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Talent retention for sustainable high-skilled employment in information and communication industry

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Abstract: The Malaysian government has been actively strengthening the information and communication industry's ecosystem through talent retention to realize Malaysia 5.0 and transform the country into a developed human-centered society that balances economic advancement with the resolution of talent problems. This is done to recognize the significance of emerging in building a vibrant and dynamic economy for the country. Few of these studies, however, had developed comprehensive policy recommendations for keeping information specialists in Malaysia's information businesses. To address this gap, a comprehensive literature review was conducted to understand the factors driving information professionals to leave the sector. The findings aim to inform talent retention strategies that will strengthen the industry's sustainability and attract skilled leaders, ensuring the information sector's readiness for a successful digital transition.

Keywords: Talent retention; brain drain; digital transformation; information and communication industry

1. Introduction

Brain drain, the emigration of highly skilled and educated individuals from one country to another in search of better opportunities, exacerbates talent shortages and hampers economic development. Today, Malaysia's brain drain rate stands at 5.5% of the population, significantly higher than the global average of 3.3% (The Malaysian Reserve, 2023). The Department of Statistics Malaysia showed Singapore to be the most favored country with 54% of talented employees from Malaysia being employed, followed by Australia (15%), the United Kingdom (5%), and the United States (10%) (Mashable SEA, 2023). A 2023 Department of Statistics Malaysia (DOSM) study found that 83% of Malaysian workers in Singapore and Brunei were in skilled or semi-skilled roles, raising concerns about brain drain (Business Times, 2024).

Top jobs for Malaysians in Singapore include clerical support (24%), professionals (20%), and plant/machine operators (15%) (The Edge Malaysia, 2024). 48.4% of Malaysians in Singapore plan to continue working there for at least six more years, citing incentives like job prospects and salaries (The Edge Malaysia, 2024). This phenomenon poses significant challenges for Malaysia, as skilled workers seek employment abroad, losing valuable human capital and expertise. Host countries such as Singapore offer higher remuneration and better career opportunities to attract skilled workers.

For example, Singapore has introduced a range of comprehensive talent retention strategies that include housing subsidies through its Housing and Development Board (HDB) and continuing education incentives such as the Skills Future program. These measures aim to improve the quality of life and reduce living costs for its skilled workforce, addressing critical retention factors. Additionally, Singapore's "Manpower 21st Century: The Vision of a Talent City" initiative, along with its adjustments to foreign talent policies, ensures that local workers benefit from an optimized balance between foreign expertise and domestic talent development (Niu, 2024).

Singapore is a popular destination for Malaysians looking to emigrate due to its competitive pay and attractive immigration policies (Tan et al., 2018). Meanwhile, Thailand has also concentrated on fostering local talent through initiatives like the Thailand 4.0 policy and Eastern Economic Corridor (EEC), which provide tax breaks, educational partnerships, and specialized training programs in high-demand sectors, such as technology and healthcare, to both retain and nurture its workforce (Thailand Business News, 2023). In the Asia-Pacific region, Taiwan, Hong Kong, and Singapore are major destinations for highly skilled professionals.

Addressing the brain drain requires proactive measures to create an environment that encourages skilled professionals to remain in or return to Malaysia, thereby contributing to its growth and prosperity. Talent Corporation Malaysia Berhad (TalentCorp), an agency in Malaysia tasked with facilitating talent management and retention strategies to address workforce challenges and promote economic growth, focuses on shifting from brain drain to brain circulation, offering initiatives like the Returning Expert Programme (REP) and Malaysia@Heart (MyHeart) to engage skilled Malaysians abroad (Business Times, 2024). Their efforts also include promoting internship programs (MySIP) and collaborating with industry and academia to bridge talent gaps (Business Times, 2024). Using MyCOL and TalentCorp as reference points, the Malaysian information and communication industry features a complex, segmented workforce that requires tailored strategies to address varying competencies. TalentCorp's reports categorize workers into technical specialists, mid-level managers, and high-level strategists, each with distinct skills and developmental needs (TalentCorp, 2023). Through the Critical Occupations List (COL), TalentCorp identifies key roles, such as software engineers and data scientists, which face unique skill demands.

