

Factors influencing return intentions of Malaysia's professional diaspora

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Abstract: The purpose of this research paper is to examine: (i) the pattern of the independent and dependent variables as specified in the theoretical model of return intentions of Malaysia's professional diaspora; (ii) whether there are any significant differences in return intentions in terms of ethnicity (bumiputra vs. non-bumiputra) and different generations of Malaysia's diaspora (generation Y vs. non-generation Y); and (iii) whether there are any significant correlations of return intentions of Malaysia's professional diaspora. Data was collected via online questionnaire using "survey monkey" over a period of two months. A total of 168 skilled professionals participated in the online survey based on "snowball sampling". The survey findings indicate that Malaysia's generation Y skilled professional diaspora are more willing to return home to work as compared to their non-generation Y counterparts. In addition, the correlation results suggest that the critical factors that can motivate Malaysia's skilled professionals to return home to work include better employment conditions, enhanced quality of life, employment or job opportunities, safety and security as well as political stability. Based on the survey results, some of the implications and recommendations for ensuring the success of the brain gain programme in Malaysia are discussed.

Keywords: brain drain, brain gain, diaspora networks, push & pull factors, Talent Corporation and Returning Experts Programme (REP)

Introduction

Brain gain, the converse of brain drain, is becoming increasingly critical for the Third World or less developed countries to enhance their competitiveness and economic growth in the wake of globalization and heightened international competition. Prior to the globalization era which started after the fall of Berlin walls in 1989, brain drain or migration of educated and skilled people from the less developed economies (the home countries) to the developed or industrialized economies (the host countries) such as United States of America (USA) and United Kingdom (UK) had been viewed as a very serious problem which has negative impact on the less developed nations.

Countries like India and China have long experienced brain drain and their governments have implemented effective policy measures to woo their talents back to their homelands. These countries had been successful in attracting the return of their expatriates (Ziguras and Law, 2006), so much so that they have reversed the situation from brain drain to brain gain. This is particularly true in the case of India whereby Information Technology skilled professionals who worked in USA had returned back to benefit India economically (Hunger, 2002).

The concept of brain gain was popularized in the 1990s by authors like Mountford, 1997; Stark et al., 1997; and Straubhaar and Wolburg, 1999. The basic idea of the brain gain hypothesis is that intellectual and technical elites from Third World who emigrated to an industrialized country represent a potential resource for the socioeconomic development of their home country (Hunger, 2002). In the case of Malaysia, "brain drain – the migration of talent across borders has long been a subject of debate and controversy" (Starbizweek, 2011a). The Malaysian intellectual capital, as Stewart (2000) maintained, is walking out of the door or airport, as the case may be, presumably because the work environment among others, is not stimulating and fulfilling (Strempele, 2003). Malaysia is currently facing a problem to strengthen its human capacity building due to the issue of brain drain. It is commonly acknowledged

that “brain drain” migration always involve a migration of elites from a developing country to an industrialized country. Hence, a “brain gain” programme is supposed to reverse this trend through a remigration of elites, who have acquired invaluable skills and experiences living in an industrialized country back to the home country (Hunger, 2002).

The Malaysian diaspora is estimated to be about 1 million world wide in 2010 and it has increased four-fold over the last 30 years and is geographically concentrated and ethnically skewed (Starbizweek, 2011a). It is the non-bumiputras that constitute the bulk of the diaspora compared to the bumiputras (Starbizweek, 2011a). In recent years, talented bumiputras too have left to join the one million Malaysian diaspora (Starbizweek, 2011c). Approximately 90 percent of the Malaysian diaspora are in Singapore with the remaining residing in Australia, Brunei, UK and US (Starbizweek, 2011a; Starbizweek, 2011d). Furthermore, of the estimated 1 million Malaysian diaspora, about 844,000 are aged 25 years and above. Among this age group approximately 455,000 are highly skilled professionals who have completed tertiary education (Foo, 2011). Dr. Wilson Tay, CEO of the Malaysian Institute of Management, indicated that “about 100,000 Malaysians are emigrating overseas annually and the number is still increasing. This is especially acute in the highly skilled areas of advanced financial markets, telecommunication, biotechnology, material science and nanotechnology with increased outbound migration of surgeons, doctors and highly specialized educationists and professionals” (The Edge, 2008).

The Malaysian government has implemented many strategies and plans, involving huge capital outlay, under various government and non-government related agencies such as Ministry of Science, Technology and Innovation (MOSTI), Malaysian Development Corporation (MDC) and others to try to lure back our top talents from abroad. MOSTI launched its first brain gain programme in 1995 till 2000, which successfully attracted 94 scientists, of whom only one remains in Malaysia. The second brain gain scheme which was implemented from 2001 to 2004 was intended to attract 5000 talents a year. Unfortunately, only 200 took advantage of the offer. Lim (2004) mentioned that “the current scheme, run by the Ministry of Human Resources, prioritises the return of Malaysians with expertise in information and communication technology, microelectronics, biotechnology, advanced manufacturing, advanced materials, pharmaceuticals, aerospace and energy”. The serious commitment of the Malaysian government towards ensuring the success of the brain gain programmes is reflected in the 10th Malaysia Plan (2011 to 2015) which is based on the New Economic Model that incorporates the Economic Transformation Programme and Government Transformation Programme to develop Malaysia into a high-income and developed nation by the year 2020. As a result, Talent Corporation Malaysia Berhad was established under the Prime Minister’s Department with the objective of wooing foreign talent and overcoming the barriers for them to settle down in Malaysia, among others (Starbizweek, 2011b).

There are many “pull” and “push” factors why Malaysians are leaving the country. Ziguras and Law (2006) mentioned that many Malaysian Chinese and Indians which constitute the non-bumiputras have left Malaysia because of limited opportunities of employment in the civil service and public educational institutions including universities. However, Zul Baharom, General Council Member of the Malaysian Institute of Management contends that people left not only because of issues of salaries, business opportunities and comfortable living, but due to more serious issues like a sense of frustration with the rigid bureaucratic and unresponsive government machinery, controls on personal freedom, racial antagonism and religious divide (Starbizweek, 2011e). Johan Mahmood Merican, head of the Talent Corporation Malaysia Berhad stated that people left Malaysia for various reasons such as higher pay, professional development, public transport and education for their children (Starbizweek, 2011g). World Bank’s Philip Schellekens stated that “the fundamental issues or underlying factors why people leave relate to economic incentives which can be captured under the umbrella of low productivity and social disincentives which reflect discontentment among the non-bumiputras with Malaysia’s inclusiveness policies” (Starbizweek, 2011a). The drivers of brain drain in Malaysia in descending order based on a survey conducted by World Bank are career prospects, social injustice, compensation, study and stay on, safety and security, politics, study and return, and livability (Source: World Bank: Malaysia Economic Monitor – Brain Drain cited in Starbizweek, 2011d).

On the other hand, there is the question of why Malaysians working abroad are reluctant to return home. Among the issues cited by local headhunters and human resource consulting experts encompass unfair treatment where promotions and seniority are concerned and the unchallenging and unfulfilling environment in terms of working with non-talented colleagues in Malaysia (New Straits Times, 2010).

Needless to say, if the problem of brain drain in Malaysia is left unchecked, it will seriously jeopardize the effectiveness of the Economic Transformation Programme to transform Malaysia into a high-income and developed economy by 2020. Since little empirical research has been carried out on the impact of pull and push factors of

brain gain, this study will attempt to answer the following questions: (i) what is the pattern of independent and dependent variables as specified in the theoretical model of return intentions of Malaysia's professional diaspora?; (ii) are there any significant differences in return intentions in terms of ethnicity and different generations of Malaysia's professional diaspora?; and (iii) what are the significant correlations of return intentions of Malaysia's professional diaspora?

Hence, by answering the research questions via testing of hypotheses, it will shed some light on how the Malaysian government can formulate strategies to motivate its professional elites currently residing and working abroad to return home to work and help transform Malaysia into a high-income and developed nation by 2020.

Literature Review

Definition and Concept of Brain Gain

According to Glytsos (2010), brain gain represents the modern view of brain drain. Basically, the traditional view of brain drain states that migration of skilled professionals to a host country has a negative impact on the socio-economic development of the home country. Whilst, the modern view of brain drain (i.e. brain gain) states the reverse i.e. migration of skilled professionals to a host country has a positive effect on the socio-economic development of the home country. Hunger (2002) posits that "intellectual and technical elites from Third World who emigrated to an industrialized country represent a potential source for the socio-economic development of their home country". Hunger's (2002) brain gain hypothesis is grounded on two fundamental assumptions: (i) that "the Third World elites that emigrated to an industrialized country are able to play an important role in the development process of their home country through return migration and/or transnational networks" and (ii) that "it is possible to give the emigrated elites of a developing country sufficient incentives to remigrate even if they have already been living abroad for a long time and have not yet build up any productive contact to their country of origin". According to Hunger (2002) "a return of emigrated elites and/or building of transnational networks is likely if the pro-arguments for a return to the home country outweighs the counter-arguments for a stay in the industrialized country and the migrant therefore benefits from remigration; once remigration has started and networks have been established, further remigrations are likely to follow".

