

# Malaysia as a Center of Brain Circulation: Trajectory of Former International Students in the Information Technology and Academic Sectors\*

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International students are considered attractive talents in developed countries, but few remain in Malaysia after graduation. This is the result of unfavorable policies against skilled international talents in Malaysia, in which case the study abroad process is frequently described as a steppingstone to other countries. Nevertheless, international students have employment opportunities in the Malaysian academic and information technology (IT) sectors. This study qualitatively investigated “brain circulation” via the emerging study destination of Malaysia, thus revealing the following: 1. Malaysia is selected as a business start-up location by international students graduated from developed countries, implying an accumulation of ethnic enterprises that create opportunities for graduates of Malaysian universities; 2. The situation of academic researchers who graduated from Malaysia higher education institutions is somewhat uncertain due to their short and unstable contract periods and research environment; and 3. The second-generation immigrant students have difficulty entering the workforce in Malaysia, their home countries, or in third countries, even after receiving certificates from world-renowned offshore universities. These findings imply that Malaysia works as a center of brain circulation through several national advantages. This research far exceeds the scope of existing discussion in which Malaysia is merely regarded as a steppingstone. Despite its preliminary character, this research should contribute to a better understanding of the mobility experienced by international students in emerging Asian countries.

*Keywords:* international student, higher education, brain circulation, migration, Malaysia

## Introduction

### Acceptance of International Students Globally and in Malaysia

Although populational mobility is expected to decline due to the COVID-19 pandemic of 2020, the overall number of international students has been increasing worldwide, with the majority choosing to study in developed countries. In 2010, the most popular destination was the United States, followed by the United Kingdom, Australia, France, and Germany. In fact, these five countries accept more than half of all international students in the world (UNESCO Institute for Statistics, 2012). However, diversification has also increased over time, with the share of international students among the top five countries dropping from 62.6% in 2004 to 50.6% in 2010 (UNESCO Institute for Statistics, 2006; UNESCO Institute for Statistics, 2012).

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Indeed, the number of international students enrolled in countries outside the Organisation for Economic Co-operation and Development (OECD) has risen faster than the number enrolled in OECD countries (OECD, 2020). Emerging Asian countries, such as China, Korea, Malaysia, and Singapore have particularly increased the number of incoming international students, with new mobility trends showing that many Asian students choose to study internationally in other Asian countries (Wilkins, Balakrishnan, & Huisman, 2011). The same can also be seen in Arabic countries, where students previously tended to choose Western European destinations, but are now shifting their selections toward other Arabic countries, Australia, and Malaysia (UNESCO Institute for Statistics, 2009). While many students from East Asia and countries within the Association of Southeast Asian Nations (ASEAN) continue to choose Western study destinations, research has also highlighted active mobility in both the intra-East Asian (e.g., China and Japan, Korea and China, and Korea and Japan) and intra-ASEAN (e.g., Indonesia and Malaysia) contexts (Sugimura, 2008).

This study focused on Malaysia, which accepted the 14th-most international students worldwide in 2010<sup>1</sup> (UNESCO Institute for Statistics, 2012) (see Table 1). The number has continued to increase with Malaysia accepting more than 130,000 international students in 2019, thus, accounting for 8.5% of all students enrolled in higher education institutions nationwide (Ministry of Higher Education Malaysia, 2019). This proportion is higher than the OECD average of 6.0% (OECD, 2020). Table 2 shows the Asian countries in which Malaysia has been chosen among the top five outbound study destinations. As seen, it is selected at similar rates to traditional Anglophone destinations, including the United Kingdom, United States, and Australia.

Table 1

*Number of Incoming International Students Per-Country*

Rank	Host country	Number
1	USA	684,714
2	UK	389,958
3	Australia	271,231
4	France	259,935
5	Germany	200,862
6	Japan	141,599
7	Russia	129,690
8	Canada	95,590
9	China	71,673
10	Italy	69,905
11	Austria	68,619
12	South Africa	60,856
13	Korea	59,194
14	Malaysia	57,824
15	Spain	56,018

Source: UNESCO Institute of Statistics (2012).

<sup>1</sup>The “Global Education Digest” series published by the UNESCO Institute of Statistics (UIS) provides comprehensive data on student mobility, including the numbers of inbound/outbound students and their origin/destination countries. However, the published data were most recently updated in 2012. While we can instead explore the data showing where students originate and where they arrive through the UIS webpage titled “Global Flow of Tertiary-Level Students”, we cannot determine when these data were updated, nor can we compare numbers at the international level. The OECD also issues “Education at a Glance”, which contains detailed student mobility data, but this only concerns OECD countries as study abroad destinations.

