Retaining International Students for Advanced Degree in Malaysia: Quality Matters

(Mengekalkan Pelajar Antarabangsa untuk Ijazah Lanjutan di Malaysia: Kepentingan Kualiti)

Chuan Chew Foo
Universiti Tunku Abdul Rahman

Russayani Ismail
Hock Eam Lim
Universiti Utara Malaysia

ABSTRACT

As the world is becoming more globalised, cross border education continues to preoccupy the agenda of internationalisation of higher education with more and more countries participating as education providers. Competition for students requires the education providers to step-up in their quality assurance and governance as to ensure their sustainability in years to come. The shift of intention from merely focusing on internationalisation as a source of revenue generation to a more diverse objective of talent development that promotes research and innovation is imperative. Thus, the ability of the host countries to attract high quality students and retain them for further degree is nevertheless essential. Despite huge literature concentrating on identifying the factors that can attract potential international students to enrol in host countries, few known studies have been carried out to identify the factors that are able to influence the choice of the currently enrolled international students to remain in Malaysia for their further degrees. Using the data of 753 international students, gathered from a sample of few universities in Malaysia, this particular study employs a Logit Model in an attempt to identify the educational choice motives that influence the decision of the currently enrolled international students to remain in Malaysia for their higher level of study. The finding shows that the consumption motive dominates the investment motive, suggesting that students' decision to remain in Malaysia for further degree is highly related to the consumption motive as compared to the investment motive. A comfortable study environment, high quality services and facilities, excellent faculty members and easy access to information regarding matters related to education in Malaysia significantly influence the students' decision to stay to further their studies. The findings from this study lend support to a commonly held view that the quality of education matters.

Keywords: Consumption motive; higher education; internationalisation; investment motive; choice

ABSTRAK

Selaras dengan globalisasi, pendidikan merentasi sempadan menjadi tumpuan agenda pengantarabangsaan pengajian tinggi dengan lebih banyak negara mengambil bahagian menawarkan pendidikan tinggi. Untuk mengekalkan daya saing, pihak yang menawarkan perkhidmatan pendidikan perlu mengukuhkan jaminan kualiti dan tadbir urus bagi memastikan pendidikan yang mapan. Peralihan fokus pengantarabangsaan pendidikan sebagai sumber penjanaan pendapatan kepada objektif yang lebih meluas merangkumi pembangunan bakat yang menyumbang kepada pembangunan penyelidikan dan inovasi adalah sesuatu yang amat penting. Peralihan fokus ini memerlukan kepada keupayaan sesebuah negara tuan rumah untuk menarik dan mengekalkan pelajar-pelajar antarabangsa yang berkualiti untuk melanjutkan pendidikan pada peringkat yang lebih tinggi. Terdapat banyak kajian yang dijalankan bagi mengenalpasti faktor-faktor yang mempengaruhi bakal pelajar antarabangsa memilih destinasi pengajian tinggi mereka, namun, kajian berkaitan faktor-faktor yang mempengaruhi pilihan pelajar antarabangsa sedia ada untuk melanjutkan pengajian pada peringkat seterusnya di Malaysia adalah terhad. Dengan menggunakan data 753 pelajar antarabangsa yang dipilih daripada beberapa universiti di Malaysia, kajian ini menggunalan model Logit untuk mengenalpasti faktor-faktor yang mempengaruhi keputusan pelajar antarabangsa yang sedia ada di Malaysia untuk melanjutkan pengajian di peringkat yang lebih tinggi di Malaysia. Dapatan daripada kajian ini menunjukkan bahawa motif penggunaan atau 'consumption motive' menandingi motif pelaburan atau 'investment motive', jesteru menjelaskan pilihan pelajar untuk menyambung pelajaran di Malaysia adalah berkait dengan motif penggunaan berbanding motif pelaburan. Kemudahan pembelajaran yang selesa, perkhidmatan yang berkualiti tinggi serta kemudahan, pensyarah yang berwibawa dan cemerlang serta capaian maklumat yang mudah berkaitan pengajian di Malaysia mempengaruhi keputusan para pelajar antarabangsa untuk menyambung pengajian mereka di Malaysia. Dapatan kajian ini menyokong pendapat ramai bahawa kualiti pendidikan memainkan peranan.

Kata kunci: Motif penggunaan; pendidikan tinggi; pengantarabangsaan; motif pelaburan; pilihan