However, insufficient funding for research and development, unsupportive environments for skilled workers, and a lack of incentives for migrants to return home contribute to human resource wastage in developing countries, like Malaysia. This results in a close link between the migration of skilled workers and a country's economic growth (Mohamed et al., 2024). Without retaining skilled individuals, achieving higher income and technological advancement goals may be hindered (Yeap, 2024).

The Digital Economy Blueprint aims for the digital economy to contribute 25.5% to GDP by 2025, with Malaysia targeting 1.2 million digital tech talents (The Sun Daily, 2023b). Furthermore, the ICT sector is expected to create over 500,000 jobs by 2025, supported by initiatives like the MADANI policy framework and Practicum's practice-oriented courses (BusinessToday, 2023). However, the number of technical graduates, encompassing Foundation, Certificate, Diploma, and Bachelor's Degree

programs, from Malaysian Polytechnics declined significantly from 31,967 in 2022 to 21,322 in 2023, marking a reduction of approximately 33.3% (MyMohes Analytic System, Ministry of Higher Education, 2023). Besides, brain drain in the information and communication industry has a profound negative systemic impact, which includes delaying the digital transformation process of the industry and nation due to the starvation of talent (Malaysia Now, 2023). In other words, Malaysia faces a shortage of skilled workers, notably in the tech sector, amid a transition back to office work post-COVID-19. Mercer (2021) highlights dissatisfaction with salaries and limited career advancement as primary turnover reasons.

Malaysia's information and communication industry is facing low industrial development and a chronic lack of essential experts to face the challenges of artificial intelligence-driven digital transformation (Business Today, 2022). Even though the COVID-19 pandemic has helped to accelerate the digitalization of front-end business processes like digital marketing in the information and communication industry, it has caused greater challenges to talent retention as digitalization allows more information experts to serve foreign companies virtually post-COVID-19 pandemic. A LinkedIn study also reveals that 45% of top tech employees left a job due to lacking career advancement opportunities (Seekers.my, 2021). While some individuals desire to return to their home country, they are compelled to remain abroad due to limited opportunities available to them domestically (Malaymail, 2020).

Besides, the World Bank revealed that Malaysia's information and communication industry has underperformed in terms of talent retention compared to neighboring countries such as Singapore post-COVID-19 pandemic (Mashable SEA, 2023). Losing talents to neighboring countries led to around 77% of information and communication industries in Malaysia remaining at the basic digitalization stage post-COVID-19 pandemic (Malaysia Now, 2023). Only 53.9% of the information and communication industries have the web while only a small minority of information and communication industry players explored frontier technologies like data analytics (6.3%) (Business Today, 2022a). This is supported by another most recent survey commissioned by Huawei Technologies Co Ltd, which reveals that usage of the Internet of Things (IoT), cloud computing, and data analytics is uncommon in the information and communication industry in Malaysia due to the lack of talented workers (Business Today, 2022a; Visvizi, 2022).

As the information and communication industry is becoming data-driven, many difficulties have arisen in handling their data. The lack of skilled employees in data preparation and cleaning to convert data to a usable format poses an urgent challenge to the information and communication industry post-COVID-19 pandemic (Business Today, 2022a). The information and communication industry is in desperate need of talented professionals, who can stay long in the industry to handle and organize contemporary data for analysis (Malaysia Now, 2023). This study is conducted to propose a conceptual framework for the information and communication industry to create a sustainable talent retention culture to attract skilled leaders for digital transformation. This study is among the limited research to construct a conceptual framework that includes environmental, social, and economic aspects of talent retention, addressing whether the information and communication industry should adopt particular talent management practices to simultaneously drive and enhance the

three aspects of performance. The significance of sustainable performance has been extensively reported, such as research done by Al Aina and Atan (2020), Palanisamy et al. (2022), and Tunio et al. (2024), but what is particularly scarce is the research on talent retention as a specific driver of sustainability (Lin and Wang, 2022). Therefore, it is imperative to implement decisive measures to ensure the sustainable development and competitiveness of our country.

