May 2017 Volume: 14, No: 2, pp. 221 – 236 ISSN: 1741-8984 e-ISSN: 1741-8992 www.miarationletters.com



Article history: Received 27 July 2016; accepted 30 August 2016

# Eliciting salient beliefs of engineers in Malaysia on migrating abroad Cheng Ming Yu<sup>±</sup>

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#### Abstract

Despite various government efforts incorporating economic, social and political considerations in curbing emigration problem, brain drain remains an issue in Malaysia. This paper examines the determinants of migration from behavioural perspectives. Using Theory of Planned Behaviour (TPB) model, the engineers' salient beliefs on migrating abroad were elicited using qualitative analysis. A number of new behavioural, normative and control beliefs were identified. The elicitation of the engineers' salient beliefs is essential in developing appropriate behavioural intervention programmes to reduce their intention to migrate abroad. The methodology developed in this study can also assist future researchers to identify the salient beliefs of people who have high intention to migrate abroad.

Keywords: Brain drain; Theory of Planned Behaviour; salient beliefs; behavioural intervention programme; Generation Y.

#### Introduction

The prevalence of brain drain - migration of skilled workers from one country to another - is generally high in developing countries. Docquier and Marfouk (2006) estimated that nearly 85% of skilled migrants from developing countries were living in OECD countries. As most of these countries are categorised as middle income countries (income per capita between \$2,000 and \$11,750), the brain drain issues could trap these countries from moving up to high income status. Felipe et al. (2012), estimated that out of 52 middle-income countries analysed, 35 were trapped and finding difficult to move on. The authors suggested that to move towards high income economies, the countries should shift from traditional industries to modern industries. This requires intense investment by firms engaged in high value added activities. However, many countries are unable to attract these firms due to shortages of high-skill workers.

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Malaysia is chosen as a case to study because the country is in the transition to achieve high income status by 2020. Shortages of high-skill workers could cause a country to fall into a middle income trap. Similar to the suggestion made by Felipe (2012) that encourages countries to move towards modern industries, Flaaen et al. (2013) also argued that Malaysia should attract more highly productive firms from abroad. However, according to TalentCorp (2012), the large outflow of skilled workers from Malaysia is causing multinational companies (MNCs) reluctant to invest in high value-added activities. For instance, The Strait Times (2009) reported that Penang state lost investments worth of US\$3 billion because it could not meet the demand by the MNCs which need about one thousand engineers. Hence, the prospect of high-skill jobs for the professionals who reside in the country is limited, resulted in more outflow of skill workers. It is clear that if the vicious cycle is not halted, the brain drain phenomenon in Malaysia could dampen its vision to achieve high income status.

One particular professional that is facing critical shortages in Malaysia is engineers. MIDA (2014) reported that Malaysia could not attract sufficient foreign investment due to acute labour shortages of engineers. Sharmila (2016) too reported that many MNCs operating in Malaysia face difficulty to hire talented local engineers. As such, this study will investigate the intention of Malaysian engineers to migrate abroad.

# Determinants of brain drain in Malaysia

The literature of brain drain in Malaysia focus mainly on studying the impact of economics, social, and political factors on professionals' decision to migrate abroad. In economics studies, the significant factors are lacking of career prospect and lower salary at home relative to the destination countries (Choong et al., 2013; Foo, 2011). As shown in Figure 1, the vicious cycle of insufficient talent explained why technologically advanced MNCs are reluctant to invest in higher value-added activities in Malaysia. It resulted in Malaysian sectors unable or difficult to move to high productive sectors. This causes a slow growth in the workers' productivity, thus create a low wage environment compared to other countries like Singapore and Australia. It explains why the wage rate of skilled workers in Malaysia remains low even though there are labour shortages. Ang (2015) stated that engineering undergraduates in Malaysia expected their salaries to be less than half of their counterparts in Singapore and Australia (Ang, 2015). As a result, many skilled workers decided to migrate abroad to earn higher income.

