Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

BRAIN DRAIN AWARENESS AND ITS IMPACT ON THE CAREER DECISIONS OF FINAL-YEAR STEM MALAYSIAN UNIVERSITY STUDENTS

Mohd. Rizam bin Md. Ladin[1]*
Adlina Binti Abdin [1]*
Hamizah Hashim[2]
Nur Umairah Syahmina Shamshi[3]
Nurul Ain Rozihan[4]

[1] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia. Email: rizamladin@uitm.edu.my
[1] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia. Email: 2023870494@student.uitm.edu.my
[2] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia. Email: 2023437038@student.uitm.edu.my
[3] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia. Email: 2023478936@student.uitm.edu.my
[4] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA (UiTM), Seremban, Negeri Sembilan, Malaysia. Email: 2023898888@student.uitm.edu.my
* Corresponding author: Email: rizamladin@uitm.edu.my

Article history
Received date : 7-10-2026
Revised date : 8-10-2026
Accepted date : 1-11-2026
Published date : 5-11-2026

To cite this document:
Md. Ladin, M. R., Abdin, A., Hashim, H., Shamshi, N. U. S., & Rozihan, N. A. (2026). Brain drain awareness and its impact on the career decisions of final-year STEM Malaysian university students. *Journal of Islamic, Social, Economics and Development (JISED),* 11 (88), 1 – 20.

Abstract: *Brain drains awareness acts as a significant catalyst in the career-making decisions of final-year STEM students in Malaysia, often framing their professional outlook within a competitive global context. This research explores how students' understanding of high-skilled migration trends influences their intention to seek employment abroad versus remaining within the domestic market. By investigating the interplay between internal push factors and external pull factors, the study identifies that awareness of the brain drain phenomenon frequently validates students' perceptions of superior international prospects, including significantly higher salary benchmarks, advanced research infrastructure, and more transparent career development pathways found in developed nations. Conversely, domestic limitations such as laboratory resource gaps and perceived social injustice are highlighted as critical drivers that push talent toward emigration. This study employed an exploratory qualitative design with thematic analysis through focus group discussion and in-depth interviews. The findings revealed that participants viewed brain drain as the migration of highly skilled individuals seeking better career opportunities, higher salaries, stronger professional development, and improved working conditions abroad. The study highlights the importance of strengthening career development opportunities, research support, and workplace environments to enhance the retention of STEM talent in Malaysia.*

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

Keywords: *Brain Drain Awareness, STEM Students, Career Decisions, Push-Pull Factors, High-skilled Migration, Talent Retention*

Introduction

Brain drain means the migration of smart and educated human capital from their home country, looking for better jobs, better income & a better life (Hamid et al., 2022; CIPD, 2023). The brain drain problem is a major concern particularly for the Science, Technology, Engineering and Mathematics (STEM) professionals in Malaysia, as the loss of talent in this area robs countries of the manpower that is a vital component for national development and innovation (Teoh et al., 2024). Brain drain awareness is the measure of knowledge final-year STEM students have regarding the causes, consequences, and importance of skilled migration from both individual and national perspectives. This can include their exposure to opportunities abroad, differences in labor market prospects across countries (where the developing world is often perceived as offering few prospects), or socio-economic conditions that would push them towards migration (Mohamed et al., 2023).

Despite being a well-established phenomenon, over the last decades brain drain has increasingly attracted attention in developing and middle-income nations, especially those sectors characterised by hyper-specialization and a high reliance on human capital (Ang, 2012; Schellekens, 2024). Over the last 50 years, around 1.86 million Malaysians have emigrated abroad which is a 5.6% population decline (higher than the global average of 3.6%) (Malay Mail, 2025). Moreover, Malaysia had a remarkably high-skilled emigration rate of 16.7% in 2022 although it has been reported that more than 40% of PhD graduates left for developed countries to search for better working conditions, remuneration and life quality (Xiao & Ismail, 2025; Ramasamy et al., 2025). In particular, the ongoing flight of talent has alarmed many as this competitive brain drain is said to threaten Malaysia's future economic prospects, especially if it impedes its capacity for innovation (TalentCorp Malaysia, 2021).

While some studies had addressed the issue of how economic push-pull factors facilitate brain drain and some focus on the trend of migration (Mohamed & Abdul-Talib, 2020; Mohamed et al., 2023; Yu et al., 2018), there had been scarcely research focused on how final year students from Science Technology Engineering and Mathematics (STEM) disciplines generally viewed the phenomenon, where background knowledge around STEM to Brain Drain can provide additional context for its newer manifestations. The choices these students make regarding their professions once they graduate and seek employment (Hamid et al., 2022; Othman et al., 2025) have the potential to influence the future demand for skilled labour in Malaysia.

Thus, the objective of this study is to investigate how final-year STEM students at universities in Malaysia conceive the phenomenon of brain drain and whether such awareness has affected their decision-making on career choices. This includes the perceptions of students about local and overseas career opportunities, their readings on brain drain as an issue facing the nation and emotional, personal, academic, and social determinants that influence intentionally studying or work in Malaysia or overseas. The findings will provide valuable insights for policymakers, higher education institutions, and employers in developing more effective talent retention strategies. At the policy level, the findings may support initiatives related to research infrastructure, merit-based career progression, and innovation-driven industries to strengthen Malaysia's ability to retain highly skilled talent and support long-term economic growth (TalentCorp Malaysia, 2021; Xiao & Ismail, 2025).

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

Literature Review

Brain Drain and Career Decisions

The phenomenon of brain drain is increasingly being recognised as not just an individual employment choice but part of a structural issue in the context of overall national development, particularly in middle-income countries such as Malaysia (Hamid et al., 2025). Structural weaknesses in the form of limited competitiveness of labour markets, issues with governing structures, and institutional constraints provide the main push factors for skilled migration in turn impacting productivity and innovation capacity (Docquier & Rapoport, 2012). This gap between the overall development goals of a nation and the individual's career aspirations accelerates the outflow of highly intelligent and skilled workers.

In the case of STEM graduates, there is a more pronounced impact from brain drain because of the global high demand for specialisation skills and individuals being more exposed to international labour markets (Ismail & Yusof, 2023). Final-year students in STEM fields are particularly affected by the perceived differences between local and global careers, including differences in opportunities for career advancement, technology exposure, and professional recognition (Othman et al., 2025). With their qualifications and skill sets increasing their global employability, STEM final-year students tend to be more willing to pursue opportunities outside of Malaysia.