Tung and Lazarova (2006) mentioned that return migration or remigration of highly skilled diaspora, regardless it is temporary or permanent in nature, is crucial to a nation's economic transformation. This view is shared by Malhotra (2009), who reported that the global policy shift from the emphasis on brain drain policy to brain gain policy as adopted by less developed economies had resulted in an increasing number of these economies coming to appreciate their skilled diaspora as an asset for attaining economic growth and development. He further stressed that there are two alternative strategies to achieve the brain gain policy: (i) the return option strategy which will enable the achievement of brain gain policy through the return of migrants to their home country. The return option strategy was initially pursued in 1970s and it became increasingly dominant in 1980s and 1990s; and (ii) the diaspora option strategy or networks of experts (Gupta and Tyagi, 2011) which unlike the return option strategy, is more recent and it is not aimed at the physical repatriation of diaspora working abroad. Instead, its purpose is to mobilize and utilize the diaspora's resources for the country of origin's socio-economic development (Malhotra, 2009). To date, many countries such as India, Singapore, South Korea, Taiwan, and Malaysia have adopted the return option strategy to lure back their skilled and professional diaspora. In fact, these countries (except for Malaysia) have been successful in luring back their skilled and professional diaspora (Malhotra, 2009). For instance, Chacko (2007) reported that the return of Indian-origin skilled workers on the cities of Bangalore and Hyderabad has accelerated India's socio-economic development.

As for the diaspora option, Malhotra (2009) mentioned that the Colombian government pursues such an option by mobilizing their overseas diaspora and their connection to scientific, technological and cultural programmes in Colombia. Similarly, China has adopted the diaspora option policy in 2001 to encourage oversea mainlanders to contribute to China's modernization, even if they reside abroad (Zweig, et al., 2008). Whilst the brain gain strategy in terms of both return option and diaspora option have their respective strengths and weaknesses, the success of these two options depends heavily on the internal dynamics of the country of origin as well as whether certain root causes resulting in the initial skilled migration have been sufficiently addressed (Malhotra, 2009). These root causes or issues contributing to the initial skilled migration are usually referred to as the "pull and push factors" of brain drain or migration. In short, the new economics of brain gain state that "the outflow of educated migrants (and the possibility of own future migration in particular) can lead to a net increase in the origin country's stock of human capital". (Batista et al., 2011).

Pull and Push Factors

Portes (1976) stressed that “consideration must be given to domestic factors such as economic activity, institutions, political stability, rights and freedoms and the rule of law, as well as the microstructure of relationships, influences and interactions that affect individual decisions and choices” in explaining “the global flow of brain drain between developed and developing countries”. Hunger (2002) pointed out that “in brain drain research the emigration of Third World elites is explained with an overweight of incentives for a life in an industrialized country and/or negative conditions in the developing country”. This view is shared by Ho and Tyson (2011) who stated that “push and pull factors are arguably derived from dissatisfaction with one’s present location and (mis) perceptions of golden opportunities and affluence elsewhere”. Recent literature has identified various classic push and pull factors of brain drain. These include generic push and pull factors that apply to all migrants or diaspora as well as specific push and pull factors that apply to a particular group or category of diaspora. For instance, highly skilled professional diaspora such as scientists and researchers.

Pull Factors

Lowell and Findlay (2001) mentioned that better wages and employment conditions, better information, recruitment and cheaper transportation are pull factors which attracted skilled migrants to look for jobs and opportunities in developed countries. Tansel and Gungor (2003) focused on the pull factors such as: high income, better career opportunities, better work environment, more job openings for a specific profile, better social and cultural environment and proximity to important research and innovation centres as factors influencing the Turkish students’ return intentions. Zweig, et al. (2008) cited higher remuneration, better living conditions, more stable political systems and more comfortable lifestyles as pull factors that attracted talented people in developing countries who have studied abroad or educated in country of origin to migrate to rich countries.

Kurka et al. (2008) identified: career opportunities abroad, a one-time job opportunities abroad, the advantages of higher income and other benefits abroad, new experiences and adventure, work with best scientists at most prestigious institutions, top research conditions and infrastructure, different working environment and atmosphere, desire to see new place and experience new culture as well as improve foreign language skills as the pull factors of brain drain of academics and researchers in Austria. Martin and Zurcher (2008) highlighted labour recruitment and family unification (i.e. husbands and wives join spouses, children join parents) as pull factors of brain drain.

Ravendran (2008) reported that Malaysians migrated to work in the United Kingdom and Australia due to pull factors such as: better pay packets, better work life balance and better quality of life. In another study on plugging the brain drain in Malaysia, Wong (2010) had identified job prospects as an important pull factor of brain drain of Malaysian students studying overseas.

Furthermore, Parkins (2011) cited ease and availability of information about opportunities outside Jamaica as pull factor of brain drain in Jamaica. She mentioned that “recruiters from various agencies in the United Kingdom, the United States and Canada advertised various recruitment fairs which offer better working conditions and salary scales than what one obtains in Jamaica”. Javed (2011) mentioned that disparities in working conditions between developed and less developed nations tend to “pull” professionals towards developed countries. He added that young people are “pulled” to rich countries and stay there permanently because of individual freedom, general peace and tranquility in urban and rural areas, high standard of living as well as rule of law and justice. He further added that professionals such as engineers, doctors and para medical personnel and scientists are attracted to western countries that emphasize democratic norms, freedom of expression and low crime environment.

Iravani (2011) contends that emigration of high quality manpower from less developed nations to developed nations are due to pull factors which encompass higher standard of living as well as better research and working opportunities which will enable these migrants to excel. Lastly, the online survey on drivers of brain drain in Malaysia conducted by Foo (2011) highlighted two very important pull factors of Malaysian brain drain, namely: better career prospects overseas and more attractive salary/benefits overseas. Based on the literature reviewed, the common pull factors identified as having the potential to influence return intentions of Malaysia’s diaspora are summarized in Table 1.

Push Factors

Sako (2002) in his discussion on the circumstances that shape scientists migration decisions in Africa had identified the push factors which include: large disparities in university wages, lack of complementary sector coordination, environmental risk, armed conflict, public mismanagement and corruption, frequent economic downturn as well as

tribalism. Tansel and Gungor (2003) adopted the standard push and pull factors of brain drain as factors influencing return intentions of Turkish students. The push factors comprise: low income, lack of career opportunities, uncondusive work environment, limited job openings for a specific profile, uncondusive social and cultural environment, non-proximity to important research and innovation centres, lack of financial resources to start own company, bureaucracy and inefficiency, political pressure, lack of social security, and economic instability and uncertainty. Nurse (2004) mentioned that economic decline, widening inequality, increasing poverty social displacement, crime and political crises have been the main drivers or push factors of emigration in Americas.

Ziguras and Law (2006) cited limited opportunities for employment in the civil service and public educational institutions including universities as a push factor of brain drain that motivated Malaysian Chinese and Indians (non-bumipuras) to leave the country. Martin and Zurcher (2008) had identified unemployment or underemployment issues such as low wages as well as fleeing war and/or civil unrest as push factors of brain drain. In addition, Kurka, et al. (2008) in analyzing the brain drain of academics and researchers in Austria had cited the push factors such as: recommendations and experience of friends, improved opportunities for future career at home (foreign experience is valued) and escape from lack of career opportunities at home. Javed (2011) in his analysis on brain drain in developing countries cited: widespread unemployment/underemployment*, low remunerations, low respect, less chances of professional or career development, poor general environment, poor living conditions (including education for children, health facilities, law and order, reliable supply of electricity, gas etc.) as reasons professionals leave their motherland.

Wong (2010) in her study on plugging the brain drain in Malaysia identified the following push factors: economic situation (financial markets, prices of goods, cost of living, and international competitiveness); political situation (government policy, opposition party, stability, and corruption); human rights and media freedom; crime rate; quality of education; and inter-racial harmony. Parkins (2011) had identified the major push factors that influence international migration or brain drain in Jamaica as: crime and violence, an unstable economy (poor employment opportunities, sluggish economic growth) as well as mismatch between an individual's skill set and suitable occupation (education-occupation factor). Besides, Iravani (2011) mentioned that the push factors of individuals with technical knowledge and skills include: conflict, lack of opportunities, political instability or health risk. He added that the push factors that drive highly skilled labour in India to migrate encompass educated unemployment, low salary level (in comparison to unskilled workers), lack of promotion opportunities and lack of meritocracy and cronyism.