Economic factor is necessary but not sufficient factor to explain migration. Among other factors are the socio-political factor. Malaysian population is composed of three main ethnic groups; the *Bumiputeras* (or the sons of the soil) (68.6%), the Chinese (23.4%) and the Indians (7.0%) (Department of Statistics Malaysia, 2016). The Chinese and Indian ethnic groups are the minorities in the country. In order to eradicate poverty among the *Bumiputeras* and to reduce the wealth distribution gap between the *Bumiputeras* and the non-*Bumiputeras*, various socio-economic



Insufficient

talent

policies are being implemented by the Malaysian government (Lim, 2014). The *Bumiputeras* were given special rights and preferential treatment in various forms, such as better access to higher education in public institutions and employment in public service department. However, such policies have created the feeling of social injustice among the Chinese and Indian ethnics and act as a major factor that determine brain drain in Malaysia. In a report by The Performance Management and Delivery Unit (PEMANDU), a unit under the Prime Minister's Department in Malaysia, it stated "Another unintended outcome of the New Economic Policy was a sense of deprivation, discrimination and even resentment felt by the non-Bumiputeras ... These factors have pushed many Malaysians, especially professionals, to work and reside overseas ..." (PEMANDU, 2010, p.76). As a consequence, more than 90% of the skilled migration from Malaysia were the minority ethnic groups - the Chinese and Indians (Hugo, 2011; World Bank, 2011). In comparison, Bumiputeras consisted less than 10% of the emigrants from Malaysia.



Constrained growth and investments

Figure 1: Brain drain triggers a vicious cycle of insufficient talent

#### Source: TalentCorp (2012)

Fewer

iobs

Meanwhile, some of the social factors identified in the literature are lower quality of life, desire to gain international experience and ability to communicate in English. Jauhar et al. (2009) explained that Malaysian professionals intended to work abroad to gain exposure at international level. The decision to migrate is also influenced by the ability to speak in English. According to Foo (2011), professionals who have the ability tend to migrate more to destination countries where English is widely spoken. Meanwhile Choong et al. (2013) and Wahab (2014) found lower quality of life in Malaysia relative to the host countries also influence the migration decision by the Malaysians. They mentioned that the professionals were concerned about the declining state of security and safety in the country.

According to Arango (2000) and Castles (2010), the migration research has been overly focused on the economic, politic and social theories. Due to the complexity of the issues, the authors suggested that researchers should expand their analysis into new area of studies. This could explain the reason why despite the implementation of various government policies that are incorporating the economic, social and political influences, the brain drain issue in Malaysia remains at critical stage. In order to reduce the intensity of brain drain in Malaysia, an effective intervention programme based on a new migration framework is necessary. Therefore, the aim of this research is to identify an alternative research framework of migration and suggest an effective intervention programme to reduce brain drain of engineers in Malaysia. The framework and the accompanying intervention programme can be useful to other countries trapped in the middle income and having similar brain drain issues.

In moving away from the traditional migration frameworks, a number of studies have introduced new frameworks to explain the reasons for migration. Sirkeci (2009) explained that one of the main determinants of migration is human conflicts at micro, mezzo and macro levels. Based on the concept of transnationalism, the existence of security and insecurity over different time and space contributes to the movement of human between nations. The framework developed by Sirkeci, which was based on the environment of insecurity and conflict, provides a new dimension in investigating the reasons for migrating abroad. Meanwhile, Sirkeci et al. (2012) identified the shift in the cultural beliefs of Turkish migrants as the factor that cause them to return to Turkey from Germany. The study used cultural of migration as its conceptual framework to explain the phenomenon. The framework explains that people's decision to migrate is influenced by their cultural beliefs and the social patterns related to migration.