Students from Generation Z who have made career choices are influenced by a number of internal and external factors, creating a complex interaction of variables that affect their decision-making process. Internal elements include their individual traits, for example, proactive personality, career exploration behavior, and anticipatory emotions. The factors contribute to the student's level of confidence and clarity regarding their career plans; these factors contribute to their ability to make informed decisions (Li et al. 2025; Yu et al. 2021). External factors (i.e., labour market conditions, institutional support, and global exposure) also affect how the students assess career options (Jamaludin & Fernandez, 2025), and there is clear evidence that career options for Generation Z are becoming increasingly dynamic and non-linear due to the impact of multiple interrelations (e.g., social networks).

Recent research studies have also indicated that students' career decisions are not based solely on economic considerations but may be shaped by their awareness and perceptions regarding a variety of socio-economic issues (Mohamed et al., 2023). Those students who are aware of the effects of brain drain tend to examine migration from two perspectives, one as a personal choice and the second as a reaction to systemic constraints (e.g., inequitable systems, inequitable access to meritocratic opportunities, and lack of professional recognition). However, the majority of research has focused on employability and migration trends without considering the extent to which the awareness of the implications of brain drain impacts the students' decision-making process regarding their careers (Mohamed & Abdul-Talib, 2020).

Final Year STEM Students

Final-year STEM (science, technology, engineering, and mathematics) students constitute a significant group in higher education who have the capacity to build the workforce needed now and in the future to drive the country's technological advancement. Engagement in both formal and informal learning environments shapes knowledge, competencies, and awareness of career and migration opportunities, making these students increasingly competitive in the global labour market (Hussim et al., 2024). The high international demand for STEM graduates

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

elevates the likelihood of migration, positioning this group as a key subject in brain drain discourse. Exposure to global salary differentials, career advancement prospects, and gaps in local institutional support further shape intentions to seek employment abroad (Hamizah et al., 2022; Ismail & Yusof, 2023).

While there have been a number of research studies conducted on this topic, there is limited research that focuses on the ways in which final-year STEM students' awareness of brain drain impacts their career decision-making. Most of the available literature focuses on broader trends in STEM education, analytics relating to student achievement, and informal learning outcomes rather than on the correlation between the awareness of migration and career planning (Hussim et al., 2024; Hamizah et al., 2022). Therefore, it is important to do this research so that retention strategies and policies that target a continuous supply of highly skilled STEM workers in Malaysia can be informed by this information.

Awareness of Brain Drain - Understanding of the Brain Drain Phenomenon

"Brain Drain" is defined by the migration of highly educated individuals from their home country to other areas that provide better economic opportunities, careers, and a longer quality of life (Belgium & Docquier, 2014). The most commonly cited cause for this situation is the disparity between increasing numbers of graduates and the comparatively few graduate positions available (Portes & Celaya, 2013). The phenomenon has changed from career decision-making on an individual level to a national development concern, since the constant departure of human capital will ultimately diminish Malaysia's global competitiveness (Hussin, 2025). Students associate brain drain with structural and policy limitations, particularly barriers to merit-based advancement and perceived inequities stemming from Bumiputera-based policies, which diminish professional recognition and sense of belonging (Siti Asdiah Masran, 2022).

Beyond structural components, factors such as psychological or socio-economic conditions have also shaped the awareness of brain drain through aspects such as life satisfaction, self-efficacy, and perceptions of long-term security (Gözüm et al, 2024). When perceived compensation, advancement prospects, and institutional support in Malaysia are deemed insufficient, awareness of global opportunities reinforces intentions to seek employment abroad (Ang, 2012; Ramdan et al., 2024). Universities play a dual role in this process, on the one hand, they can contribute to brain drain, or conversely, reduce it, depending on how they manage student mobility. Poorly managed student mobility can potentially exacerbate regional inequality, while effective strategies to keep students will relieve some of this problem (Etzo et al, 2025).

Interpretation of Brain Drain as a National Issue

The migration of skilled Malaysians has grown to be a serious national concern due to its impact on the nation's economic growth, innovation and future development. Besides, Malaysia relies on skilled workers, particularly in science, technology, engineering and mathematics (STEM) to enhance its productivity and maintain its competitive edge in the global market. When a high number of qualified professionals decide to work abroad, local industries may struggle to find the expertise needed to foster technological advancement and innovation (Farndale et al., 2021). Additionally, the loss of skilled workers also weakens the potential benefits gained from the government's investment in higher education. Eventually, Malaysia gains less from the investments made in educating and training graduates when talented individuals choose to contribute their knowledge and skills to other countries instead. This scenario may lead to slow

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

research activities, reduced knowledge sharing practices, and industries may find it more challenging to innovate new concepts and technologies (Salehi&Sadeq Alanbari, 2024). In addition, the low numbers of experienced professionals may make it more difficult for employers to recruit skilled workers, especially those in industries that demand particular expertise.

The issue is also connected to Malaysia's long-term goal of becoming a high-income and innovation-driven nation. On top of that, many Malaysian students perceive STEM education as a pathway toward greater career prospects, yet these opportunities are rarely offered domestically (Idris et al., 2023). Due to this, some graduates may be considering the idea of building their careers abroad where they believe that they can achieve greater professional growth. Similarly, a recent study also found that desires for professional development and working environment have significant effects on Malaysian medical students' career decisions (Teng et al., 2024). These findings show just how important it is to retain skilled workers in order to meet the current demands of the workforce and ensure that Malaysia has a sufficient amount of talent to maintain its future technological and economic growth (Yunus et al., 2024).
Perception of Career Opportunities for Local and Overseas Opportunities

Career opportunities are one of the biggest factors that determines where highly skilled individuals choose to pursue a profession. When choosing a job, many Malaysians consider the opportunities offered locally and globally. These comparisons usually include salary, career growth, working environment, research facilities and opportunities of getting international experience. This is because skilled workers may be more likely to leave Malaysia when they believe that working abroad offers greater job opportunities (Abd Hamid et al.,2022).

Studies have proven that career growth is not only impacted by salary but also the availability of professional development opportunities (McDonald&Hite,2023; Baghdadli et al., 2021). Many graduates value job opportunities that provide continuous learning, fair promotion, recognition and opportunities for the development of specialized skills. If these opportunities are considered to be far better in other countries, working abroad becomes a better option (Oliinyk et al., 2021). This is especially true for graduates in STEM-related industries, where access to latest technology, research funding and innovation plays as important factors in career development (Lenhart et al.,2022).