The World Bank Report (2011) on Malaysian Economic Monitor highlighted several push factors of Malaysian skilled migration based on various interviews conducted in Malaysia, Singapore and United States. These include: less attractive salary/benefits than overseas after adjustment for cost of living; lack of career prospects/unavailability of opportunities in specific field; lack of access to high quality education; social injustice such as unequal access to scholarship and higher education especially among the younger population of non-bumiputra origin; and safety and security issues. In addition, the report also highlighted religious fractionalization at country of origin as a strong push factor in high-skill emigration among developing countries. Lastly, Foo (2011) conducted an online survey on the drivers of brain drain in Malaysia based on 194 Malaysians based overseas. The survey results indicated the leading push factors of brain drain in Malaysia are: sense of social injustice, followed by lack of general safety and security, unsure political situation in Malaysia and poor livability conditions in Malaysia. Based on the literature reviewed, the common push factors identified as having the potential to influence return intentions of Malaysia's diaspora are summarized in Table 1.

**It refers to a situation in the job market whereby an employee is paid either less than his/her capabilities or work on part-time basis due to limited availability of decently paid full-time job (Javed, 2011).*

Non-Pull and Push Factors

Kurka et al. (2008) in analyzing the mobility of academics and researchers in Austria highlighted timing and preference for Western lifestyle as the mediating factors. Whilst these factors are considered as neither pull nor push factors of brain drain, they nevertheless do affect migration decision. Other non-pull and push factors that affect migration decision include personal factors like: family ties, moral duty and religion (Wong 2010). Foo (2010) also identified personal factors such as: further studies with the intention/ obligation of returning to Malaysia as well as further studies with the intention of permanent emigration. The non-pull and push factors that have the potential to influence return intentions of Malaysia's diaspora are summarized in Table 1.

Table 1: Summary of Factors that Have the Potential to Influence Return Intentions of Malaysia's Diaspora

Pull Factors that have the potential to influence return intentions	Push Factors that have the potential to influence return intentions	Non-Pull and Push Factors that have the potential to influence return intentions
Better employment conditions	Economic instability and uncertainty	Preference for Western lifestyle
Employment or job opportunities	Unfavourable employment conditions	Family ties
Enhanced quality of life	Unemployment or underemployment	Moral duty
Low level of corruption and police brutality	Social injustice	Religion
Access to modern technology	Lack of safety and security	Awareness of Talent Corporation
Better public transportation	Poor living conditions	Attractiveness of incentives
Political stability	Public mismanagement and corruption	
Democratic norms	Bureaucracy	
	Unsure political situation	
	Autocratic norms	

Individual Characteristics

Duration of Stay

Duration of stay is the number of years a Malaysian resides to work in a host country. Past literature indicates that duration of stay influences the return intentions of diaspora (Gungor and Tansel, 2006; Tung and Lazarova, 2006; Zweig, et al., 2008; Foo, 2011). Hence, duration of stay will be considered as an important individual characteristic that influences the return intentions of the Malaysian diaspora working overseas in this study.

Generational Status

In the Malaysian context, generational status as an individual characteristic is a critical independent variable that influences the return intentions of Malaysian diaspora working abroad. In this study, generational status is measured in terms of generation Y, generation X, baby-boomers and traditionalists.

Ethnicity

Similarly, in the Malaysian context, ethnicity (as measured in terms of bumiputra and non-bumiputra) as an individual characteristic is an independent variable that influences the return intentions of Malaysian diaspora working overseas in this study.

Return Intentions

Gungor and Tansel (2006) conducted an online survey to investigate the determinants of return intentions of Turkish students studying abroad. The survey involved over 1000 respondents and the data was collected during the first six months of 2002. To explain and predict *the return intentions* of Turkish student diaspora, Gungor and Tansel (2006) relied on a set of independent and dependent variables. The dependent variable, i.e. *return intentions* of Turkish students studying abroad was measured by responses ranging from “*I will return as soon as possible without completing my studies*” with the lowest index value of 0 to “*I will definitely not return*” with a highest index value of 6 indicating stronger feeling of not returning (staying). This implies that positive coefficient on the independent variables means an increase in the probability of having non-return intentions.

Wong (2010), conducted an online survey to investigate the factors affecting the decision of Malaysian students whether to return home or not. Of the 854 respondents surveyed, 89% were in the age-group of 18 and 27, 85% were Chinese Malaysians, 45% were males, 62% were students, 62% were residing outside Malaysia. The dependent variable of Wong's (2010) study, i.e. *the desire to return to Malaysia* was measured on a scale ranging

from 0 to 5 whereby a score of 0 denotes no plans or desire at all and a score of 5 denotes strongly desire or plan to return home.

Essentially, both Gungor and Tansel (2006) and Wong's (2010) study focused on factors influencing the return intentions of student diaspora, but not *on diaspora who are currently working abroad*. In terms of measurement of the dependent variable i.e. *students' return intentions*, Gungor and Tansel (2006) measured the Turkish students' return intentions based on a scale of 0 to 6 whereby an index value of 0 denotes strong likelihood of return and an index value of 6 denotes strong likelihood of not returning. Wong (2010) on the other hand measured the Malaysian students' return intention in the opposite direction based on a scale of 0 to 5 whereby a score of 0 denotes strong desire of not returning and a score of 5 denotes strong desire of returning.

Theoretical model and hypotheses

Theoretical Model

Given that there are no comprehensive models of brain gain, the theoretical model for this study is adapted from the works of Gungor and Tansel (2006) and Wong (2010) with reference to the relevant pull and push as well as non-pull and push factors and individual characteristics, all of which have the potential of influencing return migration intentions of technical and skilled professional diaspora working abroad.

The individual characteristics variables, the pull and push as well as the non-pull and push factors are known as the *independent variables*. These independent variables were derived from the literature review and media reports as cited earlier. There are altogether 27 independent variables comprising 3 individual characteristics variables, 8 pull factors, 10 push factors, 1 mediating factor (non-pull and push factor), 3 personal factors (non-pull and push factors) and 2 government initiative variables (non-pull and push factors).

Whilst, the dependent variable in this study is return migration intentions of Malaysia's technical and skilled professional diaspora working abroad as measured by their willingness to return home to work (Y). This is the best alternative indicator for measuring brain gain as the true measure of brain gain i.e. rate of return migration is not easily available and may be unreliable.

Hence, the model of return migration intentions of Malaysia's technical and skilled professional diaspora working abroad as depicted in Figure 1 specifies the following relationships between the independent variables and dependent variable:

- In terms of individual characteristics variables, duration of stay (x_1), Generational status (x_2) and ethnicity (x_3) are related to return migration intentions of Malaysia's professional diaspora;
- There is a negative relationship between the pull factors ((better employment conditions x_4), employment or job opportunities (x_5), enhanced quality of life (x_6), low level of corruption and police brutality (x_7), access to modern technology (x_8), better public transportation x_9), political stability (x_{10}) and democratic norms (x_{11})) originating from the host country and return migration intentions of Malaysia's professional diaspora. This means that for example, if a Malaysian professional currently residing and working abroad perceives that better employment conditions (x_4) does not exist in the host country, then he/she is willing to return home to work (Y);
- There is a negative relationship between the push factors (economic instability and uncertainty (x_{12}), unfavourable employment conditions (x_{13}), unemployment or underemployment (x_{14}), social injustice (x_{15}), lack of safety and security (x_{16}), poor living conditions (x_{17}), public mis-management and corruption (x_{18}), bureaucracy (x_{19}), unsure political situation (x_{20}) and autocratic norms (x_{21})) originating from the country of origin or home country and return migration intentions of Malaysia's professional diaspora. This means that for example if a Malaysian professional diaspora currently residing and working overseas perceives that social injustice (x_{15}) does not exist in his/her home country, then he/she is willing to return home to work (Y);
- There is a negative relationship between the mediating factor (preference for Western Lifestyle (x_{22}) and return migration intentions of Malaysia's professional diaspora. This means that if a Malaysian professional diaspora currently residing and working abroad has low preference for Western lifestyle, then he/she is willing to return home to work (Y);
- There is a positive relationship between the personal factors (family ties (x_{23}), moral duty (x_{24}) and religion (x_{25})) and return migration intentions of Malaysia's professional diaspora. This means that for example if a

Malaysian professional currently residing and working overseas has strong family ties (x_{23}), then he/she is willing to return home to work (Y); and

- There is a positive relationship between the government initiatives variables (awareness of Talent Corporation (x_{26}) and attractiveness of incentives (x_{27})). This means that for example if a Malaysian professional diaspora currently residing and working abroad perceives the incentives offered by the Malaysian government to be attractive, then he/she is willing to return home to work (Y).

Hypotheses

To answer the research questions in this study, the following hypotheses will be tested:

- H1 : There is significant difference in the willingness to return home to work (Y) between bumiputra and non-bumiputra diaspora
- H2 : There is significant difference in the willingness to return home to work (Y) between Generation Y, and Non Generation Y diaspora.
- H3 : There are significant correlations between the willingness to return home to work (Y) with each of the independent variables (x_1 to x_{27}).