Though the frameworks used in the two studies are useful in explaining the determinants of migration from different perspectives, they did not provide any suggestions on the development of appropriate intervention programme. This paper proposes to use a social psychological theory - Theory of Planned Behaviour (TPB) model - to analyse the engineers' behaviour toward migrating abroad. In addition of its ability to predict individuals' intention to perform certain behaviour and its consequence on their actual behaviour, the model is also useful to develop appropriate behavioural intervention programme (BIP). BIP refers to an intervention programme that aimed at changing either participants' intention to perform a particular behaviour or the actual behaviour itself. This is achieved by changing their beliefs that underpin the behaviour of interest.

TPB is an extension of Theory of Reasoned Action (TRA), a behavioural model introduced by Fishbein and Ajzen (1975). TRA model is able to predict individuals' intention to perform certain behaviour and its consequence on the actual behaviour. The model incorporates two important constructs – attitude and subjective norms – as predictors of behaviour. The model's limitation is its

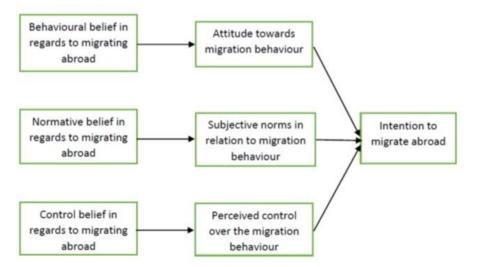


assumption that individuals are able to perform certain behaviour without constrain. However, when individuals do not have certain resources or skills necessary to perform a particular behaviour, they are unable to perform the behaviour. As an improvement to the TRA model, Ajzen (1991) introduced TPB with the additional of perceived behavioural control (PBC) to attitude and subjective norm constructs as predictors of behavioural intention.

Attitude refers to the extent to which an individual evaluate a particular behaviour positively or negatively. Subjective norms measure the extent to which a person perceives that his significant others want him to perform the behaviour. Meanwhile, PBC measures the extent to which a person perceives ease or difficulty in performing the behaviour. According to Ajzen (1991), a person's intention to perform the behaviour is stronger only when the individual perceived that he or she has high control over the behaviour. Ajzen asserted that the three behavioural factors – attitudes, subjective norm, and PBC - are influenced by behavioural belief, normative belief and control belief respectively.

Behavioural belief measures a person's belief that the specific outcomes resulting from the behaviour of interest are advantageous or disadvantageous. The individual's belief regarding the specific people who will either approve or disapprove him perform the behaviour is measured by normative belief. Control belief measures the individual's belief regarding the specific factors that could act as facilitators or barriers in performing that behaviour. The research model for this study is shown in Figure 2.





In determining the intention to migrate abroad among Malaysian professionals, this paper proposes TPB-based theoretical framework because:

The model is less complicated and it is context-free. TPB has been applied in various contexts and fields (such as studies by Chan and Bishop, 2013 in environment; Chen and Tung, 2014 in marketing; Presley et al., 2010 in education). Moreover, relative to other behavioural models, TPB could explain the intention and behaviour significantly (Armitage and Conner, 2001).

The application of TPB is well documented in developing BIP which is aimed to change a person's behaviour or their intention to perform the behaviour. Amir et al. (2005), Anderson and Stamoulis (2006) and World Bank (2015) explained that the inclusion of belief components in the model could help researchers to identify which salient beliefs determine a person's behaviour. Once identified, policy makers can develop relevant programmes to alter these beliefs, which in turn will change the intention or the behaviour of interest.

Compared to other alternative intervention model such as Cognitive Behavioural Therapy (CBT), TPB-based intervention is applicable for both small and large number of participants (Fishbein and Ajzen, 2005). Since the number of professionals in Malaysia with strong intention to migrate abroad is probably large, TPB based intervention is arguably a more appropriate model for this study.