In addition, individuals also tend to keep their long-term career goals into consideration when deciding where to work. A recent study that involved Malaysian medical students revealed that future career plans are closely tied to expectations of better training, career growth and working environment (Sarikhani, 2021). These findings clearly show that both financial and non-financial factors determine career decisions. Therefore, enhancing local job opportunities is essential in attracting highly skilled Malaysians to remain in the country. In other words, offering a competitive salary alone might not be sufficient if graduates continue believing that working abroad provides better professional development, stronger career support and more opportunities to fulfill their long-term career goals (Abd Hamid et al., 2022; Teng et al., 2024).

Career Intention to Work in Malaysia and Work Abroad

The domestic economic situation and social structures that either foster the retention of recent graduates or promote emigration primarily influence career intentions to work in Malaysia (Mohamed et al., 2023). The motivations behind them for many Malaysian graduates and intellectuals are rooted in patriotism, emotional ties to the country, family ties within the

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

domestic labor market and weighing local professional familiarity against risks moving abroad (Hamid et al., 2022; Teoh et al. Recent findings show that in the case of a student, their attitude related to local employment as well as subjective norms (e.g., parental expectations) are important factors affecting their final intentions to work (Yeoh et al., 2023). Other studies show the degree of government taxpayer interaction with undergraduates and initiatives to encourage local entrepreneurship are thought to move the needle towards graduates being more likely to start their careers domestically (Mohamed et al, 2023).

Conversely, the desire of Malaysian intellectuals and students to work outside Malaysia is mostly fueled by large "pull" factors in the host countries with some internal "push" factors (Hamid et al., 2022). Previous studies recognise higher income, better job security and modern infrastructures for this endeavor in the developed countries as key pull factors (Ramdan et al., 2024). Moreover, attractive California style living conditions in destination countries and more religiously inclusive practices along with the prevalence of English, as the top spoken language drive demand for high-skilled migration, creating unattainable career expectations and an elevated quality of life that many individuals feel their homes can not deliver (Mohamed et al., 2023; Shariff et al. On the contrary, in Malaysia, emigrating is oftentimes a reaction to perceived constraints (Teoh et al., 2024). Although push factors (including low salary, artwork liability, and lack of social justice), together with pull factors (such as high income and good facilities abroad) may lead Malaysian students to prefer studying overseas (Hamid et al., 2022; Kamarudin & Norsyafah, 2020; Teoh et al., 2024), private issues which includes patriotism or family ties have encouraged the purpose of scholars to work domestically (Mohamed et al., 2023).

Intention to Return and Contribute to Malaysia (Return Migration)

The Malaysian "brain drain" is therefore a complex, multi-layered dynamic shaped by (among other things) governmental engagement, social networks and the reconfiguration of local career possibilities (Mohamed et al., 2023). However, the inclination of Malaysian undergraduates to return more strongly correlates with three broadly defined critical success drivers: parental and diaspora involvement, entrepreneurship venues, and government involvement (Othman et al., 2025). Of these, government outreach has the best direct correlation to attracting talent back through a sense of home and work opportunities, as any policy initiative must do more than provide monetary incentives to reinforce deeper social and institutional affiliations (Teoh et al., 2024; TalentCorp Malaysia, 2021).

The recent literature also highlights that the return is frequently a chosen remedy and comes within the confines of a "push-pull" driving component in movement elements (Hamid et al., 2022). According to Shariff et al. (2018), behind this backdrop of structural reforms like the New Economic Model (NEM) catering to global demand, it is felt that by adopting a favourable domestic business environment and liberal income scope, the diaspora are virtually pulled in as an institutional push-and-pull system (Shariff et al., 2018). Nevertheless, the effectiveness of these programs is strongly influenced by local perception of social justice/professional mobility, which would drain/replenish the pool of available "brains" (CIPD, 2023).

In short, Malaysia is an illustrative case of how social influence and "diaspora diplomacy" are central to understanding global return migration intentions (Yeoh et al., 2023). Intentions are even more strongly predicted by perceived behavioural control and subjective norms in their social networks, with the Malaysian diaspora providing a critical nexus of information about local opportunities and facilitating reintegration (Yeoh et al., 2023; Mohamed et al., 2023).

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

While international careers are attractive to many overseas professionals, they can be persuaded to return if domestic career paths do meet their career aspirations or quality-of-life requirements (Othman et al., 2025; Teoh et al., 2024), suggesting that a balanced approach involving a combination of competitive benefits and supportive is needed.

Conceptual Framework

This research is founded on both migration theory, and specifically the push-pull theory, as well as human capital theory, which take into account the two factors of structuring factors and personal evaluations that impact each person's decision-making process (Docquier & Rapoport, 2012). These two theoretical frameworks provide support for our investigation into how an individual's understanding of brain drain impacts career decision-making among STEM final year students.

The focus on brain drain awareness as the independent variable in the research indicates the effect brain drain awareness has on individuals when assessing and interpreting potential career opportunities. As an example of this, brain drain awareness provides participants with an understanding of which skilled migration is taking place, how much human capital is leaving the country, and what the implications of this level of migration are on a higher level (Hamid et al., 2025). Therefore, individuals with the highest levels of brain drain awareness will engage in a much deeper level of assessment and evaluation of the positive aspects and the negative aspects of the potential employment opportunities in both local and international labour markets.

In addition, the framework proposes that the perception of career opportunities acts as a mediator between awareness and career decision-making. The evaluation of career options is a comparison between local and overseas opportunities, and the factors that influence those evaluations include salary, security of employment, advancement of career and working environment (Othman et al, 2025; Khazanah Research Institute, 2022). Local opportunities are generally viewed as limited in scope, while foreign or overseas opportunities are perceived to provide for greater career development and to provide greater rewards in terms of compensation, promotion, and advancement.

As a result of awareness of brain drain, career decisions are influenced indirectly through the individual evaluation of the available career opportunities. The career intentions of final-year students in STEM are measured through their intent to remain in Malaysia for their careers, pursue foreign opportunities, or eventually return home after pursuing foreign opportunities (Yu et al, 2025; Jamaludin and Fernandez, 2025). This framework has important implications for understanding the relationship between the three components of decision-making (i.e., career opportunities, perception, and decision-making) in the context of brain drain, as well as for developing strategies for retaining talented individuals by providing a blueprint for analysis (TalentCorp Malaysia, 2021).