Table 2

*Destination Countries According to the Country of Origin*

Origin	Destination				
	Number of outbound students (percentage of total outbound students)				
Total outbound number	1st	2nd	3rd	4th	5th
Bangladesh	UK	Australia	USA	Cyprus	Malaysia
22,055	4,058 (18.4%)	3,046 (13.8%)	2,818 (12.8%)	2,256 (10.2%)	1,722 (7.8%)
Brunei	UK	Australia	Malaysia	NZ	USA
3,305	2,046 (61.9%)	675 (20.4%)	310 (9.4%)	74 (2.2%)	65 (2.0%)
Indonesia	Australia	Malaysia	USA	Japan	Germany
33,905	9,702 (28.6%)	8,955 (26.4%)	6,809 (20.1%)	2,176 (6.4%)	1,359 (4.0%)
Iran	Malaysia	USA	UK	Sweden	Canada
46,591	7,397 (15.9%)	5,519 (11.8%)	3,463 (7.4%)	3,068 (6.6%)	2,958 (6.3%)
Maldives	Malaysia	India	Australia	UK	Saudi Arabia
1,868	1,197 (64.1%)	315 (16.9%)	201 (10.8%)	131 (7.0%)	97 (5.2%)
Singapore	Australia	UK	USA	Malaysia	Canada
21,072	9,767(46.4%)	4,370 (20.7%)	4,234 (20.1%)	840 (4.0%)	384 (1.8%)
Sri Lanka	UK	Australia	USA	Malaysia	India
16,534	4,033 (24.4%)	3,766 (22.8%)	2,908 (17.6%)	1,076 (6.5%)	878 (5.3%)
Thailand	USA	UK	Australia	Japan	Malaysia
25,195	8,079 (32.1%)	5,760 (22.9%)	3,694 (14.7%)	2,476 (9.8%)	1,316 (5.2%)

Source: UNESCO Institute of Statistics (2014).

The private higher education sector in Malaysia experienced rapid growth following the implementation of the Private Higher Educational Institutions Act in 1996, which allowed English to be used as an instructional language. Malaysian colleges have a long history of transnational linkage with Western universities, because they were previously not allowed to offer their own degrees. Since 1996, many colleges have been promoted to university or university-college status, which enables them to offer their own degrees while maintaining linkages with foreign universities in the form of transnational educational programs, such as the twinning programs, joint degrees, double degrees, and branch campuses<sup>2</sup>. These types of programs provide opportunities for students to obtain degrees from Western universities by only studying abroad for one to two years, and in some cases even without leaving the country. Under these circumstances, the enrolment rate for higher education in Malaysia reached 43.1% in 2019 (UNESCO Institute of Statistics, 2019), which shows that the country has already shifted from the elite to mass stage of higher education, as defined by Trow (2000). While expanding the number of local enrolled students, the higher education sector has also attracted students from overseas. In fact, the Malaysian higher education sector has become popular around the globe due to the availability of English-language instruction, reasonable tuition fees and living costs, and cultural proximity to the countries of origin for many students (Sing, Schapper, & Jack, 2014; Yoshino, 2014).

### **International Students and the Transition from Education to Work**

International students are regarded as attractive human resources in developed countries. This is because they are often young and expected to possess several desirable attributes, including advanced abilities in the

<sup>2</sup>There were 10 foreign university branch campuses in Malaysia as of 2018. Students can obtain the same qualifications offered at their home universities at these locations but pay lower tuition fees in Malaysia.

host country's language, substantial professional training or experience, significant levels of acculturation, and well-known credentials (Hawthorne, 2008). Especially in developed countries, international students are welcomed as candidates for highly skilled human resources, who can thus contribute to economic development in aging societies with fewer children. The social integration costs are also considered low.

By contrast, few international students remain in Malaysia after graduation. This is largely due to the national policies that are unfavorable for highly skilled international talents (Fong, 2010), who, therefore, even have difficulty obtaining part-time jobs and internship placements (Kaneko, 2018). Likewise, graduates of Malaysian universities are not accorded any preferential treatment over other graduates (Ziguras & Law, 2006). Under these conditions, Malaysia is often considered a steppingstone to other countries.

Yoshino (2014) claimed that international students primarily chose to study in Malaysia to obtain Western degrees. This is especially the case for Chinese students, for whom Tan (2002) argued that the ultimate goal of studying at Malaysian private colleges was to obtain Western citizenships, despite lower-level English skills. Indeed, Malaysian private colleges are popular among students from China and the Middle East, as they offer preparatory courses for students who wish to enroll in regular courses at institutions in other countries (Sirat, Bakar, & Lie, 2013). Sugimura (2011) also argued that the "transit type" was common among African students, who often obtain degrees at Malaysian private colleges to enter upper-degree courses at institutions in the United States, Canada, or the United Kingdom.

However, international students in Malaysia do not always leave for other countries after graduation, as there are still employment opportunities in the academic and information technology (IT) sectors. In fact, the Ministry of Education encourages institutions of higher education to recruit and retain the best international scholars. The government even facilitates this process by offering professional work permits to graduating international students (Ministry of Education Malaysia, 2015). There are also many jobs in the IT sector, which is given special treatment due to the national policy of attracting skilled talent. Companies with Multimedia Super Corridor (MSC)<sup>3</sup> status enjoy additional incentives and benefits provided by the Malaysian Government, including the unlimited ability to employ expatriates and an expedited visa application procedure (Prime Minister's Department, 2007).