Methodology

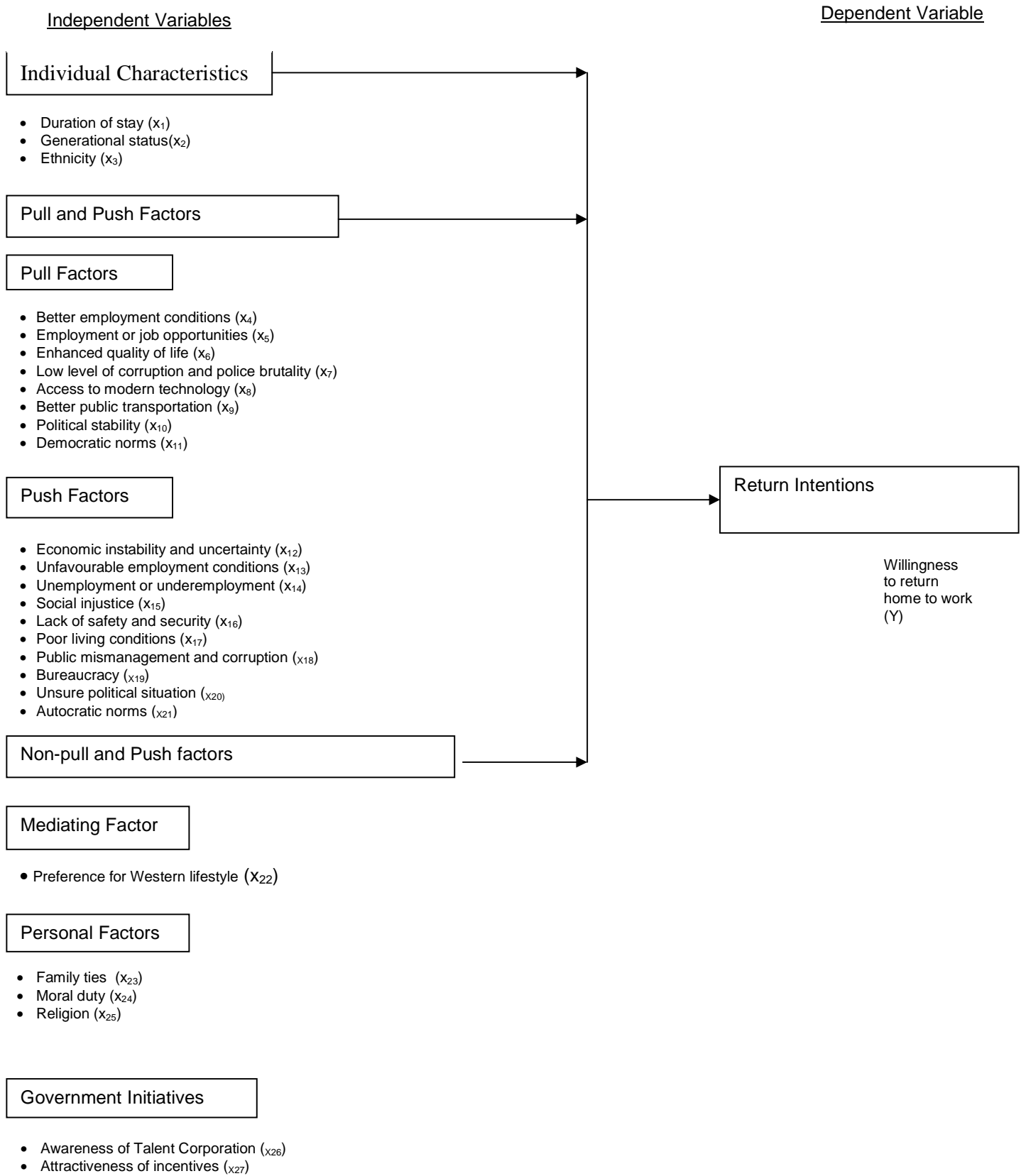
Population and Sample

The target population in this study comprises Malaysians who have migrated and are working abroad either employed or self-employed and contributing to the economic progress of the host countries they are currently residing in. In addition, they must possess a minimum educational qualification of a diploma in order to be qualified to participate in the survey.

A sample of 168 Malaysian technical and skilled professional diaspora were chosen based on “snowball or referral” sampling, a non-random sampling method whereby initial respondents were selected and additional respondents were then obtained from information provided by the initial respondents. This sampling strategy is used when the size and distribution of populations are not known with certainty, and the probability that a given respondent will be picked as part of the sample is also unknown (Gungor and Tansel, 2006). As such, the limitation of the study is that the survey findings cannot be generalized to the targeted population.

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Figure 1: Model of Return Intentions of Malaysia’s Professional Diaspora Working Abroad



Survey Instrument

A four part questionnaire was designed to collect the data. Table 2 shows the summarized description of the variables and measures alongside with their sources and scales.

Table 2: Summary of Variables and Measures

Section	Variables	Description	Scale	Source	No. of Items
1. Pull and Push Factors	Better employment conditions (x_4), Employment or job opportunities (x_5), Enhanced quality of life (x_6), Low level of corruption and police brutality (x_7), Access to modern technology (x_8), Better public transportation (x_9), Political stability (x_{10}), Democratic norms (x_{11}), Economic instability and uncertainty (x_{12}), Unfavourable employment conditions (x_{13}), Unemployment or underemployment (x_{14}), Social injustice (x_{15}), Lack of safety and security (x_{16}), Poor living conditions (x_{17}), Public mismanagement and corruption (x_{18}), Bureaucracy (x_{19}), Unsure political situation (x_{20}), Autocratic norms (x_{21})	The items measured the factors that have the potential to influence return intentions of Malaysia's diaspora	Five category ordinal scale/ Likert scale (1= being strongly disagree and 5= strongly agree)	Lowell & Findlay (2001); Sako (2002); Tansel & Gungor (2003); Nurse (2004); Ravendran (2008); Zweig, et al. (2008); Wong (2010); (Starbizweek(2011b); Starbizweek (2011f); Starbizweek(2011g); Javed (2011); Iravani (2011); The World Bank Report (2011); Parkins (2011); Foo (2011);	18
2. Non-pull and Push Factors	Preference for Western lifestyle (x_{22}), Family ties (x_{23}), Moral duty (x_{24}), Religion (x_{25}), Awareness of Talent Corporation (x_{26}), Attractiveness of incentives (x_{27})	The items measured factors other than the conventional pull and push factors that have the potential to influence return intentions of Malaysia's diaspora	Five category ordinal scale/ Likert type (1= very low and 5= very high)	Gungor & Tansel (2006); Kurka, et al. (2008); Wong (2010);	6
3. Dependent Variable	Willingness to return home to work (Y)	Item measured respondents willingness to return home	Five category ordinal scale/Likert type (1= very unwilling and 5= very willing)	Gungor & Tansel (2006); Wong (2010)	1
4. Individual Characteristics	Duration of stay (x_1), Generational Status (x_2), Ethnicity (x_3),	Items provide pattern of Malaysia's diaspora living abroad	Mixed scales (nominal and ratio)	Self-developed	3

Pre-test

To improve its validity and reliability, the survey questionnaire was pre-tested on five Malaysian skilled professional diaspora via online. Their feedback was that the questionnaire was properly designed and required no major modification.

Data Collection

A total of 172 questionnaires were obtained via online survey using “survey monkey” over a period of two months i.e. May – June 2013. However, only 168 questionnaires were usable and four questionnaires were dropped from the data analysis due to duplication.

Statistical Techniques

The survey data were analyzed using the Statistical Package for Social Sciences (SPSS) Software, version 18 to churn out the required descriptive and inferential statistics. Descriptive statistic such as frequency count was used to analyze all the categorical data of the study whilst non-parametric tests such as Mann-Whitney’s test of difference and Spearman’s Rank-Order Correlation were used to analyze the ordinal data (Boslaugh and Watters (2008)). In addition, questionnaires that had missing values were dropped when carrying out the descriptive statistical analysis.

Results

Univariate Findings

Respondents’ Profile

Table 3 shows that 59% of the respondents are females, 93.1% aged 39 years and below, 72.7% possessing degree qualifications (ie. Bachelor (58.7%), Master (12.6%), DBA/PhD (1.4%) and 56.8 of them are single. In terms of occupation, 57.9% of the respondents are from: Information Technology (19.3%), Accountancy (16.3%), Hotel (11.9%) and Engineering (10.4%). In addition, 72.2% of them are currently residing in Singapore.