Methodology

This study employed a qualitative exploratory design to examine final-year STEM students' understanding of brain drain and its influence on their career decisions (Phillips et al., 2024). Through purposive sampling, five final-year STEM students from Malaysian universities and equivalent tertiary education institutions were selected as participants. Data were collected through a focus group discussion conducted on 16 May 2026 to explore participants' awareness, perceptions, and career intentions regarding brain drain. An in-depth interview was also

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

conducted on 18 June 2026 with a lecturer who is knowledgeable in the area of brain drain to complete the triangulation process and strengthen the credibility. The collected data were analysed using thematic analysis, which involved data coding, theme identification, and interpretation to generate meaningful insights into how brain drain awareness shapes the career decisions of final-year STEM students.

Table 1: Profile of the Participants - Final Year STEM Students

No.	Research Participant	STEM Course	Current Education Level	Current Study Status
1.	Participant 1	Science	Bachelor's Degree	Internship
2.	Participant 2	Technology	Diploma	Internship
3.	Participant 3	Engineering	Bachelor's Degree	Attending Classes
4.	Participant 4	Engineering	Bachelor's Degree	Internship
5.	Participant 5	Engineering	Bachelor's Degree	Internship

Findings And Discussion

Findings

Understanding And Awareness of Brain Drain Among Final-Year STEM Students

Understanding of Brain Drain among Final-Year STEM Students

The findings show that STEM students in the final year think of brain drain as highly skilled and well-educated Malaysians leaving the country to seek better jobs in another country.

According to Participant 2:
"Brain drain is a situation in which highly talented, skilled, and knowledgeable individuals choose to migrate to other countries [...]" (Participant 2)

The participants consistently described brain drain as being associated with specialised or occupation-specific training, specifically high-skilled human capital. This view was further supported by the individual interview. The participant stated:

"[...] highly educated, skilled and talented individuals [...]" (Participant A)

The findings further indicate that the participants associated the experience of brain drain with the prospect of higher salaries, more valuable foreign currency, a more sophisticated working environment, and more established career progression opportunities than what is available in Malaysia. According to Participant 5:

"[...] higher salary offers due to the stronger value of their currency compared to Malaysia." (Participant 5)

This view was supported by the in-depth interview participant, who stated:

"better career prospects, higher compensation, and a higher quality of life [...] I have a close friend who moved to Singapore specifically to work in the commercial side of the industry,

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

doing marketing and sales for biotechnology products, a sector that is highly lucrative there" (Participant A)

When taken together, these factors illustrate that Brain Drain is a rational response to global inequities regarding opportunity structures, rather than simply being a choice made on an individual basis.

Interpretation of the Severity of Brain Drain

Among participants, the findings indicate a majority of participants support the view that brain drain represents a growing and serious national problem. As explained by Participant 2:

"This issue is perceived as quite serious in the long term as many skilled workers are leaving Malaysia." (Participant 2)

This view was strongly supported by the participant of the individual interview, who stated: *"I believe brain drain is a highly critical and severe issue for Malaysia now [...]"* (Participant A)

Overall, participants perceived brain drain as a serious challenge to Malaysia's future development and talent retention in strategic sectors. Concurrently, participants also associated brain drain with broader concerns regarding national economic development and structural limitations within Malaysia. As explained by Participant 2,

"National productivity and innovation may slow down." (Participant 2)

It is also supported by an individual interview, which stated:

"[...] the fact that thousands of graduates are making the exact same choice simultaneously proves that the local ecosystem has a systemic failure" (Participant A)

Thus, brain drain is not viewed as simply a phenomenon but as a result of systematic inefficiencies and structural constraints of the domestic job market.

Viewpoints on Overseas Migration among Final-Year STEM Students

Participants generally viewed working abroad as a legitimate individual right and a rational career decision. Overseas employment was perceived as an opportunity to maximise career growth, personal development, and financial security, reflecting the increasing globalisation of career opportunities.

"[...] everyone has their own right to choose their career paths and lifestyles [...]" (Participant 2)

"You cannot blame someone for making a logical decision to improve their life [...]" (Participant A)

Despite concerns regarding talent loss, participants believed that Malaysians working abroad could continue contributing to national development through knowledge transfer, professional networks, investments, and international collaborations.

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

"They can facilitate knowledge transfer, mentor younger Malaysian graduates remotely..." (Participant A)

Supporting interview data further emphasises the understanding and awareness of brain drain among final-year STEM students.

Perceptions Of Local And Overseas Career Opportunities

To address the second research objective, research participants were asked to explain their perceptions of local and overseas career opportunities in Malaysia through salary prospects, research facilities and career development, and work environment and culture.

Preference for Higher Salary Prospects

The findings indicate that participants generally perceived that working overseas has more advantages in terms of salary than working locally. Participants consistently associated overseas careers with higher starting salaries, stronger foreign currencies, faster salary progression, and greater long-term financial returns.

As explained by Participant 5:
"Salaries overseas are definitely higher, especially after converting the currency." (Participant 5)

This perception was strongly supported by the individual interview participant, who highlighted the significant salary gap between local and overseas STEM careers. According to Participant A:

"There is a huge gap between local and overseas salaries for STEM graduates [...] the local pay is just not competitive." (Participant A)

Participant A further explained:

"The exchange rate is a massive factor. Even though living costs and rent are higher, you can still save much more money. Young graduates are willing to take the risk of moving because the financial return is much higher." (Participant A)

While three of the five participants favoured the potential salary benefits of overseas jobs, they also felt that salaries cannot be compared based on salary alone. They were all very clear that other factors, such as the cost of living and lifestyle, must also be considered when comparing salaries.

As explained by Participant 2:

"We cannot look at salary alone; we also need to compare the lifestyle." (Participant 2)
This balanced perspective was also reflected during the individual interview. Participant A commented:

"Fresh graduates need that immediate higher income just to afford basic things like housing, supporting their parents, or starting a family." (Participant A)

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

Taken together, the findings from focus group discussions and the individual interviews show salary competitiveness as a major factor that impacts final-year STEM students' decision on whether or not they want to work overseas after graduation. Although the research subjects understood that there are higher costs of living when you work overseas, they still believe that the financial opportunities and greater long-term earnings potential outweigh the increased costs of doing so.

