based on the interpretation and synthesis of existing literature and reports. This might limit the study's ability to capture the real-time dynamics and nuances of the actual experiences of women in the Malaysian ICT sector. Additionally, while the focus on Malaysia provides in-depth insights into the local context, it may limit the generalizability of the findings to other regions or sectors. Despite these limitations, the study aims to contribute valuable theoretical insights into the role of mentorship in women's career advancement in the ICT sector, providing a foundation for future empirical research and policy formulation in Malaysia and beyond.

2.0 Literature Review

2.1 Overview of the ICT Sector in Malaysia

The Information and Communication Technology (ICT) sector in Malaysia has experienced significant growth and is poised for further expansion. In 2023, the Malaysian ICT market size is estimated at USD 25.29 billion and is expected to reach USD 36.42 billion by 2028, growing at a Compound Annual Growth Rate (CAGR) of 7.57% during the forecast period. This growth is mainly attributed to

increased digitalization across all major industrial sectors, including the development and implementation of 5G technology (Intelligence, 2023)

The growth in Malaysia's ICT sector is supported by initiatives like the MyDIGITAL initiative, part of the Malaysia Digital Economy Blueprint. This initiative aims to transform Malaysia into a digitally driven, high-income nation and a regional leader in the digital economy by 2030. The government's Cloud First strategy under MyDIGITAL is enhancing Malaysia's capabilities as a regional data hub. Additionally, the Malaysian Government's focus on cybersecurity, data systems integration, and emerging digital technologies is critical in supporting this nationwide vision. For instance, the government has launched the Malaysia Cyber Security Strategy (MCSS) 2020-2024, allocating US\$434 million to upgrade the country's cybersecurity measures. This strategy underscores the importance of cybersecurity in safeguarding organizations as they transition to digital platforms (The International Trade Administration (ITA), n.d.)

The ICT sector in Malaysia is strategically positioned, offering significant opportunities in smart city technologies. Smart city development in the country harnesses cutting-edge technologies such as 5G, IoT, big data, cloud computing, and AI to enhance services, improve efficiency, and bolster economic productivity while prioritizing sustainability. These advancements not only reshape the ICT landscape but also position Malaysia for a prominent role in the future global economy. Overall, Malaysia's ICT sector is rapidly evolving, driven by digitalization, government initiatives, and technological progress, making it a vital contributor to the nation's GDP and socio-economic development.

2.2 Women in the ICT Sector: Malaysian Perspective

In Malaysia, there has been significant progress in women's participation in Science, Technology, Engineering, and Mathematics (STEM) and ICT. The World Bank reported that almost 50% of those in engineering and science, mathematics, and computing in Malaysia are women. This is supported by the 2019 National Survey of R&D in Malaysia by MOSTI, showing a minor difference in the share of male to female researchers (Dzuleira Abu Bakar, 2023). Moreover, Malaysian women have made notable contributions in Science, Technology and Innovation (STI) fields, such as cancer research specific to Asian women, viral research, and innovations in stem cell technologies.

However, the World Economic Forum reports that 57% of women in tech experience gender discrimination, and 48% face discrimination based on their technical abilities. This indicates persistent challenges in gender bias and highlights the need for more inclusive practices in the tech industry. The underrepresentation of women in technology-related fields is a global issue, with only about 33% of the workforce being female. In Malaysia, women constitute only 35% of the technology workforce and the digital economy, and there remains a significant wage gap between male and female workers in similar roles (Azrita Abdul Kadir, 2023).

Despite notable advancements, achieving greater gender diversity and female representation in leadership roles remains imperative within Malaysia's ICT sector. In 2021, Deloitte reported that women directors held 24% of total board seats, a substantial increase from 10.4% in 2014. However, significant challenges persist, including cultural constraints and gender disparities in the workforce (Susanne Hupfer et al., 2021). Women-led startups also encounter hurdles related to funding and representation in predominantly male-dominated fields. Recent data, as of International Women's Day 2023, reveals that women constitute only 28.2% of top 100 public listed boards in Malaysia, underscoring the need to address gender imbalances in senior positions. The panel discussion emphasized the value of equity, emphasizing the diverse skills and perspectives that women contribute to the tech sector (Cynthia Ignatius, 2023)

These findings highlight the pressing need for enhanced participation and representation of women in Malaysia's ICT sector. Encouraging greater female involvement in tech and STEM fields can introduce valuable diversity and inclusivity, ultimately bridging the gender gap. Addressing issues like gender discrimination, pay disparities, and social factor is vital for fostering equity and diversity within Malaysia's tech sector. The literature review underscores the ongoing importance of concerted efforts to overcome these obstacles and promote gender diversity, not only in Malaysia but also on a global scale.