In sum, this study presents several original contributions that differentiate it from previous research on talent retention in Malaysia's information and communication industry. One key innovation is the development of specific policy recommendations tailored to retaining information specialists, addressing a gap where prior studies have often taken a more generalized approach. By aligning directly with Malaysia 5.0, a vision to transform the country into a human-centered society that balances economic progress with digital transformation, the study also highlights the crucial role of human capital in achieving these national goals.

Additionally, the research includes an extensive literature review that identifies the complex factors driving information professionals to leave the sector. This provides a strong foundation for creating tailored retention strategies that prioritize the unique needs of this workforce. Practically, the study translates its findings into actionable strategies for Malaysian policymakers and industry stakeholders, addressing the root causes of high turnover among information professionals. These strategies aim to improve job satisfaction, career progression, and work-life balance, specifically catering to the needs of the information sector workforce. Furthermore, the insights from this study provide a blueprint for building a sustainable talent ecosystem, better equipping the information industry for Malaysia's digital transformation and enhancing its global competitiveness. By focusing on attracting and nurturing skilled leaders, the research contributes to the sector's long-term resilience and adaptability to the evolving demands of the digital economy. This study also offers significant academic and practical value, laying a foundation for future research and providing policymakers with concrete recommendations to strengthen Malaysia's information and communication sector.

This paper begins with exploring the definitions and key factors influencing talent retention in the information and communication industry, as identified through a literature review supported by conceptual and practical insights. Following this, we discuss specific recommendations aimed at employers, policymakers, and the Malaysian government to improve talent retention in the sector. The paper concludes with a synthesis of these insights, highlighting strategic actions to support a resilient workforce in the information and communication industry.

2. Literature review

2.1. Sustainable talent retention

Sustainable talent retention refers to an organization's efforts to keep its attractive personnel committed to attaining its goals (Frank et al., 2004). A most recent global survey of 2800 international companies in 2023 exhibited that sustainable talent retention is the core issue of 70% of these organizations (Malaysia Now, 2023). Today, the importance of sustainable talent retention is continuously increasing at the global

level. Talent or skilled employees are always the key competitive advantage of the company and they usually scouting for new opportunities if they are better appreciated financially or in higher positions (Babatunde and Onoja, 2023). Hence, organizations must be strategic in their retention strategies to keep these skilled employees to sustain in the competitive environment as the various innovative skills of employees determines the bottom line of the information and communication companies (Herman, 2005) and their knowledge and key competencies are essential for the organizations to sustain and outperform in this competitive industry (James et al., 2012; Messmer, 2000). Furthermore, due to the evolution and development of new and advanced technologies together with the work towards digitalization, flexibilization and globalization, talent retention are expected to change too in order to meet the new challenges and the new changes in the work nature. Unfortunately, a recent research by Lin and Wang (2022) reported that most of the organizations are not aware of the root causes of why talents leave and this will likely affect their human capital and eventually affect their competitive advantage.

Having said that, sustainable talent retention post-COVID-19 pandemic is presented in an integrated way, combining these three social, economic, and environmental aspects of talent retention. Economic sustainable talent retention concerns return on assets, organizational cost reduction, and profit in the context of income improvement for talented professionals. Social talent retention evaluates organizations regarding their talent commitment, participation, training and development, and healthy work environment. Finally, environmental talent retention concerns the reduction of harmful materials, hazardous consumption, and the usage of environmental-friendly resources in talent recruitment and retention (Lim, 2022).

To effectively retain talents, the information and communication industry needs to operate in ways that meet social, economic, and environmental responsibilities (Škerháková et al., 2022). By incorporating the United Nations Global Compact's social, economic, and environmental principles into strategic business plans, the information and communication industry is not only upholding business responsibilities, and retaining more skilled workers, but also setting a better stage for long-term competitive advantage in digital transformation (Lim, 2022; Visvizi, 2022).

The sustainability of the information and communication industry primarily depends on how organizations develop up-to-date innovative information products and services (Kandukuri, 2023). Subsequently, sustainability has created a high demand for highly skilled and competent professionals (Visvizi, 2022). Interestingly, the demand-supply gap of talented individuals is widening in the information and communication industry in Malaysia as it was found by recent research that 35% of leading information companies are facing the problem of talent shortage (Malaysia Now, 2023; The Malaysian Reserve, 2023). Practitioners and academics have argued that sustainable talent management is crucial for information firms in the 21st century because talented workers are a critical success factor in digital transformation (Business Today, 2022a; Palanisamy et al., 2022).