Preference for Better Research Facilities and Career Development

The findings indicate that the majority of the participants perceived overseas countries as having more advanced research facilities compared to Malaysia. Participants consistently characterized overseas institutions as having well-equipped laboratories, advanced research equipment, and greater financial backing from both governmental and industrial sources. These elements were considered crucial for facilitating effective and high-impact research activities.

As explained by Participant 4:
"From the perspective of research facilities, I think those overseas are generally much better because they have stronger funding support." (Participant 4)

This perception was further supported by the individual interview participant, who stated:
"Overseas opportunities offer much more advanced research facilities." (Participant A)

Participant A further elaborated:
"We lack top-tier technology, specialised laboratory machinery, and high-performance computing tools." (Participant A)

Participants generally preferred international research settings, yet they recognized that Malaysia is slowly enhancing its research capabilities, although advancements are still hindered by insufficient funding and infrastructure issues.

The findings further show that four out of the five participants viewed foreign countries as offering clearer and more organized career development prospects in comparison to Malaysia. Participants regularly characterized international career systems as more open, meritocratic, and conducive to sustained professional development, especially in STEM and research-oriented areas.

As explained by Participant 3:
"Career development opportunities overseas are clearer and more attractive." (Participant 3)
This perception was further supported by the individual interview participant, who stated:
"Companies abroad usually have a very transparent roadmap for your career. You get promoted based on merit and clear targets." (Participant A)

Participant A further added:
"Locally, career paths can feel slow or vague." (Participant A)
These results imply that both research facilities and career development opportunities significantly impact final-year students' views on foreign employment. Malaysia currently has the capacity for basic research and a solid employment structure; however, students felt that foreign environments provide more advanced research ecosystems and clearer pathways to career growth, which has a large influence on their career intentions after graduation.
Preference for Better Work Culture

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

The findings show that overtime is widely perceived as a normalised practice within Malaysian workplaces, especially for fresh graduates in the workforce. Three of five participants described overtime as an expected theme element of work culture, where refusal to accept additional tasks may be viewed negatively. Participant 2 stated:

"In some workplaces in Malaysia, overtime is still considered a normal part of the work culture [...] fresh graduates often find it difficult to refuse additional work because they fear being perceived as spoiled or unwilling to work hard." (Participant 2)

This reflects a workplace environment where young employees may feel pressured to prove themselves through overtime expectations as hardworking and committed. Similarly, Participant 4 expressed strong dissatisfaction with excessive unpaid overtime, stating:

"I strongly dislike it when companies require excessive overtime, especially when it is unpaid. Personally, I would not want to work in such an environment." (Participant 4)

This view was further supported by the in-depth interview participant. According to Participant A, Malaysian workplaces usually see working overtime as a normal culture. This is proved from her response:

"Working overtime is unfortunately seen as normal and expected in Malaysia." (Participant A)
The findings further demonstrate that students place strong emphasis on employee wellbeing and flexibility when evaluating career opportunities. Participants expressed a preference for work environments that prioritise mental health, personal time, and flexible scheduling. As explained by Participant 1:

"Countries such as Australia, Europe, and New Zealand are very respectful of employees' time. As a result, they offer more flexible working hours. In addition, they place strong emphasis on employees' mental health and wellbeing." (Participant 1)

This view was further supported by the individual interview, where the participant stated:
"Many overseas companies offer real mental health days [...]" (Participant A)

Hence, the findings from focus group discussions and in-depth interviews for preferences on working environment and culture indicate that normalisation of overtime among Malaysian workplaces may influence the perception of final-year STEM students towards local and overseas career opportunities. Plus, the flexibility of working arrangements is also viewed as a sub-theme of this objective's findings.

Brain Drain Awareness and Career Decision
For the last research objective, the research participants were asked to explain how brain drain awareness influences their career decisions through emotional, personal, academic, and social factors.

Emotional and Personal Influences
The findings show that emotional and personal career decisions among STEM students are potentially shaped by career development motivation. The majority of participants expressed openness toward working abroad if they were given the opportunity, particularly when such

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

experiences are perceived to enhance their competencies and future employability. As explained by Participant 1:

"[...] if given the opportunity to work abroad, [...] I would accept it with the hope of gaining experience and skill [...]" (Participant 1)

This indicates that international work exposure is associated with personal and professional growth. This view was strongly supported by the in-depth interview, where the participant highlighted that overseas employment is associated with faster financial growth and stronger long-term career progression. The participant stated that:

"...seeing so many talented people leave makes us anxious that staying behind might limit our own futures. [...] many Malaysian families encourage their kids to go abroad to secure better financial success. " (Participant A)

On the other hand, participants demonstrated diverse emotional responses beyond career development motivation. Some expressed concerns about professional competitiveness and whether local opportunities could support their long-term career growth. Others highlighted feelings of guilt towards their families and Malaysia when considering overseas employment, and some were concerned about cultural adaptation and language barriers abroad. These perspectives were supported by the in-depth interview, which emphasised the influence of family responsibilities, patriotic sentiments, and challenges associated with living overseas. As stated by Participant A:

"Knowing about the brain drain makes young people feel conflicted, [...]" (Participant A)

Overall, the findings demonstrate that emotional and personal influences on career decision-making are primarily driven by career development motivation, while professional competitiveness, social and family influence, national commitment, and overseas adaptation challenges serve as secondary considerations. These findings align with existing literature, which suggests that career intentions among Malaysian students are influenced by both career advancement opportunities abroad and emotional attachments to family and country (Hamid et al., 2022).

Academic and Professional Triggers

The findings prove that academic and professional experiences played a significant role in establishing participants' awareness of brain drain and determining their future career decisions. Apparently, participants were able to evaluate job opportunities in Malaysia and overseas after being exposed to lecturers with international experience, industrial training and workplace environments. This encouraged them to plan for their long-term career goals and professional development.

One participant said that listening to a lecturer's international working experience inspired them to consider pursuing a profession in another country.