In the past, a number of migration studies have applied the TPB in their research (De Jong, 2000; Remhof et al., 2014; Engle et al., 2015). For example, De Jong (2000) used the model to analyse the impact of rural people's attitudes and norms on their intention to migrate into urban areas in Thailand. Nevertheless, the study did not attempt to elicit the people's salient beliefs that can drive their migration's behaviour. In brief, the complete theoretical framework of TPB was not tested. Recently, Remhof et al. (2014) and Engle et al. (2015) analysed the behavioural factors that determine undergraduates' willingness to undertake international assignments. Both studies reported that TPB model could well explain the undergraduates' intention and found all the three antecedents of behavioural intention – attitude, subjective norms and PBC - were significant.

However, just like De Jong's (2000) study, Engle et al. (2015) did not elicit the respondents' salient beliefs that could provide insights into their attitude, subjective norm and PBC. In Remhof et al. (2014), though the belief components were included, the beliefs were identified from literatures and were not elicited from interviews with relevant individuals. According to Fishbein and Ajzen (2010), people's beliefs are not static but vary from time to time. Therefore, if the people's immediate and present beliefs are not elicited through interviews, this can lead to the development of ineffective intervention programmes.

Ajzen (2011) expounded that if the purpose of a study is only to predict the intention to perform certain behaviour, the inclusion of the three behavioural factors (attitude, subjective norms and PBC) are sufficient. However, if the purpose is to develop a BIP, the three belief components should also be included in the framework. Since the main aim of this study is to develop an intervention



programme to reduce Malaysian engineers' intention to migrate abroad using a behavioural approach, a BIP will be developed. In achieving this objective, the engineers' underlying beliefs should be identified first. This means a full model of TPB should be tested. Table 1 shows the process involved in the development of a TPB-based BIP (Ajzen, 2011; Fishbein and Ajzen, 2005).

Table 1: Stages in developing TPB-based intervention programme

Stages	Activities
1	To define the target behaviour and population.
2	To conduct a qualitative analysis to identify the salient behavioural, normative and control beliefs with respect to performing the target behaviour.
3	To conduct a quantitative study using a structured questionnaire and to determine which components of the theory (attitude, subjective, PBC) are the most important in influencing intentions and behaviour in the target population.
4	To determine which individual beliefs best discriminate between intenders and non-intenders.
5	To develop relevant intervention programme to change those key beliefs.

## Source: Ajzen (2011) and Fishbein & Ajzen (2005)

This paper focuses on the first two stages of the intervention programme as the main purpose of this study is to elicit respondents' salient beliefs about migration and to define the target behaviour for the study. As highlighted in the literature, elicitation study is critical in TPB research where the findings generated from the first two stages would provide useful inputs for the later three stages of study.

## **Participants and methods**

As recommended by Francis et al. (2004), the population and the behaviour of interest are defined according to TACT (Target, Action, Context, Time). The target (T) population for this research is Malaysian engineers of the Generation Y (Gen Y). Macmillan Dictionary (2010) defined Gen Y as people who were born between 1979 and 1995. Generally, the intention to work abroad among this group of people is relatively higher. PricewaterhouseCoopers (PwC, 2009) reported that about 80% of the Gen Y respondents were intended to migrate abroad. In Malaysia, Sebastian (2013) reported that Gen Y were more willing to move abroad because of their enthusiasm to take up new challenges.

The action (A), which is the specific behaviour for this research, is defined as the behaviour of migrating in the context (C) of international migration for at least a year. Without the word 'abroad', participants may perceive migration within the

country as well. In addition, the type of migration specified here is long term migration, where UNESCO (n.d.) referred as at least for one year. According to Beine, et al. (2008), long term migration may cause negative impact to the country's economic growth. This is because the likelihood that the migrants to extend their stay abroad or to stay permanently is higher as the duration of stay increases. In contrast, the author claimed that short-term migration (for less than one year) may benefit home countries in terms of the inflow of new skills, experience and income. The time (T) frame that is needed to materialise individuals' actual behaviour is suggested to be within two years. De Groot et al. (2011) explained that people who have the intention to migrate may perform the actual behaviour will reduce. In summary, the definition of behaviour for the present study is proposed as "The intention of Malaysian Gen Y engineers to migrate abroad for at least a year in the next two years".