Based on these factors, this study conducted interviews to investigate the employment prospects for international students in the Malaysian academic and IT sectors, with a particular focus on brain circulation based on the mobility of international students who have graduated from Malaysian universities.

### **Brain Circulation and Study Abroad**

Brain circulation has been posited as a structure for reframing highly skilled human resources who leave their home countries. There is a lack of evidence about the associations between brain circulation and the study abroad experience, with most studies having focused on the Western context. For instance, Saxenian (2005) investigated immigrants who studied at universities in the United States prior to establishing businesses in Silicon Valley. These graduates went on to collaborate with companies in their home countries, thus contributing to areas of development through the skills and experiences they obtained abroad. Research has also shown that many Taiwanese entrepreneurs obtain postgraduate education in the United States, where they remain to work in engineering, management, and business. Some have found ways to capitalize on the ability to

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<sup>3</sup> The country's initiative for the global information and communication technology industry was conceptualized in 1996.

move between the United States and Taiwan, thereby further increasing their business opportunities (Faist, Fauser, & Reisenauer, 2013).

In the case of highly skilled human resources, available networks and opportunities are often considered more important factors than the economic or technical gaps between their countries of origin and study destinations (Khoo, 2013). In this regard, it is important to examine the association between study abroad experiences and eventual destinations to understand brain circulation. Further, most previous arguments about brain circulation have been limited to the flow of people moving from developing to developed countries. Knight (2014) highlighted that there is a net “brain drain” for smaller developing countries, but a net “brain gain” for more economically advanced countries. However, the flow of highly skilled human resources predominantly occurred in between developing countries (Tan, Santhapparaj, & Ho, 2007). As such, this study investigated the mobility of former international students who chose to remain in the emerging study abroad destination of Malaysia for the purpose of better understanding the new trends in brain circulation.

Due to the COVID-19 pandemic, it was not possible to conduct an extensive face-to-face study. Therefore, this research is framed as a pilot study that was conducted online to identify the method and elements that need to be explored by larger studies in the near future. The author also tried to identify the implications for other Asian countries, such as those of ASEAN+3, which are often described in international student mobility literature as the steppingstone to other countries, especially the United States (Ng, 2012; Ortega, 2018; Ziguras & Gribble, 2015).

### **Methodology**

There are currently no statistical data on skilled foreign talents in Malaysia (Azman, Sirat, & Pang, 2016). As such, we can only grasp the numbers or countries of origin for these foreign talents based on information from very limited sources, including international organizations and local newspapers (International Labour Organization [ILO] 2008; Chin, 2016; Fong, 2010). Likewise, the Ministry of Higher Education requests that Malaysian higher education institutions annually trace the career choices of university graduates six months post-graduation. Some universities even publish very precise results from tracer surveys<sup>4</sup>. However, none of these surveys have differentiated international students from local students, meaning that we have no statistical information concerning the specific careers that international students are choosing. Under these conditions, qualitative individual interviews and/or surveys are the most suitable methods for exploring the trajectory of international students in the academic and IT sectors.

It was challenging to reach former international students who had graduated from Malaysian universities and remained in the country to work. Unlike current students, who could be found on university campuses, this was largely due to their varied locations. Therefore, the author contacted the participants of her previous study—which was conducted between 2015 and 2017—who were former international students in Malaysia. Among them, the author selected those who had obtained jobs in Malaysia and asked them to introduce her to their friends who had transitioned from education to employment. Through this snowball sampling method, the author was able to conduct interviews in English with six former international students who had originally come from Bangladesh or Iran, obtained degrees at Malaysian universities, and was working either as

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<sup>4</sup> For example, the International Islamic University Malaysia (2015) includes detailed information on the continued education and job placements of their graduates, but the data unfortunately do not show the countries of origin for international students, nor do they indicate the countries where they have obtained employment.

researchers at universities or in IT-related companies<sup>5</sup> (see Table 3). Of these six participants, the author had previously interviewed No. 1, 5, and 6 concerning the outcomes of their study abroad experiences and career perspectives while still students or in their early careers.

Table 3

*Survey Participants*

No.	Gender	University in Malaysia	Major	Nationality	Degree	Job
1	M	Public research university	Engineering	Iran	Ph.D.	Post-doc at a private university
2	M	Private university	Management	Bangladesh	Bachelor	Technical recruiter at a private company
3	M	Private college	IT	Bangladesh	Diploma	Apps developer at a private company
4	M	Private university	IT	Bangladesh	Bachelor	Programmer at a private company
5	F	Branch campus	Engineering	Bangladesh	Bachelor	Intern at a private company
6	M	Public research university	Engineering	Iran	Ph.D.	Post-doc at a private university and entrepreneur

As this study's interviews were conducted in March 2020, an online format was adopted due to the COVID-19 pandemic. Notably, the Japan Comparative Education Society held a session titled "How to conduct research in 'With Corona' era" on 15th September, 2020, thus, confirming that the online interview method was specifically effective for students in higher education settings and beyond.