"My lecturer shared his experience of working in Japan, and since then, it has inspired me to consider working overseas." (Participant 5)

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

This finding was then further supported by Participant A during the interview session mentioning that:

"Our awareness of brain drain grows significantly during internships and industrial training because these experiences expose us to the realities of the local industry and the gap between Malaysia and other countries." (Participant A)

Both participants proposed that academic exposure and industrial training experience further develop students' understanding of international career opportunities and students to consider the job opportunities offered other than Malaysia. However, another participant expressed a different viewpoint, which was:

"My industrial exposure has not changed my decision. I am still interested in building my career in Malaysia" (Participant 4)

This opposing viewpoint shows that although professional and academic experiences increase student awareness of potential opportunities abroad, they do not always encourage migration since students' decisions are still influenced by personal opinions and career goals. These findings align with recent research indicating that STEM students' career goals and migration intentions are greatly shaped by international academic exposure and workplace experience, which increases their awareness of global career opportunities (Anuar, 2023; Chong&Quek,2022; Ramadan et al., 2024).

Social Networks and Decision Process

The findings suggest that social networks contributed to participants' awareness of brain drain through sharing first-hand information and experiences related to working abroad. Family members, friends, lecturers and seniors were usually regarded as top sources of getting job information, allowing participants to gain better insight into the opportunities and challenges connected with working abroad before deciding their own future careers.

One participant described how their view of overseas job opportunities had been impacted by observing friends' study abroad.

"I have friends who are studying overseas and they told me that they plan to work in the country where they are studying after graduation." (Participant 5)

A similar perspective was expressed by Participant A during the in-depth interview:

"Friends and seniors have a massive influence on career decisions, as social media and their personal experiences make overseas careers appear both achievable and highly attractive." (Participant A)

According to both participants, social networks boosted students' awareness of international career opportunities through shared experiences and professional connections. Yet not all participants had the same level of exposure. One participant clarified:

"I do not have any relatives or friends who are working overseas" (Participant 4)

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

This finding implies that the impact of social networks differs, depending on an individual's social exposure and their specific conditions. While some students get valuable information from friends, family and seniors who work overseas, others are less dependent on social influence when determining their career goals. These findings are consistent with previous research which reveals that friends, family and professional networks influence students' views about working abroad by offering information, encouragement and personal migration experiences (Farndale et al.,2021; Ramdan et al., 2024; Othman et al., 2025).

Discussion

Understanding And Awareness Of Brain Drain Among Final- Year Stem Students

Brain drain was portrayed by final-year STEM students as individuals with advanced high skills, talent, and education who have migrated overseas to other countries for better employment opportunities. Respondents frequently linked brain drain to STEM, ranging from engineering and information technology to biotechnology, a result of their sensitivity to the global market for specialised talent. This finding is in line with reports based on the perceptions of previous studies delineating outmigration as propelled by differences existing among labour markets and opportunities for advancement (Belgium & Docquier, 2014; Portes & Celaya, 2013).

The participants also perceived brain drain as a result of structural disparities between labour markets that have been found locally and globally. Abroad, higher legal wages, stronger foreign currencies, better career opportunities and better working conditions were important pull factors, while limited local opportunities challenged the push factors. We find these results consistent with the push-pull framework of migration and also previous works on skilled migrants (Beine et al., 2014; Ramdan et al., 2024).

Simultaneously, participants identified brain drain as a serious national risk that threatens Malaysia's talent retention, innovation potential, and economic development. And yet they interpreted working abroad also as a rightful individual prerogative and indeed as an economically rational choice to make. Respondents also recognised that it would still be valuable for Malaysian nationals overseas to share their knowledge, professional networks and possible return migration, in line with the idea of brain circulation (Yeoh et al., 2023; Othman et al., 2025).

Perceptions of Local and Overseas Career Opportunities

The findings indicate that the salary competitiveness of jobs continues to significantly influence how final-year STEM students perceive job opportunities. Overall, the respondents felt that a job overseas would provide them with better pay, a stronger currency, and more long-term financial security than a job in their home country. While they also agreed that cost of living and lifestyle differences are important considerations when evaluating job opportunities, the results support previous studies that found salary discrepancies and financial compensation were two significant factors influencing young Malaysian STEM professionals to migrate abroad (Othman et al. 2025; Ramdan et al. 2024).

Beyond pay, participants pointed to real differences in the professional environments available locally versus abroad. Better research facilities, merit-based promotion, flexible work arrangements, and a healthier work-life balance were seen as clear advantages overseas, in contrast to limited resources, slow career progression, and overtime culture at home. These

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

findings also mirror previous studies indicating that STEM graduates now rank career development and workplace well-being equally with salary when evaluating job opportunities (MOSTI, 2023; Yusoff et al., 2021; Hussin & Peredaryenko, 2022).

This research contributes to the body of literature by showing how graduating STEM students take a comprehensive view of job opportunities before entering their professional careers. Rather than simply comparing local and international job opportunities on one basis, participants in the study looked at salary potential, research opportunity, career advancement, and work environment simultaneously in forming their career perceptions of jobs. The awareness of brain drain in developing countries results in STEM students using a critical approach to evaluate many areas related to the job they are applying for, thus providing qualitative data on additional factors contributing to the formation of a career perception among future STEM professionals.

The Influence of Brain Drain Awareness on Students' Career Decisions

The findings suggest that STEM students' career decisions are determined by a combination of emotional, personal, academic, professional and social factors rather than financial concerns alone. Although participants were aware of the favourable salary and job opportunities offered abroad, they also considered the obligations to their families, personal goals and their intention to make contributions to Malaysia. This finding strengthens previous research that reveals migration intentions are influenced by career growth, quality of life, family influence and personal values rather than just economic factors (Othman et al.,2025; Ramadan et al.,2024; Salehi&Alanbari,2023).

Additionally, participants' awareness of brain drain and their future career goals were greatly impacted by their academic and professional experiences. Participants were able to compare career opportunities in Malaysia with those abroad through exposure to lecturers with international experience, student exchange programs and industrial training, which help them to analyze their career goals more critically. These findings are aligned with studies claiming that university experiences help students establish their identities as professionals, whereas international academic exposure widens students' views on global career opportunities (Anuar,2023; Chong&Quek,2022).

Furthermore, social networks also helped participants learn about job opportunities abroad. However, participants constantly stressed that choosing to work overseas should remain as a personal decision based on individual needs and long-term professional goals. These findings are consistent with previous research that social networks boost awareness of overseas careers without actually affecting migration decisions (Farndale et al., 2021; Othman et al.,2025; Ramdan et al., 2024). Overall, the results point out that retaining talented STEM graduates in Malaysia needs more than just financial advantages by improving career development opportunities, adequate research facilities, university-industry collaborations and positive work environments.