2.3 Barriers to Career Advancement for Women

In Malaysia, women encounter significant obstacles to career advancement, including gender discrimination, limited mentorship and sponsorship, constrained career prospects, work-life balance challenges, cultural constraints, and insufficient childcare support. Additionally, the mismatch between educational qualifications and job opportunities can be demoralizing for female employees. This has been supported by a study of Gong's (2023) where women have long confronted formidable obstacles to career advancement, including gender bias, stereotype-driven biases, and a stark underrepresentation in leadership positions (Rahmah Ismail, 2011). This gender disparity not only impedes the progress of women but also restricts the diversity of perspectives and talents within the industry, ultimately hampering innovation and growth. To address these issues, the Malaysian government has introduced programs such as TalentCorp's #KisahSiswa, which offers coaching and mentoring to assist women in securing desired employment and competitive salaries. Furthermore, amendments to the Employment Act 1955, including Flexible Working Arrangements (FWA), aim to enhance women's workforce participation by providing increased flexibility and improved work-life balance (Razanah et al., 2023).

Persistent gender bias and stereotypes in both traditional and modern workplaces represent a significant impediment to women's career advancement in Malaysia. Numerous studies (Moorthy et al., 2022) have convincingly illustrated how societal expectations and stereotypes tend to confine women to roles that are often regarded as less demanding or less suitable for leadership positions. These deeply ingrained biases not only curtail the career options available to women but also erode their confidence and self-esteem when considering leadership roles. As a result, these deeply rooted biases create formidable obstacles for women, restricting their access to career advancement opportunities and ultimately undermining their overall quality of life.

Organizational policies in Malaysia, as evidenced by studies like Shukri et al., (2020), contribute to gender disparities by perpetuating discriminatory hiring, unequal pay, and limited leadership development opportunities for women. Policy changes and organizational reforms are essential to rectify these systemic barriers and enhance women's quality of life in the workforce. Moreover, the absence of female mentors and role models (Maideen et al., 2018) hampers women's career progression, denying them valuable guidance. Another critical concern is the work-life balance dilemma faced by Malaysian women, exacerbated by traditional gender roles and a lack of family support and flexible work arrangements (Abd. Latif et al., 2023), impacting women's overall well-being.

One of the primary barriers is the lack of self-confidence and the perceived glass ceiling. Women often encounter male domination and socially gendered professions, which create a challenging environment for career advancement. These intrapersonal and environmental barriers necessitate a multi-level approach, encompassing individual, organizational, and societal practices to overcome them. At the individual level, continuous self-education and self-affirmation are crucial. Organizations can implement mentorship programs and foster an inclusive company culture. Societally, the visibility of successful female leaders as role models and initiatives to increase awareness for an inclusive society are important (Naseviciute & Juceviciene, 2023).

In conclusion, the barriers to women's career advancement in Malaysia's ICT sector are multifaceted and deeply ingrained in societal norms and workplace practices. Gender bias, work-life balance challenges, the absence of mentorship, and discriminatory organizational policies all play a significant role in limiting women's opportunities for career growth. To address these issues effectively, it is imperative for both policymakers and organizations to implement strategies and initiatives that promote gender equality and empower women to pursue leadership positions. By doing so, we can contribute to improving the quality of life for women in Malaysia and creating a more equitable and inclusive society.

2.4 Career Advancement and Mentoring

In the domain of Information and Communication Technology (ICT), gender diversity has long been a pressing issue, with women significantly underrepresented in leadership positions. To address this gender disparity and promote the career advancement of women in the ICT sector within Malaysia, mentoring programs have gained increasing attention. This literature review explores the significance of mentoring for women in Malaysia's ICT industry, drawing from a range of scholarly articles and resources to provide insights into the role of mentoring in enhancing women's careers and overall quality of life.

Globally, mentorship is universally recognized as a crucial catalyst for career advancement in the ICT sector. Ghosh & Reio's, (2013) study highlights the essential role of mentoring in providing support, knowledge sharing, and networking opportunities vital for success in this rapidly evolving field. Similarly, Crocitto et al., (2005)'s research underscores how mentoring contributes to individual career growth and the development of organizational knowledge and career navigation strategies on a global scale. This aligns with the ICT sector's dynamic evolution, as emphasized by the International Telecommunication Union's 2016 report on 'Mentoring in the ICT Sector,' advocating for adaptive mentorship models in response to technological advancements and evolving skillset demands.