Table 3: Frequency Counts of Respondents’ Profile and Open- ended Responses

	N	%
Gender		
Male	59	41.0
Female	85	59.0
	144*	100
Age		
29 years and below	52	35.6
30-39 years	84	57.5
40-49 years	9	6.2
50-59 years	1	0.7
	146*	100
Educational Level		
Diploma	39	27.3
Bachelor Degree	84	58.7
Master	18	12.6
DBA/PhD	2	1.4
	143*	100
Marital Status		
Single	83	56.8
Married	62	42.5
Divorced/Separated	1	0.7
	146*	100
Occupation		

Academician	9	6.7
Accounts	22	16.3
Administration	13	9.6
Designer	7	5.2
Engineer	14	10.4
Hotel	16	11.9
Information Technology (IT)	26	19.3
Marketing	9	6.7
Medical	5	3.7
Operation	6	4.4
Others	8	5.8
	135*	100
Country Currently Residing In		
Australia	6	4.4
China	5	3.7
Hong Kong	3	2.2
Malaysia	5	3.7
New Zealand	1	0.7
Qatar	1	0.7
Singapore	98	72.2
Switzerland	1	0.7
Thailand	3	2.2
United Arab Emirates	1	0.7
United States	11	8.1
Vietnam	1	0.7
	136*	100
Suggestions on how the Malaysian government can successfully lure back the Malaysian diaspora	No. Of responses	%
Safety and Security	19	18.8
Equal Treatment/Fairness	17	16.8
Political Stability	13	12.9
Attractive Salary/Benefits	13	12.9
Political Leadership	12	11.9
Corruption-free	10	9.9
Better Education System	6	5.9
Better Living Environment	4	4.0
Low Income Tax	3	3.0
Strong Economy	3	3.0
Career Opportunities	1	0.9
	101	100

*missing value

With regard to the open-ended question on “how the Malaysian government can successfully lure back the Malaysian diaspora”, safety and security recorded the highest percentage of total responses i.e. 18.8%, followed by equal treatment/ fairness (16.8%), political stability (12.9%), attractive salary/benefits (12.9%), political leadership (11.9%), corruption-free (9.9%), better education system (5.9%), better living environment (4.0%), low income tax (3.0%), strong economy (3.0) and career opportunities (0.9%).

Individual Characteristics Variables

As shown in Table 4, in terms of duration of stay (x_1), 58.4% of the respondents reported they had stayed and worked in the host country for less than 5 years, whilst the remaining 41.6% had stayed and worked in the host country for 5 years and more.

As for generational status (x_2), 64.1% of the respondents belonged to generation Y and 33.1% belonged to generation X. Together generations X and Y constituted 97.2% of the survey respondents. The generational status variable was recoded into generation Y (1) and non-generation Y (2) for the subsequent bivariate analysis.

Lastly, in terms of ethnicity (x_3), majority of the respondents are non-bumiputras (95.8%) with bumiputras making up the remaining 4.2%. This independent variable was dropped in the subsequent analysis as the results are expected to be unreliable.

Table 4: Frequency Counts of Individual Characteristics/Independent Variables

Individual Characteristics	N	%
Duration of Stay (x_1)		
1- 3 years	50	37.9
3 – 5 years	27	20.5
5 – 10 years	31	23.5
More than 10 years	24	18.1
	132*	100
Generational Status (x_2)		
Traditionalists (Born from 1925 to 1945)	1	0.7
Baby-boomer (Born from 1946 to 1964)	3	2.1
Generation X (Born from 1965 to 1979)	48	33.1
Generation Y (Born from 1980 to 2001)	93	64.1
	145*	100
Ethnicity (x_3)		
Bumiputras	6	4.2
Non-Bumiputras	137	95.8
	143*	100

*missing value

Independent Variables

Pull Factors

The results of the univariate findings in terms of percentages of respondents checking the top two boxes revealed the following more important pull factors:

- more attractive salary/better financial rewards [87%]
- better education system/opportunities for children [83.2%]
- easy access to modern technology (82.2%)
- low level of police corruption [80.8%]
- low level of police brutality [79%]
- political stability [78.4%]

- rule of law and justice [77.7%]
- better professional/career opportunities [77.4%]
- better public transportation [76.3%]
- more comfortable lifestyle [75.4%]
- better working conditions [72.6%]
- high standard of living [72%].

Table 5: Percentage of Respondents Checking the Top Two Boxes of the Pull Factors/Independent Variables

Pull Factors	Agree/Strongly Agree	Pull Factors	Agree/Strongly Agree
Better Employment Conditions (x₄)		Level of Corruption and Police Brutality (x₇)	
More attractive salary/ better financial rewards	87 (146)	Low level of police corruption	80.8 (135)
Better employment benefits	70.2 (118)	Low level of police brutality	79 (132)
Better professional/ career opportunities	77.4 (130)	Access to Modern Technology (x₈)	
Better working conditions	72.6 (122)	Easy access to modern technology	82.2 (134)
Employment or Job Opportunities (x₅)		Better Public Transportation (x₉)	
Better job prospects	70.5 (117)	Cheaper public transportation	76.3 (125)
More job openings for a specific specialization	65.8 (110)	Political Stability (x₁₀)	
Enhanced Quality of Life (x₆)		More stable political systems	78.4 (127)
Better work-life balance	59.8 (100)	Democratic Norms (x₁₁)	
High standard of living	72 (121)	Freedom of expression	63.4 (104)
More comfortable lifestyle	75.4 (126)	Individual freedom	69.3 (113)
Providing new experiences including new cultures	71.4 (120)		
Rule of law and justice	77.7 (129)		
Better education system/opportunities for children	83.2 (138)		

- providing new experiences including new cultures [71.4%]
- Note: Figure in parentheses denote frequency counts

The detailed percentages of the two top boxes perceived by the respondents for the pull factors are summarized in Table 5.

Push Factors

- Some of the more significant factors perceived to be the important push factors identified by the respondents are: high crime rate [85%]
- dissatisfaction with personal safety [84.9]
- rampant corruption [82.2%]
- widespread public mismanagement [80.4%]
- lack of tertiary opportunities/scholarships for non-bumiputras [79.6%]
- unequal access to scholarships and higher education [79.1%]
- discriminatory government policies [77.6%]
- dissatisfaction with political future of the country [77%]
- less attractive salary [76.5%]
- rigid bureaucratic and unresponsive government machinery [76.3%]
- lack of human rights and media freedom (76.2%)
- high cost of living [76.2%]
- lack of law and order [74.6%]
- widening inequality (74.3%)
- dissatisfaction with quality of education [74.3%]
- lack of access to high quality education (73.1%)

Table 6: Percentage of Respondents Checking the Top Two Boxes of the Push Factors/Independent Variables

Push Factors	Agree/Strongly Agree	Push Factors	Agree/Strongly Agree
Economic Instability and Uncertainty (x₁₂)		Lack of Safety and Security (x₁₆)	
Unstable financial markets	61.4 (94)	High crime rate	85 (130)
High prices of goods	69.9 (107)	Lack of inter-racial harmony	59.5 (91)
High cost of living	76.2 (115)	Increasing religious divide	59.9 (91)
Lack of international competitiveness	67.8 (103)	Dissatisfaction with personal safety	84.9 (129)
Sluggish economic growth	68.6 (105)		
Unfavourable Employment Conditions (x₁₃)		Poor Living Conditions (x₁₇)	
Less attractive salary	76.5 (117)	Deteriorating public school system	72.5 (108)
Lack of professional/ career opportunities	61.2 (93)	Dissatisfaction with quality of education	74.3 (110)
Lack of promotion opportunities	54.9 (84)	Lack of access to high quality education	73.1 (109)
Unconducive working conditions	58.8 (90)	Poor health facilities	63.7 (95)
Lack of meritocracy	60.1 (92)	Lack of law and order	74.6 (111)
Non-existence of job security	51.3 (78)	Public Mismanagement and Corruption (x₁₈)	
Unemployment or Underemployment (x₁₄)		Widespread public mismanagement	80.4 (119)
Limited job openings for a specific	57.5 (88)	Rampant corruption	82.2 (121)

specialization			
Poor employment opportunities	51.6 (79)	Bureaucracy (x₁₉)	
Mismatch between an individual's skill set and suitable occupation	49.7 (76)	Rigid bureaucratic and unresponsive government machinery	76.3 (112)
Widespread educated unemployment	46.5 (71)		
Limited employment opportunities in the civil service and public educational universities	59.7 (90)	Uncertain Political Situation (x₂₀)	
Social Injustice (x₁₅)		Political instability	71.9 (107)
Widening inequality	74.3 (113)	Discriminatory government policies	77.6 (114)
Unequal access to scholarships and higher education	79.1 (121)	Dissatisfaction with political future of the country	77 (114)
Lack of tertiary opportunities/scholarships for non-bumiputras	79.6 (121)	Autocratic Environment (x₂₁)	
Cronyism	72.6 (111)	Autocratic traditions in national policies	71.1 (106)
		Autocratic traditions in organizational settings	66.1 (98)
		Lack of freedom of thought	68.9 (102)
		Lack of freedom of participation in decision making	70.3 (104)
		Lack of human rights and media freedom	76.2 (112)
		Controls of personal freedom	66.4 (97)

Note: Figure in parentheses denote frequency counts

Non-Pull and Push Factors

The univariate results in terms of percentages of top two boxes reveal that 64.8% of the respondents perceived that they have strong or very strong family ties (x₂₃), followed by moral duty (x₂₄) (57.4%). As for preference for western lifestyle (x₂₂) and religion (x₂₅), 41.2% and 34% of the respondents respectively perceived preference for western lifestyle and religious beliefs as important non-pull and push factors.