2.2. Social principles of sustainable talent retention

Sustainable and socially responsible talent retention is an important prerogative for the information and communication industry. This is strongly evidenced by the United Nations 2030 Agenda for Sustainable Development Goals (SDGs) emphasizing the need to ensure industrial innovation and development (SDG 9) while protecting holistic societal interests including the talent retention, welfare, and well-being of existing and future generations (SDG 8) (Lim, 2022).

The information and communication industry faces many uncertainties in this rapidly changing global business environment especially during digital transformation post-COVID-19 pandemic. Establishing genuine social dialogue enables both workers and employers to understand each other's problems better and find ways to resolve them is an important social principle of sustainable talent retention (Al Jawali et al., 2022; Kafetzopoulos and Gotzamani, 2022). The freedom of the workers to form social associations enables them to exercise collective bargaining, which provides opportunities for constructive dialogue with the industry (Al Jawali et al., 2022; Palanisamy et al., 2022). It can thus help in anticipating potential problems associated with employee turnover and advance peaceful mechanisms for dealing with them (Al Jawali et al., 2022). Social freedom of information experts can also increase productivity, income, and profit for all concerned (Kafetzopoulos and Gotzamani, 2022). It can help to bridge the widening representational gap in national and global work arrangements, which facilitates the inclusion of more inputs from women and informal workers, who may otherwise be excluded from participating in building decent work environments (Palanisamy et al., 2022). Hence, participation in various forms, including in decision making, information sharing, and policy formulation are viable tools toward talent retention as they gain a better sense of belonging and ownership.

In addition, competency and professional advancement are also critical as skilled employees perceive this as steady upward advancement on their career ladder (Al Balushi et al., 2022). Investment in training and development should not be treated as a cost but is a value-added tool in talent retention (Messmer, 2000). Furthermore, new trends of digitalization and globalization have impacted existing culture, work styles, and driven talents to act as smart workers in agile projects or self-directed work processes as well as dealing with global information and communication space (Ali and Kasim, 2019; Lin and Wang, 2022). Hence, talents in this new era need to equip with not only the relevant digital skills but also soft skills such as positive mindset, flexibility, creativity and entrepreneurial oriented (Theodorsson et al., 2022). The more an organization focus on training programs, the better the talent retention rate of the organization (Ahmad and Ismail, 2020).

The nature of work in the information and communication industry is very challenging and the pandemic has caused job burnout due to increased workload, long working hours, difficulty in balancing work-life quality as well as inconsistency in employer expectations (Ashfaq et al., 2020). This would bring to emotional exhaustion state and likely to cause turnover and negatively impact their low job performance (Scanlan and Still, 2019; Zainal et al., 2022). Hence, a healthy working environment and workplace wellbeing are important to facilitate a support system that needs to be

instilled in the organizational culture (Christian et al., 2020; Obumneme and Ghapar, 2024). A positive and supportive workplace, including open and effective communication is important to boost employee motivation and retain the talents for their competitiveness and sustainability (Boakye et al., 2019; Raghuram et al., 2019).

In addition, Abdullah and Noor (2023) discover that organizations that create psychologically safe environments are more likely to retain their employees, as workers feel valued to express opinions and feedback at the workplace. Psychological safety is increasingly acknowledged as a vital factor for sustainable talent retention, yet previous studies rarely evaluate the impact of psychological safety on employees from different demographic and cultural backgrounds (Abdullah and Noor, 2023). As Malaysian working environments are diverse, understanding how psychological safety influences retention differently across demographic and cultural groups could help organizations implement sustainable talent retention strategies. According to Ismail and Rahman (2021), a positive organizational environment that fosters respect and open communication performs better in retaining talented employees. Malaysian organizations that recognize employee contribution and provide opportunities for open communication create a psychological safety environment to motivate employees to stay longer. Furthermore, ethical leadership and transparency can significantly impact talent retention, especially among younger generations who prioritize more on psychological safety environment (Lim and Tan, 2022). Existing research in Malaysia has primarily focused on general findings with limited industry-specific analysis of how a psychological safety environment affects sustainable talent retention (Ismail and Rahman, 2021; Lim and Tan, 2022). A research targeting at specific industry provide a more tailored approach to developing effective environmental-based talent retention strategies within that sector.