Perumal's study has illuminated the primary challenges faced by Malaysian women in their ICT careers. Notably, the research underscores the gender gap in mentoring as a prominent issue, highlighting the stark imbalance in mentorship opportunities available to women. Concurrently, it identifies low self-esteem as a significant challenge, likely arising from the dearth of support and mentorship. Gender inequality, a pervasive global issue, remains a prevalent challenge among Malaysian women professionals. Moreover, the struggle to balance professional and personal responsibilities is recognized as a substantial hurdle, manifesting as family-work-life conflict. Lastly, although less common, cultural stereotypes against women persist as a challenge, indicating that traditional gender roles and biases still exert influence on women's workplace experiences (Perumal & Dastane, 2017).

Mentoring has emerged as a valuable strategy to address these gender disparities in the ICT sector. A study by Bahrami et al., (2023) demonstrated that mentorship programs provide women with access to guidance, support, and networks that can significantly enhance their career trajectories. Mentoring relationships help women navigate the unique challenges they face, such as breaking through the glass ceiling, and provide them with the skills and confidence needed to excel in leadership roles.

In Malaysia, various mentoring programs have been developed to support women's career advancement in the ICT sector outside the organization such as MaGIC (Malaysian Global Innovation & Creative Centre), SME Corp Malaysia, the Foundation for Women's Educational and Vocational training, Lean in Malaysia and many more. However within the corporate organizations in Malaysia, mentorship opportunities or programmes for women are not common and many women believe that they lack the required support for their career progression from higher levels of management (Malaysian-German Chamber of Commerce and Industry (MGCC), 2019). Formal mentoring programs within organizations, industry-specific mentoring initiatives, and government-supported mentorship schemes should be developed and promoted. (Malaysian-German Chamber of Commerce and Industry (MGCC), 2019) These programs not only offer professional guidance but also focus on personal development, helping women overcome self-limiting beliefs and build resilience.

While mentoring programs have shown promise in addressing gender disparities, challenges remain, such as the need for more female mentors, accessibility to mentorship opportunities, and ongoing support for mentees (Rajenderan & Zawawi, 2019a). To strengthen the link between female mentorship, leadership roles, and progress in the ICT sector, it is critical to emphasize mentorship's direct impact on women's career paths. Mentorship programmes designed specifically for women in ICT not only close the gender gap, but also act as a catalyst for leadership development, offering the essential skills, confidence, and networking opportunities. By cultivating a supportive mentorship ecosystem, we can build a pipeline for women to advance to leadership positions, supporting sector diversity and innovation. This strategic strategy not only improves individual career advancement, but it also helps to create a more inclusive and dynamic ICT industry that aligns with global aspirations for gender equality and empowerment in the digital era.

3.0 Conclusion & Recommendations

This paper uncovers the persistent challenges women face in Malaysia's ICT sector despite constituting more than half of the population. Barriers to their career advancement include societal norms, gender stereotypes, organizational culture, work-life balance, and individual confidence issues. These societal and cultural factors often discourage women from pursuing tech careers and persist throughout their professional journey.

Mentoring emerges as a promising solution to break these barriers. It provides guidance, support, and networking opportunities critical for women's confidence and progress in the ICT sector. Both organizations and individuals should recognize the transformative potential of mentoring to promote gender diversity and inclusivity.

To further validate and extend the insights presented in this study, it is recommended that future research undertake comprehensive data collection and empirical analysis. Such research should aim to quantitatively assess the impact of mentorship programs on career advancement and to explore in-depth the dynamics of gender diversity within the ICT sector in Malaysia.

In conclusion, this paper emphasizes the urgent need for collective action to achieve gender parity in Malaysia's ICT sector. The government can enhance existing employment regulations by adopting laws and guidelines, following global examples like the U.S. Women's Bureau, to protect women's rights and opportunities in the ICT field. Embracing female talent is crucial for the sector's future, ensuring a diverse, innovative, and inclusive workforce in the digital age.

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Paper Contribution to Related Field of Study

This study holds significant importance as it unveils fresh insights into the barriers hindering women's career advancement, especially within the ICT sector, shedding light not only on organizational but also societal obstacles. Furthermore, it shifts the narrative by emphasizing the pivotal role of mentoring support in mitigating these barriers, providing a new perspective for ICT companies to foster diversity and develop strategies that retain female talent, ultimately enhancing organizational performance and efficiency. This study not only advances knowledge within the field but also underscores the critical importance of mentoring support as a moderator that propels women's career advancement, paving the way for further research on the glass ceiling phenomenon and its implications.

This paper also contributes significantly to the fields of human resource management, organizational culture, diversity, equity, and inclusion, as well as industry practices. It offers valuable insights into the role of mentorship in advancing women's careers within the context of the ICT sector in Malaysia. By addressing the multifaceted challenges women face in this sector and emphasizing the importance of mentoring, this research provides actionable knowledge that can drive positive change in promoting gender diversity, fostering inclusive workplaces, and enhancing industry practices to achieve equitable and sustainable workforce development.

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