However, only 23.3% of the respondents were aware or very aware of Talent Corporation's (x₂₆) task and existence, while a small percentage of 15.6% perceived the government's incentives (x₂₇) as attractive or very attractive. Table 7 summarizes the top two boxes of the non-pull and push factors as perceived by the respondents.

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Table 7: Percentage of Respondents Checking the Top Two Boxes of Non-Pull and Push Factors/Independent Variables

Non-Pull & Push Factors	High/Very High	Non-Pull & Push Factors	High/Very High
Lifestyle Factor		Government Initiative	
Preference for Western lifestyle (x ₂₂)	41.2 (61)	Awareness of Talent Corporation (x ₂₆)	23.3 (34)
Personal Factors		Attractiveness of Incentives (x ₂₇)	15.6 (23)
Family ties (x ₂₃)	64.8 (96)		
Moral duty (x ₂₄)	57.4 (85)		
Religion (x ₂₅)	34 (50)		

Note: Figure in parentheses denote frequency counts

Willingness to Return Home to Work (Y)

As indicated in Table 8, 46.3% of the respondents reported that they are unwilling or very unwilling to return home to work. On the other hand, 25.8% reported they are willing or very willing to return home to work.

Table 8: Frequency Counts of Willingness to Return Home to Work/Dependent Variable

Return Migration/ Intentions	Very Unwilling		Unwilling		Neither Willing Nor Unwilling		Willing		Very Willing		Total	
	ⁿ	%	ⁿ	%	ⁿ	%	ⁿ	%	ⁿ	%	ⁿ	%
Willingness to return home to work (Y)	26	17.7	4.2	28.6	4.1	27.9	28	19.0	10	6.8	147*	100

*missing value

Bivariate Findings

Mann-Whitney's Test of Difference

Table 9 indicates that there are significant statistical differences based on Mann-Whitney's (U) statistics between generation Y and non-generation Y in terms of "willingness to return home to work (Y) (U=1245.5 at p <0.05) and "duration of stay" (x₁) (U= 671 at p <0.01).

The results indicate that generation Y respondents are more willing to return home to work as compared to non-generation Y respondents as manifested by their higher mean rank (63.94) versus non-generation Y's mean rank (50.81). Besides, the results also show that non-generation Y respondents have stayed and worked longer in the host country compared to generation Y respondents as manifested by their higher mean rank (69.73) versus generation Y's mean rank (43.67) and hence their greater reluctance to return home. Thus, hypothesis H2 was substantiated.

Table 9: Test of Difference Results

Variables	Generation Y (n = 73)	Non-Generation Y (n = 44)	Mann Whitney U Statistic
	mean Rank	mean Rank	
Y Willingness to return home to work	63.94	50.81	1245.50 ^a
x ₁ Duration of stay*	43.67	69.73	671 ^b
x ₄ Better employment conditions	59.05	58.92	1602.5
x ₅ Employment or job opportunities	57.93	60.77	1528
x ₆ Enhanced quality of life	58.05	60.58	1536.5
x ₇ Low level of corruption and police brutality	59.25	58.59	1588
X ₈ Access to modern technology	59.04	58.93	1603
X ₉ Better public transportation	58.73	59.45	1586
X ₁₀ Political stability	57.02	62.28	1461.5
X ₁₁ Democratic norms	56.80	62.65	1445.5
X ₁₂ Economic instability and uncertainty	59.90	57.50	1540
X ₁₃ Unfavourable employment conditions	59.56	58.07	1565
X ₁₄ Unemployment or underemployment	57.67	61.20	1509
X ₁₅ Social injustice	60.30	56.84	1511
X ₁₆ Lack of safety and security	55.51	64.80	1351
X ₁₇ Poor living conditions	57.44	61.59	1492
X ₁₈ Public mismanagement and corruption	57.84	60.92	1521.5
X ₁₉ Bureaucracy	58.37	60.05	1560
X ₂₀ Uncertain political situation	55.95	64.05	1383.5
X ₂₁ Autocratic norms	60.25	56.93	1515
X ₂₂ Preference for western lifestyle	56.92	62.44	1454.5
X ₂₃ Family ties	60.87	55.90	1469.5
X ₂₄ Moral duty	57.59	61.34	1503
X ₂₅ Religion	57.75	61.07	1515
X ₂₆ Awareness of Talent Corporation	55.24	65.24	1331.5
X ₂₇ Attractiveness of incentives	60.39	56.69	1504.5

^a significance level (p<0.05)

*Generation Y (n = 66), Non-Generation Y (n = 40)

^b significance level (p<0.01)

Correlations

Table 10 shows the correlation matrix for the overall sample based on Spearman's rank order correlation coefficients.

The independent variables of the empirical model that indicated very significant correlations with willingness to return home to work (Y) encompass: duration of stay, x_1 ($r = -0.268$), better employment conditions, x_4 ($r = -0.241$), enhanced quality of life, x_6 ($r = -0.252$), awareness of Talent Corporation, (x_{26}) ($r = 0.262$) and attractiveness of incentives, (x_{27}) ($r = 0.260$). These correlation coefficients indicate that those respondents who are willing to return home to work have shorter stay in the host country and they tend to disagree that the host country provides:

- better employment conditions in terms of more attractive salary/better financial rewards, better employment benefits, better professional/career opportunities;
- enhanced quality of life in terms of better work-life balance, high standard of living, more comfortable lifestyle, new experiences including new cultures, rule of law and justice and better education system/opportunities for children.

Furthermore, those respondents who are willing to return home to work have higher awareness level of Talent Corporation, in addition to perceiving the government's incentives under the Returning Experts Programme (REP) to be more attractive.

Other correlations which are significant with the willingness to return home to work (Y) include: generational status, x_2 ($r = -0.194$), employment or job opportunities, x_5 ($r = -0.200$), political stability, x_{10} ($r = -0.187$), unfavourable employment conditions, x_{13} ($r = -0.193$), unemployment or underemployment, x_{14} ($r = -0.194$), lack of safety and security, x_{16} ($r = -0.181$), and uncertain political situation, x_{20} ($r = -0.187$). These correlation coefficients show that those respondents who are willing to return home to work tend to belong to generation Y, and they tend to disagree that the following exist in the host country:

- better employment or job opportunities in terms of better job prospects and more job openings for a specific specialization; and
- political stability in terms of more stable political systems;

Besides, respondents who are willing to return home to work tend to disagree that the following exist in the home country (Malaysia):

- unfavourable employment conditions in terms of less attractive salary, lack of professional/career opportunities, lack of promotion opportunities, unconducive working conditions, lack of meritocracy and non-existence of job security;
- unemployment or underemployment characterized by limited job openings for a specific specialization, poor employment opportunities, mismatch between an individual's skill set and suitable occupation, widespread educated unemployment as well as limited employment opportunities in the civil service and public educational universities;
- lack of safety and security as manifested by high crime rate, lack of interracial harmony, increasing religious divide and dissatisfaction with personal safety; and
- uncertain political situation in terms of political instability, discriminatory government policies and dissatisfaction with political future of the country.

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Table 10: Correlation Matrix (“Zero Order”) for Overall Sample (N=119)