Belief	Open-ended questions
Behavioural Belief	What are the advantages of you migrating abroad for at least a year in the next two years? What are the disadvantages of you migrating abroad for at least a year in the next two years?
Normative Belief	Who are the people do you think will approve your decision to migrate abroad for at least a year in the next two years? Who are the people do you think will disapprove your decision to migrate abroad for at least a year in the next two years?
Control Belief	What are the factors that will make your decision to migrate abroad for at least a year in the next two years easier? What are the factors that will make your decision to migrate abroad for at least a year in the next two years difficult?

 Table 2: Open-ended questions to elicit participants' salient beliefs

As discussed earlier, the salient beliefs are best elicited from interviews. Individual interviews are preferred than focus group because the participants' beliefs should be their immediate salient beliefs that come to their mind and not influenced by others. In the case of focus group, there is a strong possibility that a participant's response could be influenced by other participants. Using the guideline provided in Ajzen (2002), Table 2 shows the six questions used to elicit the participants' beliefs regarding the behaviour of migrating abroad.

Purposive sampling method is used to select the Gen Y engineers who are wellinformed with the phenomenon of migration. Since brain drain in Malaysia is mostly composed of minority ethnic groups, quota sampling technique is appropriate in determining the proportion of participants according to their ethnicities. According to World Bank (2011), more than 80% of skilled migrants



from Malaysia were Chinese ethnicity, followed by about 10% Indian and with less than 10% were Malays. Therefore, the appropriate proportion of the participants based on the three ethnicities should be of 80% Chinese: 10% Indian: 10% Malay.

Snowball sampling technique (a subset of purposive sampling) was also employed because locating the engineers is not easy. Some of the earlier participants were asked to suggest other participants who were fit into the population. A total of 20 Gen Y engineers agreed to take part in the interviews. The participants were briefed on the purpose of the study as well as assuring them on the anonymity and confidentiality. Each session of the interview took an average of about 30 minutes. The participants' responses were transcribed, and the content analysed to elicit the engineers' salient beliefs. The key words and phrases of the three beliefs stated by the participants were then coded into main themes.

#### Results

The 20 engineers in the sample were employed in various sectors located in two states in Malaysia – Bayan Lepas Free Trade Zone in Penang and Shah Alam Industrial Estate in Selangor. The demographic information of the participants is summarised in Table 3. They consist of 16 Chinese ethnicity and 2 each of Indian and Malay ethnicities respectively (80:10:10 proportion). Meanwhile, as the composition of female engineers in Malaysia was estimated between 30% and 45% (Charles, 2011; Tan, 2014), eight females (40%) and 12 males (60%) were included in the sample. The participants' age range was between 25 and 36, with mean age of 30.6.

Characteristics	n = 20		
Gender			
Male	12 (60%)		
Female	8 (40%)		
Age (Mean)	30.6 years old		
Ethnic group			
Chinese	16 (80%)		
Indian	2 (10%)		
Malay	2 (10%)		

Table 3: Demographic characteristics of the participants

Table 4 summarises the descriptive findings of the participants' salient beliefs, measured by the frequency (fq), percentage of responses (%<sup>a</sup>) and percentage of respondents (%<sup>b</sup>). Each frequency represents the number of participants who have stated the respective themes during the interviews. From the perspective of behavioural beliefs, the engineers had indicated more positive attitudes toward migrating abroad. During the interviews, a total of 78 advantages of migrating abroad were elicited, compared to only 26 disadvantages. The identified

advantages and disadvantages are coded into eight and five themes respectively (see Table 4). Among the advantages, opportunity to earn higher income was mentioned by all the respondents and is found to be the most salient. The other four important factors elicited from them are safe and secure environment to live (16), better job opportunities (14), better opportunities to learn new skills (10) and for their children's education (10).