Before the interview, the author distributed the questionnaire which asked profile, study destination choice, study experience in Malaysia, and current job. The participants were asked to complete and submit the form before the interview. Besides collecting fundamental information and preparing for the interview, the questionnaire was useful as it introduced the topics of interest of the interviewer to the participants in advance (Murphy-Lejeune, 2002).

All interview transcripts were analyzed according to the Steps for Coding and Theorization (SCAT) method (Otani, 2011; Saito et al., 2014), which consists of a four-step coding process in which the researcher edits segmented texts and completes the four following information columns: (a) focused words from within the text; (b) words outside the text that are replaceable with words recording in Step 1; (c) words explaining the words in Steps 1 and 2; and (d) themes and constructs, including the process of writing a storyline and offering theories that weave the themes and constructs together. The author chose this method, because it is appropriate for analyses of small-scale data, as represented by one case or based on open-ended questionnaire responses. All interviews were transcribed and included in the analysis.

### Survey Results

The interview results showed that former students working in the IT area had exceptional employment prospects in Malaysia. In fact, all participants who worked at IT companies emphasized the ease of finding a job. Participant No. 3 mentioned that it only took four days for his work permit to be approved, while

<sup>5</sup> Participant No. 5 was still a student at the time of interview, but she had already experienced a three-month internship at a private company and was nearing the end of her final semester. For those reasons, the author regarded participant No. 5 as transitioning to employment and accordingly included her as a participant.

participant No. 2 said he was currently working at his fourth company since choosing to remain in Malaysia, thus demonstrating the great availability of opportunities for international students with knowledge and skills in IT. Participant No. 4 initially applied to around 20 or 30 companies in Kuala Lumpur, and subsequently received offers from several IT companies. He ultimately chose a position that was recommended by one of his university lecturers. In this regard, an IT-related degree seems highly valuable for international students who choose to remain in Malaysia.

In addition to gaining part-time-experience at an IT company in Malaysia, participant No. 3 had successfully obtained an internship opportunity at a different IT company, where he was given full-time employment as an apps developer after graduation. Both IT companies were established by Bangladeshi entrepreneurs. The owner of his current place of employment graduated from a university in the United States prior to establishing his business in Malaysia. These examples of success induced participant No. 3 to think about establishing his own company in Canada, where he believed foreigners could more easily obtain work permits than in Malaysia. He specifically said the following:

Especially, I want to move to Canada for a better visa. Canada would be nice. In Malaysia, I have to renew (my) visa. People are having especially visa problem. It's quite difficult to get (a) visa every year if you don't have a good company who supports you. But European countries, especially, Europe, Canada, USA, you never face this problem. For the first three to four years, just you have to renew your visa. Later, once you get (a) passport or something like that, then you don't need to face (the problem). So, I want to get (a) visa there. So, I will maybe establish my company. I will have some people from different countries where I get the lowest cost. That is my plan.

IT knowledge constitutes a strong advantage, even for international students in disciplines outside the sciences. Participant No. 2 was encouraged by his education-minded father to study in Malaysia, and later enrolled in a practical bachelor's degree program that combined management and IT principles. He later worked for a foreign company located in Kuala Lumpur, where he was placed in charge of end-to-end in-house recruitment. According to participant No. 2, the practice of hiring IT professionals requires specific IT knowledge that traditional recruiters from the psychology or business administration fields do not normally possess. From his viewpoint, studying or working abroad without permanent residency (PR) was a meaningless endeavor. For that reason, he planned to obtain PR or a passport from a developed country as a present for his daughter. He said the following:

(Those in Malaysia) don't provide any PR or (a) passport.... I'm thinking of PR and (a) passport (from a developed country) for my daughter, actually. So, later on, when she grows up, she can study and she can have her life in (a) first-world country.

He also added that PR or passport would make it easier to return home in case his elderly parents needed help. He emphasized that he still had some time, as his parents were healthy. He would, therefore, need foreign PR or a passport before his parents called him back.

In contrast to the rather optimistic situation of participants working in the IT sector, those who were academic researchers faced ethical issues and unstable conditions in Malaysia. Participant No. 1 believed the Malaysian research environment was unhealthy due to a few problems, including an ambiguous evaluation system, the practice of including too-many-names in research authorship, and an employment system for foreigners that was reliant on yearly contracts. While this participant lamented about the general state of professional academics, he was also appreciative of the chances he had been given while in Malaysia, as follows:

The beauty of Malaysia, they don't give you hope, but you can stay in Malaysia forever (laughing)... Frankly speaking, the position I have now, I have through Malaysia; 10 years in this country, it is my second country. If I could live here, if I could get my visa, if I could get my PR here, I would stay in Malaysia and I just, frankly speaking, deal with the situation I have.