2.3. Economic principles of sustainable talent retention

Economic Principles of Sustainable Talent Retention concerns the creation of current and future profits for a firm while improving the earnings and rewards of talented professionals in the organizations to retain them in the industry (Lin and Wang, 2022). With the Malaysian economy is in the midst of transforming into a knowledge-based economy in the past 5 years, the retention of talented professionals has become a strategic priority of the Malaysian government in support of sustainable economic growth in the country. Sustainable talent retention aims at reducing high employee turnover while increasing business continuity and enhancing organizational effectiveness, at the lowest cost. Literature that focuses on the economic principles of talent retention, studied how employee incentives and human capital investment supported sustainable talent retention with limited industry-specific analysis, particularly in industries which contributes to the highest growth in Gross Domestic Products such as healthcare, education, and manufacturing. Most studies focused broadly on talent retention (Hashim and Mahmood, 2022; Samsudin and Chen, 2022), neglecting the unique retention challenges faced by fast-growing economic sectors. For instance, previous literature neglected that the healthcare industry might require unique incentives for talent relations in association with high burnout rates, whereas the education industry might require greater human capital development opportunities

for the education practitioners (Niu, 2024). There is in need of research that could delve into industry-specific strategies and examine how economic principles could be applied differently by different practitioners in different industries in Malaysia.

A recent report by Forbes (Wallace, 2023) reported that employee turnover not only involves direct costs associated with recruitment costs and job posting costs of hiring new employee, it also involves significant hidden costs that may cause greater impact on the business's bottom line, and these include predeparture cost (e.g., reduced productivity and using working time to look for other opportunities), termination cost (e.g., exit interviews, recordkeeping cost), productivity cost (e.g., less experience of new staff to contribute), knowledge cost (e.g., loss of expertise), training cost (e.g., new hire to develop new skills), and vacancy cost (e.g., loss sales when the position remains vacant). Numerous researches also have shown that talent retention is a powerful source of sustainability and competitive advantage as high turnover will significantly impact organizational performance (Claus, 2019; Johara et al., 2019; Kurdi et al., 2020). Hence, this shows that talent retention should be the utmost focus to help improving profit and develop organizational resilience.

Compensations, especially in highly competitive markets such as information and communication industry are undoubtedly a critical factor to reward and retain talents. A report by Exude (2023) stated that 74% of HR professionals cited inadequate compensation was the top reason of employee turnover. Due to the rapid advancement and increasing demand and activities especially in this information and communication industry, many rival companies are willing to offer very competitive and attractive remuneration packages in attracting talents to increase their competitiveness and profitability. Hence, a competitive benefits package is the foundation for a successful talent retention program.

On the other hand, economic discrimination in relation to salary, bonus, remuneration, hours of work, rest/paid holidays, maternity protection, and performance assessment and advancement due to race, sex, or religion might have caused a high turnover rate in the information and communication industry in Malaysia (Palanisamy et al., 2022). Factors like quality of life, and access to public services influence migration decisions too. When these conditions are insufficient, individuals may seek better opportunities elsewhere (Niu, 2024). Hence, organizations need to design competitive compensation packages through effective mechanisms. As claimed by Milkovich and Newman (2004), monetary compensation is strategically the most effective form of retention tools.

According to Hashim and Mahmood (2022), organizations in Malaysia use monetary and non-monetary incentives to retain talent. Monetary incentives such as bonuses, health benefits, and flexible work policies are used to retain talents in organizations. Besides monetary incentives, Kadir and Abdullah (2021) discovered that non-monetary incentives, such as career development opportunities, are also used by Malaysian organizations to retain talent. Investments in non-monetary incentives such as talent growth programs boost talent's morale and reduce turnover, contributing to sustainable talent retention. While monetary incentives are commonly studied by previous researchers, the importance and effectiveness of non-monetary incentives require further exploration. Although Kadir and Abdullah (2021) emphasize non-financial incentives, there is a lack of quantitative data to support the impact of non-

monetary incentives on talent retention. Additionally, more research should be conducted to examine how non-monetary incentives supplement monetary incentives in creating sustainable talent retention on Malaysian multi-cultural society.