Conclusion

This research is about how awareness of brain drain affects the decisions made by students about taking their future jobs after they have finished their studies at university level, in particular with regard to final year Science, Technology, Engineering and Mathematics (STEM) students studying at a university in Malaysia. The results of this research show that the respondents have a clear understanding of what the term 'brain drain' means; respondents

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

described it as being when highly skilled people leave for other countries in order to obtain better jobs, higher salaries and better conditions to conduct research, and better working conditions than what they would have if they remained in Malaysia. Respondents believe that brain drain is a national issue and has a significant impact on Malaysia's ability to retain top talent, be innovative, and its overall socio-economic development.

Other findings provide evidence that the decisions made by the respondents regarding their future careers in Malaysia or overseas are made by a combination of many economic, professional, academic, social, and personal factors and that while respondents perceive that there are more opportunities for salary increases for researchers, better research environments, and ability to progress within their profession and career pathway in the countries where they would like to work, they also recognise the importance of family ties and attachment to their country and that they want to make a contribution to Malaysia's future are important factors they must take into account. The results of this study support the Push-Pull Theory which suggests that factors that 'push' people from their country to 'pull' them to another country are not only economic factors, but also other factors such as family attachments, desire to help Malaysia develop and contribute to its future (Abd Hamid et al., 2022; Othman et al., 2025).
The study extends the current body of research on how awareness of the brain drain may influence perceptions of one's career prior to entering the workforce. The authors conclude that in order to create a competitive workforce and maintain a sustainable STEM workforce to support Malaysia's innovation agenda and long term economic prosperity (TalentCorp Malaysia, 2021; Yunus et. al., 2024). Malaysia must employ comprehensive strategies to retain talent other than simply increasing salaries. Strategies to improve talent retention must also include enhancing the research infrastructure and providing clear career progression, accomplishing merit based employment and creating supportive work environments.

While this work offers important insights into the manner in which awareness of the brain drain impacts the decision to pursue a career, the nature of its findings limit their applicability due to the relatively small qualitative sample size of only final year students enrolled in programs designated as STEM. Future research should use larger and more representative samples that include samples from different universities and fields of study and apply mixed-method approaches or longitudinal designs to confirm and broaden our understanding of the graduate career intention and the importance of talent retention in Malaysia.

Copyright © Academic Inspired Network
- All rights reserved

This work is licensed under
CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

References

Abd Hamid, N. H., Ali, H., & Han, C. J. (2022). Determinants affecting brain drain among generation Y in Malaysia. International Journal of Academic Research in Business and Social Sciences, 12(4), 195-205.

Ang, C. G. (2012). Determinants of brain drain and the impact of the New Economic Model – The case of Malaysia. Universiti Sains Malaysia. http://eprints.usm.my/26508/1/DETERMINANTS_OF_BRAIN_DRAIN_AND_THE_IMPACT_OF_NEW_ECONOMIC_MODEL_–_THE_CASE_OF_MALAYSIA.pdf

Anuar, A. M. (2023). *Instances of dis/juncture: STEM education and young people's aspirations for development in the Malaysian luar bandar*. Compare: A Journal of Comparative and International Education.

Bagdadli, S., Gianecchini, M., Andresen, M., Cotton, R., Kaše, R., Lazarova, M., ... & Reichel, A. (2021). Human capital development practices and career success: The moderating role of country development and income inequality. Journal of Organizational Behavior, 42(4), 429-447.

Belgium, I., & Docquier, F. (2014). The brain drain from developing countries. IZA World of Labor.
https://doi.org/10.15185/izawol.31

Chong, Y. S., & Quek, A. H. (2022). *Navigating the contemporary rites of passage: A typology of STEM professional identity transition*. Research in Social Sciences and Technology, 7(3).

CIPD | Malaysia 'must address issue of brain drain.' (2023, February 10). CIPD. https://www.cipd.org/en/about/news/malaysia-brain-drain/

Etzo, I., Paci, R., & Usala, C. (2025). Brain gain versus brain drain: the effects of universities' mobile students on territorial inequalities. Regional Studies, 59(1).

Farndale, E., Thite, M., Budhwar, P., & Kwon, B. (2021). Deglobalization and talent sourcing: Cross-national evidence from high-tech firms. Human Resource Management, 60(2), 259-272

Gowda, A., Alhazza, H. N., Cahill, E. D., Ong, J. B. S. Q., & Flaherty, G. T. (2022). Stemming the brain drain of medical graduates from developing countries: Controversies and solutions. International Journal of Travel Medicine and Global Health, 10(3), 104–107.

Gözüm, S., Yurcu, G., Ilgaz, A., & Aybar, D. H. (2024). A serial mediation model of the brain drain perceptions among health and tourism students. Florence Nightingale Journal of Nursing, 32(2), 150–158.

Hamid, N. H. A., Abdullah, M. B., Nor, N. S. N. M., & Salleh, N. F. (2025). Mitigating Brain Drain among Malaysian Millennials: A Practical Framework for Policymakers and Employers. International Journal of Research and Innovation in Social Science, IX(VIII), 3764–3769.

Hamizah, S., Aspin, Ali, M., Abd, M., & Bunyamin, H. (2022). STEM Education in Malaysia: A Review. http://www.recsam.edu.my/sub_LSMJournal/images/docs/2022/2022_9_ASPIN_125139.pdf

Hussin (2025, March 3). Malaysian brain drain: Voices echoing through research. EMIR Research. https://www.emirresearch.com/malaysian-brain-drain-voices-echoing-through-research/

Hussim, H., Rosli, R., Mohd Nor, N. A. Z., Maat, S. M., Mahmud, M. S., Iksan, Z., Rambely, A. S., Mahmud, S. N., Halim, L., Osman, K., & Lay, A. N. (2024). A Systematic Literature Review of Informal STEM Learning. European Journal of STEM Education, 9(1), 07.

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

Idris, R., Govindasamy, P., & Nachiappan, S. (2023). Challenge and obstacles of STEM education in Malaysia. International Journal of Academic Research in Business and Social Sciences, 13(4), 820-828.

Ismail, N., & Yusof, U. K. (2023). A systematic literature review: Recent techniques of predicting STEM stream students. Computers and Education Artificial Intelligence, 5, 100141.