These words implied a variety of difficult experiences while participant No. 1 was earning a Ph.D. and even in the context of his post-doctoral life. While he had initially obtained a scholarship from university research funds during his doctoral period, this assistance was suddenly halted due to policy changes stating that only local students could receive the scholarship. This gave him no choice but to work in a part-time capacity outside the university to make a living, which was not officially condoned for individuals on student visas. After participant No. 1 finished his Ph.D., he was employed as a "hidden post-doc" without an official contract. He was officially working as a post-doctoral fellow at the time of the interview, but his situation made him a "hidden research leader" regardless of his preferences, since foreigners cannot technically lead research that is funded by the government. For these reasons, participant No. 1 felt a strong hunger for a stable life, which entailed an open-ended contract and PR in a healthy research environment. He believed these conditions were only offered in developed countries.

Participant No. 6 also described a difficult living environment due to heavy burdens created by high living costs and medical fees, which foreigners were required to pay at much higher rates according to the structure of the national healthcare system. Indeed, he received some medical treatments in the year prior to interview, which had cost him up to RM 6,000 (approximately \$1,500 USD)<sup>6</sup>. He added that he had simply wasted six years in Malaysia, because he had not obtained PR. When the author asked participants who worked at IT companies about medical fees, they said that such costs were covered up to a certain extent by private insurance that was purchased through their employers.

In addition to the scarce employment opportunities for foreigners in Malaysia, it is difficult for them to obtain degree-related jobs in their home countries if they have majored in an advanced field, as the industries related to those degrees are sometimes underdeveloped. In these cases, they often take jobs that are unrelated to their degrees. Participant No. 5 said, "I'm hoping there are more opportunities for internationals here... I'm a bit scared. I think almost everyone is kind of scared where to go after here."

Moreover, former students who were second-generation immigrants (i.e., those who had been living in Malaysia since childhood due to jobs their parents took) risked being left behind during the professional transition period due to a lack of ties with their home countries. This was the case for participants No. 4 and 5. Participant No. 4 flatly stated "I don't have much attachments (to my home country)," while the residence permit situation for No. 5's family was largely characterized by uncertainty. She said that her father held a business visa, while her mother held a guardian visa, and three of their children held student visas. Although most of her family had lived in Malaysia for more than 20 years, none of them had been granted PR. This highlights the difficulties foreigners experience when attempting to remain in Malaysia.

## Discussion

As found in previous research, this study revealed a difficult situation for international students in Malaysia, including problems related to job hunting, employment, visas, medical fees, and the general research

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<sup>6</sup>The currency was converted using OANDA. Retrieved May 27, 2021, from <https://www1.oanda.com/lang/ja/currency/converter/>.

environment. In the IT sector, those problems were more or less overcome through the ease of obtaining jobs and visas, in addition to the medical benefits offered through employers. However, obtaining PR in Malaysia is stringently tough for foreigners, regardless of their specialization. In this regard, Malaysia is not a favorable place for foreigners who want to work and stay for a long period.

PR is considered a safety net for the future, as it implies a “cyclical mobility” that enables migrants to easily move back and forth between their home countries and countries of residence (Campbell, 2018; Faist et al., 2013; Hugo, 2013). In fact, Participant No. 2 hoped to move from Malaysia to a developed country soon, get a passport and prepare for his parents calling him back. Additionally, a passport or PR will work as a safety net for his daughter.

A type of brain circulation was identified which involves students moving from developing to developed countries, such as the United States, to obtain degrees, then moving to an emerging country, such as Malaysia, where they eventually establish IT businesses. This is realized through several factors that make Malaysia an attractive business location, including favorable policies for the IT sector and low labor costs. Even through this study included only a limited number of participants, the accumulation of IT enterprises was observed in Malaysia, which had been established by former international students from Bangladesh. These individuals start their businesses to survive, as they do not receive any government protections. Participant No. 3 mentioned that “Malaysian people don’t open enough businesses. They get many subsidies from government... But for Bangladeshi people, they have to start business a lot, to get a job, to start (their) own businesses, because in Bangladesh, (they) don’t have opportunities”. In Figure 1, which shows the brain circulation’s flow, Malaysia is positioned as an emerging Asian study destination which involves the entrepreneurial activities of former international students.