As human capital theory suggests that greater investment in employee education, training, and skill will benefit both the organization and the employee. As explained in the social principle, employers who invest in skill enhancement provide talent with a sense of job security, making them more likely to stay in the organization to attain greater personal growth. Greater investment in human capital aligns with Malaysia's broader economic objectives of building a talented workforce to meet the demands of a knowledge economy with a digital workforce (Hashim and Mahmood, 2022). As Zulkifli and Ng (2021) illustrated, the cost of replacing a talented employee is too high as it involves additional recruitment, training, and onboarding expenses and hidden costs related to the lost knowledge when a talented employee resigns from the job. Recognizing that the economic benefits of retaining talents outweigh the costs of employee replacements, Malaysian firms are prioritizing talent retention strategies to minimize turnover rates. Current research largely provides a snapshot of talent retention strategies (Ahmad and Ismail, 2020) without tracking the economic effects of talent retention strategies over time. There is a lack of previous literature that provides deeper insights into how economic principles like human capital investment affect sustainable talent retention. More research should be conducted to offer a more dynamic understanding of key factors influencing sustainable talent retention in Malaysia.

Technology and finance sectors in Malaysia often face high market competition in retaining professional talents (Samsudin and Chen, 2022). These sectors thus adopt proactive personalized career paths and stock options, to retain talent. The rise of the gig economy and flexible work arrangements after COVID-19 pandemic has reshaped the talent retention landscape worldwide, including in Malaysia. However, there is little research that examines how the gig economy and flexible work arrangements impact talent retention from an economical aspect (Samsudin and Chen, 2022). Malaysia's workforce is diverse, with talents from various ethnic backgrounds may respond differently to economic incentives. More research should be carried out to investigate how talent retention strategies can be tailored to cultural differences to foster sustainable retention practices in the country.

2.4. Environmental principles of sustainable talent retention

In recent years, environmental sustainability has become the primary considerations for many job seekers in assessing organization's environmental policies and the importance of sustainability in their business activities (Florek-Paszowska and Hoyos-Vallejo, 2023). These principles go beyond the regulatory compliance and focus on creating a shared value for all stakeholders, including employees, to proactively minimize the adverse environmental consequences while promoting social responsibility to ensure long-term sustainability and economic viability (Netto et al., 2021). These companies emphasize critical sustainable business management aspects such as waste reduction (Kumar et al., 2023), responsible sourcing (Rehman et al., 2023); efficiency of resources (Fischer et al., 2023),

renewable energy usage (Brychko et al., 2023), ethical labor practices (Lu et al., 2023), green HRM (Thai and Mai, 2023) and community engagements (Bonfanti et al., 2023). The companies with these environmental values demonstrate their commitment towards ethical and responsible behavior, which is the foundation in developing a positive and conducive working environment that may promote high job satisfaction, organizational support, and employee wellbeing (Lu et al., 2023; Silva et al., 2022). Sustainable organizations, thus are more likely to optimize resource use, develop better know-how in goods, and services as well as organizational and managerial procedures to enhance environmental performance and attract environmentally conscious customers and employees while effectively retaining more talents (Kandukuri, 2023).

Hamid and Zulkifli (2022) found that talents in Malaysia are increasingly interested in working for organizations that prioritize sustainable environmental practices, such as reducing carbon footprints and recycling waste. When talents appreciate their organization's effort in engaging in green initiatives, they tend to stay longer in the organizations. Green initiatives thus serve as a talent retention strategy, when organizations implement green practices in addressing environmental issues, it will attract and retain younger talents who prioritize corporate social responsibility (Hamid and Zulkifli, 2022). However, there is a lack of detailed research on how specific green and environmental practices could impact talent retention in Malaysia. Exploring the specific types of green initiatives that are most appreciated by talents would allow organizations to better align their environmental sustainability efforts with talent retention.