Belief Constructs		Respondents' Reported Beliefs	Fq	%ª	% <sup>b</sup>
Behavioural	Advantage	Higher income	20	25.6	100
Beliefs		Safe and secure environment to	16	20.5	80
		live			
		Better job opportunities	14	18.0	70
		Opportunities to learn new skills	10	12.8	50
		Education opportunity for	10	12.8	50
		children			
		Gain international exposure	5	6.4	25
		Better freedom and equal rights	2	2.6	10
		Opportunity for research funding	1	1.3	5
		Sub-total	78	100	
	Disadvantage	Separation from family and	7	26.9	35
	-	friends			
		Facing unfamiliar culture	7	26.9	35
		Possibilities of discrimination by	6	23.2	30
		others			
		High cost of living	3	11.5	15
		Can't find local food	3	11.5	15
		Sub-total	26	100	
Normative	Approve	Friend	18	26.1	90
Beliefs		Spouse/ Fiancé	13	18.8	65
		Working colleague	12	17.4	60
		Parents	8	11.6	40
		Children	6	8.8	30
		Sibling	5	7.2	25
		Superior	5	7.2	25
		Subordinate	2	2.9	10
		Sub-total	69	100	
	Disapprove	Parents	12	46.3	60
		Spouse/Fiancé	5	19.2	25
		Superior	5	19.2	25
		Working colleague	2	7.7	10
		Friend	1	3.8	5
		Relative	1	3.8	5
		Sub-total	26	100	

**Table 4**: Frequencies of Elicited Salient Beliefs



Belief Constructs F		Respondents' Reported Beliefs	Fq	%ª	% <sup>b</sup>
Control	Easy	Having the right job skill	12	21.8	60
Beliefs		High social networks abroad	11	20.0	55
		Good command of English	9	16.4	45
		Easy to find jobs	9	16.4	45
		Able to adapt to new culture	8	14.5	40
		Low monetary cost	6	10.9	30
		Sub-total	55	100	
	Difficult	High monetary cost	14	31.1	70
		Lacking of appropriate job skill	7	15.6	35
		Poor command of English	7	15.6	35
		Difficult to adapt to new culture	6	13.3	30
		Low social networks abroad	5	11.1	25
		Difficult to find jobs	3	6.7	15
		Difficulty in getting work permits	3	6.7	15
		Sub-total	45	100	

Table 4: Continued.

<sup>a</sup> Percentage of responses is derived by dividing the number of times a theme is stated over the total number of times all the themes are stated.

<sup>b</sup> Percentage of respondents is derived by dividing the number of respondents who stated a theme over the total number of respondents, which is 20.

Regarding the disadvantages of migrating abroad, a total of 26 factors were recorded. The engineers believed that when they migrate abroad, they have to separate from their family members and friends (7) as well as facing unfamiliar culture (7). Some of them (6) also worried about the possibilities of being discriminated at the host countries. Concerns regarding high cost of living as well as difficulties in getting local food in the host countries were only mentioned three times.

Meanwhile, in the elicitation of the main reference groups who could either approve or disapprove the engineers' behaviour of migrating abroad, a total of eight and six groups were identified respectively. In certain cases, the same group may approve the behaviour of some engineers while disapprove the others. For instance, eight engineers indicated that their parents will approve them migrating abroad while another 12 believed otherwise. Overall, the results indicated that majority of the engineers believed that people who are important to them will approve their behaviour of migrating abroad.

The respondents stated 69 times that their referents will approve, while only 26 times on disapproval. Friends (18), spouses (13, including fiancé) and working colleagues (12) are the three most important reference groups that the engineers believed will encourage them to migrate abroad. Other groups who are likely to approve the behaviour, though in a small number, are parents (8), children (6), siblings (5), superiors (5) and subordinates (2). On the other hand, parents (12) are the most likely group who will not approve the engineers' behaviour of migrating

abroad. The other five groups – spouse (5), superior (5), working colleague (2), friend (1) and relative (1) – are also expected to disapprove some of the engineers' intention to migrate abroad.