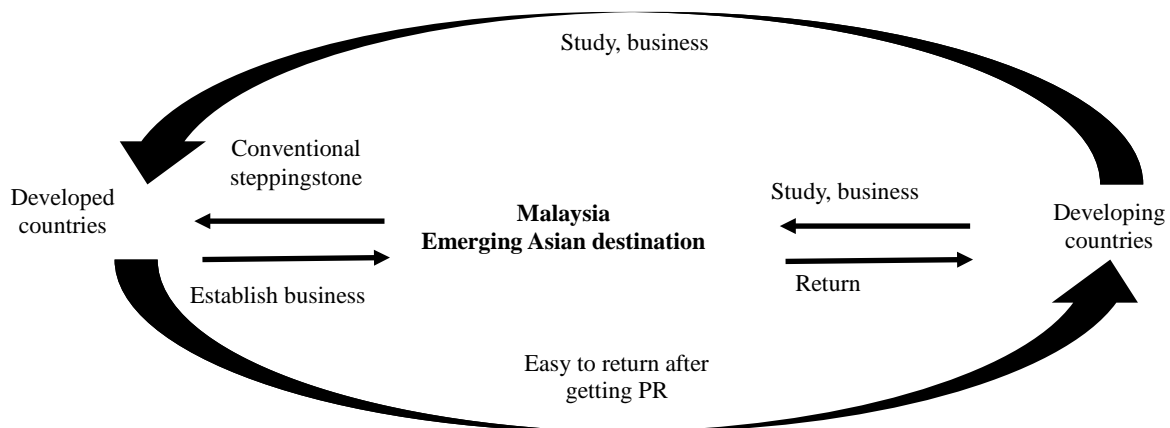


Figure 1. Brain circulation.

There are also notable circumstances where second-generation immigrants were taken to Malaysia during their childhood, because their parents accepted jobs and migrated there. These children can still enter Malaysian universities as international students. However, this does not ensure an easy process. Although they have spent relatively long periods in the country, they still encounter the same difficulties as newly arrived international students when attempting to obtain jobs, since no preferential treatment is accorded for those who have stayed in Malaysia for longer periods. They may also face additional challenges, because they have few

ties with their home countries, which make it difficult for them to return home and to be employed there. Their internationality including fluency in English, Malay, and their mother tongue is not a highly appealing skill in a multicultural country like Malaysia, because it is common for the locals to speak more than two languages. Therefore, these individuals have limited chances to take on roles, such as “cultural ambassadors” (Gill, 2010) who can interact with people from diverse cultural backgrounds. The situation ultimately leads to “stateless diasporas” who are not linked to a state but have a collective identity, primarily based on their ethnicity (Baser & Swain, 2010; Faist, 2008).

### **Conclusion and Policy Implications**

By interviewing former international students who had transitioned from education to work in the Malaysian IT and academic sectors, this study identified three new types of brain circulation:

1. Malaysia is selected as a business start-up location by higher-education graduates who studied in developed countries, implying an accumulation of ethnic enterprises that create opportunities for graduates of Malaysian universities, thus, showing that Malaysia is a preferred destination for students who wish to apply what they have learned while studying abroad and/or who have entrepreneurial aspirations;

2. The situation of academic researchers who graduated from Malaysian higher education institutions is somewhat uncertain due to their short and unstable contract periods and research environment;

3. Second-generation immigrant students face difficulties when attempting to enter workforces in Malaysia, their home countries, or in third countries, even after receiving certificates from branch campuses of world-renowned universities.

As stated earlier, most previous studies on brain circulation have limited their focus to the mobility of human resources from developing to developed countries. In Malaysia, although there are still complications for foreigners who wish to stay for longer periods, the conditions outlined above imply new possibilities for brain circulation, in which the country acts as a center for sending and accepting human resources both from/to developing and developed countries. This is accomplished through several national advantages, such as the wide use of English, reasonable living and labor costs, and a stable society. Clearly, this far exceeds the scope of discussion in which Malaysia is merely regarded as a steppingstone to other countries, especially English-speaking Western countries and those in the Middle East. The analysis is realized by associating brain circulation with study abroad experiences. It can be used as a framework to analyze international students’ mobility in both emerging countries—regarding which there is not sufficient research—and traditional accepting countries—for which there is too much emphasis placed on the process of obtaining PR in existing literature.

It is recommended that most Asian countries, which are often described steppingstone to other countries especially the United States, implement favorable policies for targeted sectors, like the IT sector in Malaysia, to attract foreigners to develop new businesses, and thereby, attract incoming talents including international students. A healthy research environment where local and foreign talents are treated equally is vital for retaining excellent academic talents. Additionally, work permit for long periods and PR are the most important factors for those who are considering countries that they can migrate to. Although endeavors to protect local laborers are understandable, both foreigner and locals should be treated equally when it comes to basic human rights such as medical fees and insurance; otherwise, students might not choose to work and live in the country for a long time.

This study uniquely included participants in Malaysia with various types and levels of degrees, ranging from diplomas to doctorates. In this regard, findings contradict typical descriptions that portray Malaysia as a place with no employment prospects for those with bachelor's degrees or lower due to the age requirement to apply for a work permit (Kaur, 2008).

Due to the small sample size and lack of diversity among the participants, this study's generalizability is limited. Owing to the current situation, the author had to conduct the survey online by using snowball sampling method. Therefore, it was difficult to expand the range of participants. Future research should include a larger number of participants from varied backgrounds, thus, providing more generalizable evidence regarding the new phenomena.

Further research is required to explore brain circulation in depth. Firstly, the author plans to interview employers of former international students who graduated from Malaysian universities. This may include those who come from other developing countries and established ethnic enterprises in Malaysia. This will help capture elements of brain circulation from others' perspectives. The author would like to identify in detail how and why they build businesses in the country, their hiring process, and how they evaluate locals and former international students who have graduated from Malaysian higher education institutions.