	Y	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21	X22	X23	X24	X25	X26	X27	
Y Willingness to return home to work	1.000																												
X1 Duration of stay*	-0.268 ^a	1.000																											
X2 Generational status**	-0.194 ^a	0.414 ^a	1.000																										
X3 Better employment conditions	-0.241 ^a	0.158	-0.062	1.000																									
X4 Employment or job opportunities	-0.200 ^a	0.112	0.042	0.733 ^a	1.000																								
X5 Enhanced quality of life	-0.252 ^a	0.165	0.036	0.702 ^a	0.580 ^a	1.000																							
X6 Low level of corruption and police brutality	-0.103	0.047	-0.011	0.368 ^a	0.332 ^a	0.454 ^a	1.000																						
X7 Access to modern technology	-0.115	0.083	-0.002	0.490 ^a	0.488 ^a	0.493 ^a	0.538 ^a	1.000																					
X8 Better public transportation	0.008	0.158	0.011	0.328 ^a	0.298 ^a	0.352 ^a	0.410 ^a	0.528 ^a	1.000																				
X9 Political stability	-0.187 ^a	0.198 ^a	0.080	0.403 ^a	0.414 ^a	0.451 ^a	0.499 ^a	0.541 ^a	0.601 ^a	1.000																			
X10 Democratic norms	-0.048	0.101	0.088	0.406 ^a	0.440 ^a	0.582 ^a	0.423 ^a	0.456 ^a	0.420 ^a	0.411 ^a	1.000																		
X11 Economic instability and uncertainty	-0.119	0.080	-0.035	0.207 ^a	0.141	0.188 ^a	0.148	0.200 ^a	0.090	0.065	0.240 ^a	1.000																	
X12 Unfavourable employment conditions	-0.193 ^a	0.209 ^a	-0.021	0.508 ^a	0.360 ^a	0.341 ^a	0.181 ^a	0.248 ^a	0.035	0.085	0.210 ^a	0.649 ^a	1.000																
X13 Unemployment or underemployment	-0.194 ^a	0.162	0.051	0.327 ^a	0.314 ^a	0.235 ^a	0.148	0.251 ^a	0.036	0.084	0.139	0.603 ^a	0.852 ^a	1.000															
X14 Social injustice	-0.124	0.090	-0.051	0.305 ^a	0.168	0.363 ^a	0.281 ^a	0.308 ^a	0.111	0.210 ^a	0.352 ^a	0.575 ^a	0.519 ^a	0.494 ^a	1.000														
X15 Lack of safety and security	-0.181 ^a	0.280 ^a	0.135	0.302 ^a	0.195 ^a	0.288 ^a	0.178	0.153	0.067	0.147	0.289 ^a	0.631 ^a	0.629 ^a	0.528 ^a	0.623 ^a	1.000													
X16 Poor living conditions	-0.129	0.225 ^a	0.060	0.281 ^a	0.171	0.378 ^a	0.286 ^a	0.255 ^a	0.181 ^a	0.238 ^a	0.330 ^a	0.644 ^a	0.532 ^a	0.500 ^a	0.713 ^a	0.747 ^a	1.000												
X17 Public mismanagement and corruption	-0.056	0.131	0.047	0.273 ^a	0.155	0.328 ^a	0.344 ^a	0.309 ^a	0.097 ^a	0.126	0.305 ^a	0.601 ^a	0.519 ^a	0.480 ^a	0.786 ^a	0.685 ^a	0.805 ^a	1.000											
X18 Bureaucracy	-0.106	0.099	0.026	0.199 ^a	0.108	0.231 ^a	0.329 ^a	0.259 ^a	0.089	0.195 ^a	0.303 ^a	0.580 ^a	0.479 ^a	0.474 ^a	0.697 ^a	0.666 ^a	0.753 ^a	0.800 ^a	1.000										
X19 Uncertain political situation	-0.181 ^a	0.137	0.120	0.216 ^a	0.133	0.255 ^a	0.304 ^a	0.269 ^a	0.164	0.261 ^a	0.304 ^a	0.610 ^a	0.483 ^a	0.459 ^a	0.631 ^a	0.785 ^a	0.755 ^a	0.786 ^a	1.000										
X20 Autocratic norms	-0.138	0.093	-0.048	0.274 ^a	0.154	0.348 ^a	0.269 ^a	0.260 ^a	0.162	0.146	0.317 ^a	0.678 ^a	0.598 ^a	0.554 ^a	0.715 ^a	0.750 ^a	0.798 ^a	0.764 ^a	0.734 ^a	0.754 ^a	1.000								
X21 Preference for western lifestyle	-0.050	0.044	-0.087	-0.061	-0.040	-0.130	-0.206 ^a	-0.010	-0.026	-0.065	-0.138	-0.065	-0.123	-0.074	-0.063	-0.230 ^a	-0.112	-0.101	-0.113	-0.146	-0.187 ^a	1.000							
X22 Family ties	0.013	0.097	-0.076	-0.163	-0.134	-0.115	-0.039	-0.140	0.041	-0.062	-0.303 ^a	-0.343 ^a	-0.265 ^a	-0.140	-0.334 ^a	-0.362 ^a	-0.284 ^a	-0.322 ^a	-0.384 ^a	-0.287 ^a	-0.343 ^a	0.180	1.000						
X23 Moral duty	-0.071	0.121	0.057	-0.123	-0.124	-0.139	-0.157	-0.171	-0.104	-0.312 ^a	-0.311 ^a	-0.158	-0.103	-0.344 ^a	-0.380 ^a	-0.369 ^a	-0.390 ^a	-0.437 ^a	-0.280 ^a	-0.336 ^a	0.252 ^a	0.669 ^a	1.000						
X24 Religion	0.023	0.130	0.062	-0.157	-0.125	-0.181 ^a	-0.081	-0.148	-0.103	-0.142	-0.274 ^a	-0.291 ^a	-0.208 ^a	-0.257 ^a	-0.218 ^a	-0.300 ^a	-0.330 ^a	-0.257 ^a	-0.250 ^a	-0.230 ^a	-0.312 ^a	0.283 ^a	0.423 ^a	0.621 ^a	1.000				
X25 Awareness of Tamil Corporation	0.262 ^a	-0.004	0.151	0.117	0.084	0.052	0.147	0.265 ^a	0.056	0.153	0.010	0.129	0.059	0.061	0.010	-0.042	-0.013	0.006	0.151	0.085	0.013	-0.002	-0.087	-0.042	0.059	1.000			
X26 Attractiveness of incentives	0.260 ^a	-0.160	-0.055	0.068	-0.019	0.134	0.165	0.154	0.091	0.147	0.088	0.131	0.076	0.093	0.257 ^a	-0.189 ^a	0.324 ^a	0.217 ^a	0.217 ^a	0.178	0.189 ^a	0.055	0.061	-0.034	0.017	0.147	1.000		

a Significance level (p<0.05)

* Duration of stay (n = 107)

b Significance level (p<0.01)

** Generational status (n = 117)

Discussion and Conclusions

The univariate results indicate that nearly half of Malaysia's skilled professional diaspora who participated in the survey are unwilling to return to work in Malaysia, with only a quarter of them willing to do so. This result differs slightly from Wong's (2010) online study which reported that about one-third of the Malaysia's student respondents surveyed had a desire to return to Malaysia and another one-third had no desire to return to Malaysia.

In addition, the univariate results suggest that the top 10 pull and push factors that are positively perceived by Malaysia's skilled professional diaspora are:

Pull Factors

- more attractive salary/better financial rewards
- better education system/opportunities for children
- easy access to modern technology
- low level of police corruption
- low level of police brutality

Push Factors

- high crime rate
- dissatisfaction with personal safety
- rampant corruption
- widespread public mismanagement
- lack of tertiary opportunities/scholarships for non-Bumiputras

These findings are in tandem with Foo's (2011) research which highlighted more attractive salary overseas as a very important pull factor of Malaysian brain drain. Foo (2011) also identified lack of general safety and security which includes high crime rate as one of the leading push factors of brain drain in Malaysia. Likewise, Wong's (2010) study suggests three-quarters of Malaysian student diaspora perceived crime rate in Malaysia as high.

The univariate results for non-pull and push factors suggest that nearly two-thirds of Malaysia's skilled professional diaspora have strong or very strong family ties in addition to perceiving their moral duty as strong or very strong. This implies that this elite group of professionals have not severed all ties with their country of origin and it is still possible for the Malaysian government to entice them back to assist in the country's economic transformation programme with the right incentives or to utilize their skills and expertise under the diaspora option as has been successfully implemented by countries like China, India and Colombia (Malhotra, 2009).

Approximately two-thirds of Malaysia's skilled professional diaspora are unaware or very unaware of Talent Corporation, the agency tasked with luring back the Malaysian diaspora and to scout for foreign skilled professionals. They also perceive the government's new incentives under the Returning Experts Programme (REP), like the 15% transitional tax incentive and the tax free incentive for 2 cars as unattractive or very unattractive.

The results of the test of difference suggest that Malaysia's generation Y skilled professional diaspora working abroad are more willing to return home to work as compared to Malaysia's non-generation Y skilled professionals which comprise generation X, baby-boomers and traditionalists. It also suggests that Malaysia's generation Y skilled professionals working abroad have shorter stay overseas as compared to Malaysia's non-generation Y skilled professionals consisting of generation X, baby-boomers and traditionalists. Hence, having stayed and worked overseas not as long as their non-generation Y counterparts (generation X, baby-boomers and traditionalists) they are more willing to return to work in Malaysia. As a corollary, it is logical to say that Malaysia's non-generation Y skilled professionals being the older group who have stayed and worked longer overseas are reluctant to uproot themselves to return to Malaysia to work.