According to Lee and Chen (2023), organizations that offer green practices and flexible working hours, experience lower turnover rates as employees find it easier to balance environmental responsibilities and work commitments. Implementing environmentally friendly practices as part of organizational policy helps create a supportive working environment that acknowledges the importance of employees' well-being and environmental commitment. However, studies that examine the effect of environmentally friendly practices, are still limited in Malaysia. More research should be conducted to help organizations allocate resources toward environmental initiatives that demonstrate significant talent retention benefits.

Having said so, young people, especially Gen Z, seeking employment are drawn to organizations with strong green credentials and initiatives, according to studies (Insightful Environments, 2023). Their lives are given a feeling of meaning and purpose that they sometimes feel is lacking when they work in ways that have a good impact on the environment. Therefore, when environmentally sound technologies can be applied to reduce day-to-day operating inefficiencies, it will help to retain more talent in the companies (Lin and Wang, 2022; Visvizi, 2022).

3. Discussions and implications

Effective talent retention is crucial in ensuring the success of the Brain Gain Programme because information experts will be more willing to serve in the information and communication industry if their knowledge is recognized and rewarded accordingly. From the view of economic principle, the Malaysian

government set up TalentCorp to help stem the brain drain and attract Malaysians back home via its Returning Experts Programme (REP). With Malaysia's shift towards becoming a knowledge-based economy, sustainable talent retention allows the information and communication industry to increase productivity and be more prepared for digital transformation. Therefore, it is imperative to establish a framework for talent retention in the information and communication industries in Malaysia. In addition, a database of Malaysian experts working overseas ought to be created so that the government may design better "brain circulation" plans to entice its highly qualified workforce to either come home or boost the country's economy. To get the most recent data and statistics, they can work with high commissioners or embassies, allowing us to maintain tabs on the number of Malaysians living abroad and their areas of competence. Competitive compensation packages need to be designed to attract these group of talents back to contribute to the home country.

From the perspective of environmental principles, information companies should incorporate the green agenda into their contracts, policies, mission statements, and strategies to draw in and keep the best employees. Not only would doing this show a commitment to global responsibility and environmental action of serving the society and environment. However, it will also represent a chance for employees to offer suggestions for improving organizations to make them more effective, profitable, and suited for the needs of Society 5.0 (the digital age). At the same time, it could create healthier environments for occupants. This is in line with research by Florek-Paszowska and Hoyos-Vallejo (2023) that emphasized on going green to keep the talent for achieving the sustainable competitive advantage.

Besides, most of the talents are at the age of 35 and above. The age of these mature talents is frequently considered before their capabilities. From the view of social principles, employers need to create a fair and inclusive workplace by treating all their talents equally and acknowledging that people of various ages have diverse skills to contribute to the business. Additionally, it would increase the synergy between management and employees, leading to higher production and keeping up with evolving employee's expectations of work and the workplace overall. In order to give skilled successors a chance to perform and get practical experience for the position, we should also restrict the duration of duty for expatriates. More importantly, as suggested by Babatunde and Onoja (2023) and Zainal et al. (2022), a positive and supportive workplace environment that focuses on shared management, training and development, and career growth, are among the critical factors that influence employees to stay longer in their companies.

In contrast to "work"-related considerations like career advancement and growth, employees now claim that "life"-related aspects like flexibility and time off make them more likely to stay with their firm. It is proven that to be able to work flexibly, one in three Asian workers is willing to forego income raises, with well-being perks coming in second (Business Today, 2022b). Thus, employers need to pay greater attention to building up hybrid work with flexible work arrangements and well-being to sustainability to ensure the employees feel more valued and connected.

As Malaysia continues its journey toward high-income nation status, the challenge of generating a sufficient number of high-quality jobs across all skill levels becomes even more pressing. Meeting this challenge would not only mark a significant

milestone but could also position Malaysia as a benchmark economy among global leaders. To achieve these ambitious objectives, Malaysia must adopt proactive and future-focused goals that address workforce development, talent retention, and skill enhancement (Schmillen and Rahman, 2021). Such a vision aligns with TalentCorp's initiatives, which aim to strategically upskill workers, improve job quality, and close skill gaps, particularly in high-demand sectors like information and communication technology (ICT).