Secondly, the research environment of foreign researchers should be explored to understand whether unhealthy environments are common, including research ethics, contract period, insurance, and overall work and life satisfaction.

Likewise, more attention should be paid to second-generation immigrant students in Malaysia, as there is a lack of research about their specific conditions. As more foreign talents accumulate in Malaysia, more second-generation migrants are born and will enter higher education in the future. Therefore, the author would like to explore the transition from education to work of the second-generation immigrant students, who have completed their higher education from Malaysian universities, by tracing their career path. Additionally, earlier choices related to their educational pathway need to be examined as well, to understand whether the second-generation immigrant pre-university qualification holders choose Malaysia or other countries for their higher education, considering that post-secondary education in Malaysia offers pre-university programs where students can easily transfer to that of other countries, such as the UK's General Certificate of Education Advanced Level (GCE A-Level), South Australian Matriculation, and Canadian International Matriculation Program. Despite its preliminary character, this research should contribute to a better understanding of the mobility experienced by international students in emerging Asian countries.

## References

- Azman, N., Sirat, M., & Pang, V. (2016). Managing and mobilising talent in Malaysia: Issues, challenges and policy implications for Malaysian universities. *Journal of Higher Education Policy and Management*, 38(3), 316-332.
- Baser, B., & Swain, A. (2010). Stateless Diaspora groups and their repertoires of nationalist activism in host countries. *Journal of International Relations*, 8(1), 37-60.
- Campbell, A. C. (2018). "Giving back" to one's country following an international higher education scholarship: Comparing in-country and expatriate alumni perceptions of engagement in social and economic change in Moldova. *Compare*, 50(4), 573-591.
- Chin, C. (2016, January 31). Malaysia's workplace is still hiring. *Star Online*. Retrieved May 27, 2021, from <https://www.thestar.com.my/news/nation/2016/01/31/malaysias-workplace-is-still-hiring/>
- Faist, T. (2008). Migrants as transnational development agents: An inquiry into the newest round of the migration-development nexus. *Population, Space and Place*, 14, 21-42.

- Faist, T., Fauser, M., & Reisenauer, E. (2013). *Transnational migration*. Cambridge: Polity Press.
- Fong, C. O. (2010, May 16). Tracing the brain drain trend. *Star Online*. Retrieved May 27, 2021, from <https://www.thestar.com.my/news/nation/2010/05/16/tracing-the-brain-drain-trend>
- Gill, S. (2010). The homecoming: An investigation into the effect that studying overseas had on Chinese postgraduates' life and work on their return to China. *Compare*, 40(3), 359-376.
- Hawthorne, L. (2008). *The growing global demand for students as skilled migrants*. Washington: Migration Policy Institute.
- Hugo, G. (1998). The demographic underpinnings of current and future international migration in Asia. *Asian Pacific Migration Journal*, 7, 1-25.
- Hugo, G. (2013). *What we know about circular migration and enhanced mobility*. Washington: Migration Policy Institute.
- International Islamic University Malaysia (IIUM). (2015). *Tracer study 2015: First degree and post graduates*. Selangor: IIUM.
- International Labour Organization (ILO). (2008). *Labour and social trends in ASEAN 2008: Driving competitiveness and prosperity with decent work*. Geneva: ILO Publications.
- Kaneko, S. (2018). Shinkokoku Malaysia de manabu ryugakusei no daigaku kara shokugyo eno iko: Ryugakusei no arata na ido ni chakumoku shite (University to work transition of international students studying in Malaysia: Focusing on the new mobility patterns of international students). *Comparative Education: Bulletin of the Japan Comparative Education Society*, 56, 23-42.
- Kaur, A. (2008). International migration and governance in Malaysia: Policy and performance. *UNEAC Asia Papers*, 22, 4-18.
- Khoo, S. E. (2013). Attracting and retaining globally mobile skilled migrants: Policy challenges based on Australian research. *International Migration*, 52(2), 20-30.
- Knight, J. (Ed.). (2014). *International education hubs: Student, talent, knowledge-innovation models*. Dordrecht: Springer.
- Ministry of Education Malaysia. (2015). *Malaysia education blueprint 2015-2025*. Retrieved May 27, 2021, from <https://www.moe.gov.my/menunedia/media-cetak/penerbitan/pppm-2015-2025-pt/1384-4-executive-summary-pppm-2015-2025/file>
- Ministry of Higher Education Malaysia (2019). *Higher education statistics 2019*. Retrieved May 27, 2021, from <https://www.mohe.gov.my/en/download/awam/statistik/2019-1>
- Murphy-Lejeune, E. (2002). *Student mobility and narrative in Europe: The new strangers*. Oxon: Routledge.
- Ng, S. W. (2012). The challenges of attracting Asian students to study higher education in Hong Kong. *Higher Education Quarterly*, 66(3), 272-292.
- OECD. (2020). *Education at a glance 2020: OECD indicators*. Paris: OECD Publishing.
- Ortiga, Y. Y. (2018). Constructing a global education hub: The unlikely case of Manila. *Discourse: Studies in the Cultural Politics of Education*, 39, 767-781.
- Otani, T. (2011). SCAT: Steps for coding and theorization. *Journal of Japan Society of Kansei Engineering*, 10(3), 155-160.
- Prime Minister's Department, Malaysia. (2007). *Guidebook on the employment of expatriates: Processes and procedures*. Retrieved May 27, 2021, from <http://www.mpc.gov.my/pemudah/wp-content/uploads/sites/21/2017/01/15-Guidebook-on-the-Employment-of-Expatriates-Processes-and-Procedures.pdf>
- Saito, S., Mukohara, K., & Miyata, Y. (2014). Chronological changes in Japanese physicians' attitude and behavior concerning relationships with pharmaceutical representatives: A qualitative study. *PLoS ONE*, 9(9), 1-7.
- Saxenian, A. (2005). From brain drain to brain circulation: Transnational communities and regional upgrading in India and China. *Studies in Comparative International Development*, 40(2), 35-61.
- Sing, J. K. N., Schapper, J., & Jack, G. (2014). The importance of place for international students' choice of university: A case study at a Malaysian university. *Journal of Studies in International Education*, 18(5), 463-474.
- Sirat, M., Bakar, R., and Lie, K. Y. (2013). International student mobility: Malaysia. In UNESCO (Ed.), *The International Mobility of Students in Asia and the Pacific* (pp. 47-59). Paris: UNESCO.
- Sugimura, M. (2008). Asia ni okeru ryugakusei seisaku to ryugakusei ido (Multilayered mobility of international students in Asian higher education). *Asian Studies*, 52(10), 4-25.
- Sugimura, M. (2011). Asia ni okeru gakuseiido to kotokyoiku no kokusaika no kadai (International students mobility and issues of internationalization of higher education in Asia). *Journal of Multimedia Education Research*, 8(1), 13-21.
- Tan, A. M. (2002). *Malaysian private higher education: Globalisation, privatization, transformation and marketplaces*. Singapore: ASEAN Academic Press.
- Tan, C. H., Santhapparaj, A. S., & Ho, S. B. (2007). Immigration patterns of skilled workers in Malaysia: A sectoral analysis. *Malaysian Journal of Economic Studies*, 44(1), 13-22.