The correlation results suggest that Malaysia's skilled professional diaspora who are willing to return to work in Malaysia are motivated by the following factors:

Better or favourable employment conditions in terms of:

- more attractive salary/better financial rewards
- better employment benefits
- better professional/career opportunities
- more conducive working conditions

- more promotion opportunities
- meritocracy
- job security

Enhanced quality of life in terms of:

- better work-life balance
- high standard of living
- more comfortable lifestyle
- providing new experiences
- rule of law and justice
- better education system/opportunities for children

Employment or job opportunities in terms of:

- better job prospects
- more job openings for a specific specialization
- matching individual's skill set with suitable occupation
- opportunities to work in the civil service and public educational universities

Safety and security in terms of:

- low crime rate
- inter-racial harmony
- religious tolerance
- personal safety

Political stability in terms of:

- more stable political system
- non-discriminating government policies
- political future of the country

The correlation results further suggest that Malaysia's skilled professionals who have shorter stay in the host country are more willing to return to Malaysia to work. This finding is in line with the works of past researchers who reported that the duration of stay in the host country influences the return intentions of diaspora (Gungor and Tansel, 2006, Tung and Lazarova 2006; Zweig, et.al. 2008; Foo, 2011). Lastly, the correlation findings also suggest that Malaysia's generation Y skilled professional diaspora working abroad are more willing to return to Malaysia to work

The above findings have broad implications on the government's plan to increase the brain gain talent which Malaysia urgently needs to realize its economic and government transformation plans. Hence, Talent Corporation Malaysia Berhad and other related agencies need to do the following:

- Advise the government on the critical factors that influence brain gain in Malaysia as discussed above and assist the government to package these factors in such a way that they become as attractive, if not more than, what are being offered by developed countries especially those of Singapore, Australia and the UK, the top 3 preferred destinations for Malaysians to work overseas;
- Intensify its engagement programmes overseas especially in Singapore, besides the UK and Australia. This is because approximately three-quarters of Malaysia's skilled and talented diaspora who participated in the survey are currently residing in Singapore and the loss of talent especially that of generation Y to the city state will pose a serious problem to Malaysia's aspirations of becoming a high-income state by 2020. As reported in Sunbiz (2013), there are about 400,000 Malaysians living and working in Singapore. Hence, it is crucial for the government to lure back these Malaysian skilled professionals from the city state because of its sheer number; and
- Conduct periodic surveys on return intentions of Malaysian skilled professional diaspora based on a more representative sampling frame so as to monitor the changing needs and aspirations of Malaysia's diaspora so that they could be successfully wooed to return to work in Malaysia.

Recommendations for Future Research

To ensure representativeness of the sample and better generalizability of findings, further studies should be conducted to cover a larger sampling frame to enable stratified random sampling being undertaken. Future studies should also incorporate multivariate analysis to identify the significant predictors to the model of brain gain to further strengthen the bivariate or correlation findings.

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References

- [1] Batista, C., Lacuesta, A. & Vicente, P.C. (2011) "Testing the brain gain hypothesis": Micro evidence from Cape Verde". *Journal of Development Economics* doi: 10.1016/j.jdeveco. 2011.01.005.
- [2] Boslaugh, S. & Walters, P. A. (2008). *Statistics in a Nutshell*. O'Reilly: California.
- [3] Chacko, E. (2007) "From brain drain to brain gain: reverse migration to Bangalore and Hyderabad, India's globalizing high tech cities" *GeoJournal* 68, pp 131-140.
- [4] Foo, G. (2011). "Quantifying the Malaysian brain drain and an investigation of its key determinants". *Malaysian Journal of Economic Studies* 48 (2). pp 93-116.
- [5] Glytsos, N.P. (2010) "Theoretical consideration and empirical evidence of brain drain grounding the review of Albania's and Bulgaria's experience" *International Migration* 48 (3) pp. 107-130. Cited in Tyson (2011).
- [6] Gungor, N.D & Tansel, A. (2006). Brain Drain from Turkey: An Investigation of Students' Return Intentions. Discussion Paper No. 2287 Institute for the Study of Labor (IZA), Bonn.
- [7] Gupta, D & Tyagi, R (2011). "Models proposed by economists to analyse the migration of skilled labours from developing countries like India". *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 2 (5) pp 344-349.
- [8] Ho, Yi-Jian & Tyson, A.D. (2011) "Malaysian migration to Singapore: Pathways, mechanisms and status". *Malaysian Journal of Economic Studies* 48 (2) pp 131-145.
- [9] Hunger, U (2002) The 'Brain Gain' Hypothesis: Third-world Elites in Industrialized Countries and Socioeconomic Development in their Home Country. Working Paper 47. The Center for Comparative Immigration Studies, University of California, San Diego.
- [10] Irvani, M.R. (2011) "Brain drain problem: A review. *International Journal of Business and Social Science*. 2 (15) pp. 284-289.
- [11] Javed, Iqbal Shah (2011). "Brain drain: Why people leave their motherland?" *Journal of Managerial Science* v (i) pp 63-74.
- [12] Kurka, B, Tripl, M & Maier, G (2008). Understanding Scientific Mobility: Characteristics, Location Decisions, and Knowledge Circulation. A Case Study of Internationally Mobile Austrian Scientists and Researchers. DYNREG Working Papers: Dynamic Regions in a Knowledge-driven Global Economy. Lessons and Policy Implications for the EU. Cited in Redek et al. (2011).
- [13] Lim, L. (2004) "Malaysia boosts efforts to reverse brain drain". Available online at: www.scidev.net (accessed 30 November 2004). Cited in Ziguras & Law (2006).
- [14] Lowell, B.L. & Findlay, A. (2001). Migration of Highly Skilled Persons from Developing Countries: Impact and Policy Resources. International Migration Branch. International Labour Office. Geneva.
- [15] Malhotra, K (2009). Tenth Malaysia Plan Brain Gain Malaysia Programme Workshop: The Challenge of Converting Brain Drain into Brain Gain for Developing Countries. United Nations Development Programme.
- [16] Martin, P. & Zurcher, G (2008) "Managing migration: The global challenge". *Population Bulletin* 63 (1) pp 1-19. Cited in Parkins (2011).
- [17] Mountford, A (1997) "Can a brain drain be good for growth in the source economy?" *Journal of Development Economics* 53 (2) pp 287-303. Cited in Giannoccolo (2006).
- [18] News Straits Times (2010). "It's not just about the money", June 14.
- [19] Nurse, K (2004). Diaspora, Migration and Development in the Americas. Retrieved April 3rd, 2009 from http://library.fes.de/pdf-files/id/ipg/200402_nurse.pdf. Cited in Parkins (2011).
- [20] Parkins, N.C (2011) "Push and pull factors of migration" *American Review of Political Economy* 8 (2) pp 6-24.
- [21] Portes, A (1976) "Determinants of the brain drain" *International Migration Review* Nr. 4, S. pp 489-508. Cited in Hunger (2002).
- [22] Ravendran, A (2008) "Brain drain or global mobility?" *Accountants Today* January.
- [23] Sako, S. (2002) "Brain drain and Africa's development: A reflection" *Africa Issues* 30 (1) pp 25-30.
- [24] Starbizweek (2011a) "Migration of talent – how can Malaysia stem the tide", April 30.

- [25] Starbizweek (2011b) "The scramble of skills" February 12.
- [26] Starbizweek (2011c) "Can Malaysia reform fast enough to meet challenges?" April 30.
- [27] Starbizweek (2011d) "The big picture on skilled labour market" April 30.
- [28] Starbizweek (2011e) "Blueprint needed" February 12.
- [29] Starbizweek (2011f) "Education and security among reasons" February 12.
- [30] Starbizweek (2011g) "Malaysia's got talent". February 12.
- [31] Starbizweek (2011h) "The 'vicious cycle' of brain drain. April 30.
- [32] Stark, O. Helmenstein, C & Prskawetz, A (1997). "A brain gain with a brain drain" Economics Letters vol. 55 (2), pp 227-234. Cited in Giannoccolo (2006).
- [33] Stewart, T. A. (2000) Is Job Reality Necessary? Fortune 154.
- [34] Straubhaar, T. & Wolburg M.R. (1999) "Brain drain and brain gain in Europe: An evaluation of the East European migration to Germany". Jahrbucher fir Nationalokonomie and Statistik vol 218, N. 5-6. Cited in Giannoccolo (2006).
- [35] Stempel, R. (2003) "Self-esteem and job satisfaction". The Journal of Social Psychology. 141. 236-250.
- [36] Sunbiz (2013). "Talent Corp and the Singapore Conundrum". September 17.
- [37] Tansel, A & Gungor, N.D. (2003): "Brain drain from Turkey: Survey evidence of student non-return" Career Development International 8 (2) pp 52-69. Cited in Redek et al. (2011).
- [38] The Edge (2008) "Creating and retaining the best brains and human assets", February 25.
- [39] The World Bank Report (2011) Malaysian Economic Monitor – Brain Drain (April).
- [40] Tung, R.L. & Lazarova, M (2006) "Brain drain versus brain gain: An exploratory study of ex-host country nationals in Central and East Europe" The International Journal of Human Resource Management 17(11) pp 1853-1872.
- [41] Wong, E. (2010) "Plugging the brain drain" [http:// pluggingthebraindrains.wordpress.com/about/](http://pluggingthebraindrains.wordpress.com/about/) Accessed on 17-8-2012.
- [42] Zигuras, C & Law. S.F. (2006) "Recruiting international students as skilled migrants: the global 'skill race' as viewed from Australia and Malaysia". Globalisation Societies & Education 4(1) pp 59-76.
- [43] Zweig, D., Chung Siu Fung & Donglin Han (2008) "Redefining the brain drain: China's diaspora option" Science, Technology & Society 13 (1) pp 1-33.