Jamaludin, N. A., & Fernandez, D. (2025). Navigating career selection: Unveiling Generation Z's pathways. International Journal of Academic Research in Business and Social Sciences, 15(7).

Lenhart, C., Bouwma-Gearhart, J., Keszler, D. A., Giordan, J., Carter, R., & Dolgos, M. (2022). STEM graduate students' development at the intersection of research, leadership, and innovation. Journal of College Science Teaching, 52(2), 46-53.

Li, K., Houghton, J. D., Chen, S., Li, X., Li, D., & Zou, W. (2025). The impact of proactive personality on career decision-making self-efficacy: The role of AI acceptance and innovation skills. Behavioral Sciences, 15(4), 538.

MalayMail. (2025, April 29). Malaysia facing severe brain drain with 186 million already gone, says Digital Minister. https://www.malaymail.com/news/malaysia/2025/04/29/malaysia-facing-severe-brain-drain-with-186-million-already-gone-says-digital-minister/174935

McDonald, K. S., & Hite, L. M. (2023). Career development: A human resource development perspective. Routledge.

Mohamed, M., & Abdul-Talib, A. (2020). Push–pull factors influencing international return migration intentions: a systematic literature review. Journal of Enterprising Communities People and Places in the Global Economy, 14(2), 231–246.

Oliinyk, O., Bilan, Y., Mishchuk, H., Akimov, O., & Vasa, L. (2021). The impact of migration of highly skilled workers on the country's competitiveness and economic growth. Montenegrin Journal of Economics.

Othman, J., Meng, C. K. X., & Nejad, M. Y. (2025). Beyond the numbers: Exploring the financial and socio-cultural roots of Malaysia's brain drain. International Journal of Academic Research in Business and Social Sciences, 15(4), 1430–1451.

Othman, N., Hamid, A. B., & Teoh, K. (2025). Domestic vs. international career perceptions: A comparative study of Malaysian STEM final-year students. Asia Pacific Journal of Management.

Oxford Learner's Dictionaries. (2023). Brain drain. https://www.oxfordlearnersdictionaries.com

Phillips, K.M., Tichavakunda, A.A. and Sedaghat, A.R. (2024), Qualitative Research Methodology and Applications: A Primer for the Otolaryngologist. The Laryngoscope, 134: 27-31.

Portes, A., & Celaya, A. (2013). Modernization for Emigration: Determinants and Consequences of the Brain Drain. Daedalus, 142(3), 170–184.

Ramasamy, M., Zakaria, S. K. B., Singh, R. K. a. G., & Rashid, S. I. A. (2025). Exploring Global Partnerships to Reduce Malaysia's Brain Drain Through Knowledge Transfer, Diaspora Ties, and Ethics (Aligned with SDG 17: Partnership for the Goals). International Journal of Research and Innovation in Social Science, 9(10), 10–21.

Ramdan, F. A., Yeow, J. A., Nasreen, F., & Yeo, S. F. (2024). *Brain Drain: The Determination of Students' Intention to Leave Malaysia.*

Docquier, F., & Rapoport, H. (2012). Globalization, brain drain, and development. *Journal of Economic Literature*, *50*(3), 681–730.

Salehi, M., & Sadeq Alanbari, S. A. (2024). Knowledge sharing barriers and knowledge sharing facilitators in innovation. European Journal of Innovation Management, 27(8), 2701-2721.

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0

Volume: 11 Issues: 88 Special Issue [November, 2026] pp. 1 - 20
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118801

Sarikhani, Y., Ghahramani, S., Bayati, M., Lotfi, F., & Bastani, P. (2021). A thematic network for factors affecting the choice of specialty education by medical students: a scoping study in low-and middle-income countries. BMC medical education, 21(1), 99.

Sinar Daily. (2023, November 16). Brain drain persists as half of 37,380 graduates seek better career prospects abroad. https://www.sinardaily.my/article/212783/focus/national/brain-drain-persists-as-half-of-37380-graduates-seek-better-career-prospects-abroad

Shariff, N., Krishnaswamy, J., Abdullah, D., & Chau, A. W. (2018). The influence of New Economic Model on intention to work abroad: An empirical study to address brain drain issue in Malaysia. Journal of Sustainability Science and Management, Special Issue No. 4, 99–115.

Siti Asdiah Masran (2022) THE BUMIPUTERA POLICY AND MALAYSIAN BRAIN DRAIN: POLITICS AND BELONGING AS KEY PUSH FACTORS. (n.d.). https://ejournal.um.edu.my/index.php/mjir/article/view/57059/19365

TalentCorp. (2025). Malaysian labor market trends and workplace environments report. TalentCorp.

Teng, Z. S., Ser, G. T. Z., Hong, W. H., Teo, C. H., Abdul Aziz, Y. F., Vadivelu, J., & Malaysia MedEd Collaborative Devan Jeshua Nathaniel Ong Nicolas Law Shen Hong Periasamy Shiroshini Chean Sweet Chiao Sivagobi Subhashini Chia Yuan Heng Tan Jack Kang Teoh Yu Xuan Tsai Eldon Oon Jun Jie Yeap Felice Xiao Yuan. (2024). Malaysian medical students' career intention (MMSCI): a cross-sectional study. Human Resources for Health, 22(1), 59.

The Edge Malaysia. (2023, August 30). Economists urge structural reform to stem worsening brain drain. https://theedgemalaysia.com/node/679598

Xiao, H. a. G., & Ismail, F. (2025, February 15). The causes and consequences of brain drain in Malaysia: Analyzing the economic and social impacts. https://academicinspired.com/jised/article/view/2799

Yeoh, J. R., Rasdi, H. F. M., Harun, D., & Rasid, S. M. (2023). Understanding work-related intentions using the theory of planned behaviour: A systematic review. Jurnal Sains Kesihatan Malaysia, 21(2), 167–176.

Yu, X., Luo, N., Liu, X., Li, H., Li, L., & Mei, Y. (2021). Effect of proactive personality on career decidedness: The mediating role of career exploration and the moderating role of anticipated regret. Frontiers in Psychology, 12, 763224.

Yunus, M. Z. M., Mohamad, M., Bahari, A., & Ngadimin, N. F. (2024). Way forward: Future skills framework, strategies, and action plan for Malaysian talent development. Journal of Vocational Education and Training, 27(1), 45-62

Copyright © Academic Inspired Network - All rights reserved

This work is licensed under CC BY 4.0