- Trow, M. (2000). *Kodo joho shakai no daigaku: mass kara universal e* (From mass to universal higher education). (K. Kitamura, Trans.). Tokyo: Tamagawa University Press.
- UNESCO Institute for Statistics. (2006). *Global education digest 2006: Comparing education statistics across the world*. UNESCO. Retrieved May 27, 2021, from [http://uis.unesco.org/sites/default/files/documents/global-education-digest-2006-comparing-education-statistics-across-the-world-en\\_0.pdf](http://uis.unesco.org/sites/default/files/documents/global-education-digest-2006-comparing-education-statistics-across-the-world-en_0.pdf)
- UNESCO Institute for Statistics. (2009). *Global education digest 2009: Comparing education statistics across the world*. UNESCO. Retrieved May 27, 2021, from [http://uis.unesco.org/sites/default/files/documents/global-education-digest-2009-comparing-education-statistics-across-the-world-en\\_0.pdf](http://uis.unesco.org/sites/default/files/documents/global-education-digest-2009-comparing-education-statistics-across-the-world-en_0.pdf)
- UNESCO Institute for Statistics. (2012). *Global education digest 2012: Opportunities lost: The impact of grade repetition and early school leaving*. UNESCO.
- UNESCO Institute for Statistics. (2014). *Higher education in Asia: Expanding out, expanding up*. UNESCO. Retrieved May 27, 2021, from <http://uis.unesco.org/sites/default/files/documents/higher-education-in-asia-expanding-out-expanding-up-2014-en.pdf>
- UNESCO Institute for Statistics. (2019). *Gross enrolment ratio of tertiary education, Malaysia*. Retrieved May 27, 2021, from <http://uis.unesco.org/country/MY>
- Wilkins, S., Balakrishnan, M. S., & Huisman, J. (2011). Student choice in higher education: Motivations for choosing to study at an international branch campus. *Journal of Studies in International Education*, 16(5), 413-433.
- Yoshino, K. (2014). *Eigoka suru Asia: Transnational na model to sono hakyu* (Englishizing Asia: The transnationalization of Malaysia's higher education and its impact). Nagoya: University of Nagoya Press.
- Ziguras, C., & Gribble, C. (2015). Policy responses to address student "brain drain": An assessment of measures intended to reduce the emigration of Singaporean international students. *Journal of Studies in International Education*, 19(3), 246-264.
- Ziguras, C., & Law, S. F. (2006). Recruiting international students as skilled migrants: The global "skills race" as viewed from Australia and Malaysia. *Globalisation, Societies and Education*, 4(1), 59-76.