Drawing insights from Singapore's strategies, Malaysia could enhance its talent policies by incorporating holistic, life-enhancing support measures such as housing subsidies and educational incentives, as well as recalibrating talent acquisition and workforce development plans to stay aligned with evolving economic trends. Singapore's approach exemplified through its "Manpower 21st Century: The Vision of a Talent City" initiative, emphasizes adapting to workforce needs and proactively addressing public concerns over foreign talent policies by periodically revising talent introduction regulations (Niu, 2024). By adopting similar adaptive strategies, Malaysia could improve the quality of life for its workforce and address emerging challenges in talent retention and attraction.

In implementing these recommendations, Malaysia could set ambitious, realistic goals to support its workforce more effectively, prioritizing both economic growth and quality of life improvements. Such a multifaceted approach would position the nation not only to meet high-income status benchmarks but also to sustain long-term, competitive growth in the global economy. In addition, the government can invest in high-tech, knowledge-based, and capital-intensive industries that have a multiplier effect on Malaysia's digital economy and create high-quality jobs for Malaysian talents. They can also collaborate with higher education institutions and industry partners to offer upskilling and reskilling digital programs as well as promote technical and vocational education and training (TVET) in a variety of subjects and assist the undergraduates to determine what digital skills they need to realize their career ambitions.

Promoting collaboration among industry, universities, and research institutions is essential for fostering innovation and driving scientific and technological advancements. Strengthening these partnerships will not only enhance cooperation but also facilitate the effective transformation of research outcomes into practical applications, ultimately contributing to sustainable economic growth.

To achieve these objectives, the law mandates the establishment of a comprehensive framework for the development of scientific and technological talent. This includes setting unified goals and implementing a structured program that aligns efforts across various institutions. All scientific research organizations and higher education institutions that receive government funding for research and development are required to actively engage in the initiative aimed at creating a diverse and skilled talent pool. This collaboration will involve targeted training programs, mentorship opportunities, and joint research projects that encourage knowledge exchange and innovation. By investing in the cultivation of scientific and technological expertise, we can ensure a steady supply of skilled professionals who are equipped to meet the challenges of the future and contribute to a thriving economy. The government should take a comprehensive strategy for managing the diaspora, including not just how to

repatriate but also how to utilize their experience while guaranteeing their safety back in Malaysia. Enhancing transparency and accountability environment would contribute to the creation of equitable opportunities for all Malaysians. For instance, it encompasses activities such as scheduling appointments and facilitating promotions, the acquisition of goods and services, and the facilitation of research and development funding.

Furthermore, it is recommended that the government restructure the labor market and incentivize industrial upgrading in order to attract and retain foreign investment while also promoting job development and retention in Malaysia.

4. Conclusion

In conclusion, this study enhances both conceptual and practical insights into the factors influencing sustainable talent retention in the information and communication sector. By understanding the critical elements affecting talent retention in the information and communication industry, domestic and international investors will be better equipped to expand their businesses within a globally connected marketplace. This knowledge also enables skilled professionals to assess their career prospects and identify workplace conditions that may contribute to sustainable retention.

For policymakers, the findings underscore the importance of developing fair labor policies that address economic disparities and promote environmental sustainability. Industry leaders can benefit from implementing equitable compensation structures and green initiatives, which are shown to positively impact employee satisfaction and retention. Academic researchers may use this study as a foundation to further investigate the dynamics of sustainable talent retention.

The limitation of this paper is the literature review approach as no empirical study was conducted and findings could be due to bias on the sources of data. Hence, future research could expand the conceptual framework presented in this study by exploring additional variables that may influence retention, such as organizational culture, leadership styles, and work-life balance. Case studies, surveys, or interviews with industry professionals are suggested to enrich the research and provide practical insights. Comparative studies between nations could offer valuable insights into how different regulatory environments and cultural factors impact talent retention in the information and communication sector. Additionally, longitudinal studies could provide a deeper understanding of the long-term effects of sustainable retention strategies in evolving workplace landscapes.

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