A number of factors which could make migrating abroad easier or difficult to accomplish were elicited from the interviews. Some of the engineers believed that they have high control over certain factors like having the right job skills (12), social networks abroad (having family members, relatives and friends at abroad, 11), ability to converse in English (9), ability to find jobs (9), ability to adapt to new culture (8), and ability to cover the monetary cost (6) in relation to migration. Hence, the elicited themes indicate the factors that could ease the engineers' decisions to migrate abroad. However, some engineers highlighted the factors that could hinder them from migrating abroad (14). This is followed by other factors like lacking of appropriate job skills (7), poor command of English (7), inability to adapt to new culture (6), low social networks abroad(5), inability to find jobs (3) and difficulty in getting work permits (3).

In summary, the elicited beliefs of the engineers can be categorized into few main areas - economics, social and politics. The economics advantage of migrating abroad was opportunity to earn higher income and finding jobs. In contrary, the engineers' belief that high cost of migration and high cost of living abroad can be considered as economically disadvantage. Meanwhile, the beliefs that migrating abroad could provide more freedom and equal rights to the participants could explain how the engineers perceived about the political environment in the home country. Nevertheless, some engineers' believed that they might face discrimination in the foreign countries, which is considered as a disadvantage. The engineers also have indicated a number of social factors that underpin their favourable attitudes toward migrating abroad. Some of them were opportunity to gain international experience, safe and secure environment abroad and ability to communicate in English. However, some engineers highlighted the issue of adapting to different culture abroad as a social factor that could deter them from migrating abroad.

## Conclusion

The application of the TPB as a framework in the elicitation of the engineers' salient beliefs proved to be useful. The model has provided a more structured method in the process of elicitation, which was lacking in other studies related to migration. This demonstrates the advantage of using an established behavioural theoretical framework in determining the relevant belief components. Based on a set of interviews, we were able to generate systematic responses to questions pertaining to the behaviour of migrating abroad. The interviews provided us the opportunity to ask the engineers directly on their opinions and views about migrating abroad.



This preliminary study has identified the salient behavioural, normative, and control beliefs of the Malaysian engineers over their intention to migrate abroad. These beliefs are essential for the second part of this research, which consists of three stages in the process of intervention development. The beliefs are critical for the development of a set of final survey questionnaire for quantitative study. It will include all the components of the TPB-based research model developed for this study (please see Figure 2). From the corresponding quantitative analysis, the antecedents of intentions (attitude, subjective, PBC) which significantly explain the intention to migrate abroad will be identified. Next, the underlying beliefs of the antecedent/s will be assessed. As the aim of the entire research is to develop an appropriate BIP to reduce the intention to migrate abroad, relevant policies to change these beliefs will be suggested.

Overall, this paper has contributed in the development of appropriate methodology which can be used to identify the salient beliefs of people who have high intention to migrate abroad. In general, the TPB-based framework is suitable for policy makers to design appropriate intervention programme to deter migration, regardless with the status of the country. In specific, researchers from countries trapped at middle income and with intense brain drain should consider to move away from using the traditional frameworks of migration. Instead they can use the framework provided in this paper or as proposed by others like Sirkeci (2009) and Sirkeci et al. (2012).

Nevertheless, this study is not without its limitation. In developing the TPB-based intervention programme, only some salient beliefs mentioned by the participants (also known as modal salient beliefs) will be included in the follow up quantitative survey. Hence, the intervention programme may not be effective for a certain group of respondents who may possess different beliefs. However, as argued by Ajzen (2011), it is very costly to design and implement intervention programmes on individual basis. Thereby, TPB-based intervention programme is still considered effective as it could change the behaviour of the majority of the people.

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