INTRODUCTION

In April 2015, the Malaysian government launched the Malaysia Education Blueprint (Higher Education) for the period 2015-2025. The blueprint is to enhance Malaysia higher education with the aim to spearhead Malaysia's goal towards achieving a high income nation. This includes developing Malaysia as a sustainable global education hub that capable of improving its brand as an international students' higher education destination. Hence, Malaysian government aims to achieve its target to attract around 250,000 international students to study in Malaysia by year 2025 (Ministry of Education Malaysia 2015). By and large, education sector continues to be a vibrant sector in which it is expected that around RM 33.6 billion will be contributed by this sector by year 2020 with the opportunity of creating 3.3. million jobs (Performance Management and Delivery Unit (PEMANDU) 2013). In-line with Malaysian government's "brain gain" objective that intended to move and retain the best international students for research, development and commercialization (RD&C) purpose (Abd Aziz Ismail & Doria Abdullah 2014), the needs to strategically shift the direction of internationalisation policy from students' hub to talent hub is perhaps timely. As suggested by Knight (2011), the knowledge and innovation hubs (third generation of cross border education activities) are a wider and more strategic configuration of players which includes the production and distribution of knowledge and innovation as compared to the first and second generations which only concentrate on international students' mobility and the movement of programs and providers across borders. As for Malaysia, the need to retain talent in fulfilling the purpose of strengthening the knowledge based economy (talent hub) is imperative; and thus it is important for the country to rightly identify the critical factors that are not only influencing the choices of the students in terms of their higher education destination but the ability of retaining them for their next level of study.

Considering the importance of developing a talent hub and ensuring the competitiveness of Malaysian higher education sector, the need for providing quality education is further reiterated in the Malaysia Education Blueprint (higher education), 2015-2025,

Increasing competition from other education hubs will, however, require the strengthening of Malaysia's higher education value proposition, capacity, and capabilities, in order to enhance the appeal and competitiveness in the region and beyond. Malaysia needs to raise the nation's higher education brand even further, from an attractive destination known for good value for money and quality of life, to one that is also recognised, referred to, and respected internationally for its academic and research expertise.

Against this backdrop, the paper attempts to analyse the factors that may influence the decision of currently enrolled international students to continue their higher level of study in Malaysia. This paper is organized into five sections. Following an introduction in section one, the second section will briefly discuss a theoretical framework of the educational choice model. Section three discusses the data and methodology. The findings from this study are presented in the fourth section. The final section concludes the paper.

LITERATURE REVIEW

Theoretically from the economic viewpoint, there are three motives *i.e.* the investment motive (Borjas 2009), consumption motive (Alstadsæter, Kolm, & Larsen 2008) and signalling motive (Spence 1973) that explained the educational choices of individuals. Investment motive is built on the premise of human capital theory (Schultz 1961 & 1962 and Becker 1962) in which an individual can expand his or her productive capacity by investing in higher level of education. The cost-benefit analysis which is based on the present value allows us to compare the amount of money that we spent and receive in different time frame. Hence, investment is made based on the net return whereby the monetary benefits are compared to the cost of investment in higher education (Borjas, 2009). The benefit can be in terms of higher job opportunities, higher chances to get higher position which translated into a better wage (Salas-Velasco, 2006).Therefore, for a given monetary benefits, the lower the cost, the higher is the demand for higher education (Campbell & Siegel 1967; Hight 1975; and Ching & Hui 1996) or vice versa, the higher is the expected returns of life time earnings the higher is the possibility for individuals to invest in tertiary education (Willis & Rosen 1979).

Furthermore, individual may also make educational choice based on the non-pecuniary return gained during or after going through higher education. In other words, individual may choose to invest in education even if it is not generating higher monetary return or relatively high probability of employment (Oreopoulos & Salvanes 2014; Alstadsæter et al. 2008). In short, the satisfaction gained by an individual during and after investment in education is the key factor that also able to influence student's decision to invest in education such as the joy of learning or the feeling of having the opportunity to involve in various activities in campus and beyond, or even the ability to uplift social status, the chances of having better and healthier lifestyle, better family planning, stability in marriage and also higher level of well-being (Oreopoulos & Salvanes 2014; Alstadsæter & Sievertsen 2009; Frey & Stutzer 2000 & 2002). Therefore, one will continue to make additional investment in education if the benefits gained (in this case the benefit gains refer to non-pecuniary return) are more than the additional cost (Ehrenberg & Smith 2000). This refers to as a consumption motive of investment in education.

In addition, Spence (1973) indicated that education may serve as a signalling motive. His view is that education maybe just serving as a pure screening device to signal the individual's productive ability to the employer. Thus, education may not enhance an individual productivity but merely serves as an identification device to estimate the individual's productive capability (Albrecht & Ours 2006). A study undertaken by Raymond & Sesnowitz (1975) indicated that obtaining a tertiary education degree does not fully explain the increase in productivity of the particular worker but partially play as a screening device for employer. This finding is supported by Riley (2001) and Gullason (2011) where they found that employers tend to use education obtained by the applicants as a screening device to signal their market value; and therefore implies that individual may invest in education just to provide signals to their future employers of their higher ability in comparison to others who are without higher education credentials.

It is worth mentioning that the cost factor, which includes tuition fees and cost of living is the major concern for the international students when they choose their higher education destination (Mpinganjira 2011; Lim et al. 2011; Rohaizat et al. 2011). Therefore, based on the investment motive, higher cost is expected to have a negative impact on the choice to remain in the similar host nation for higher level of study. As far as the indirect cost (forgone income) and the expect return after the completion of study are concerned, both are treated as limitations in this research due to the difficulty in obtaining the information.

With regard to the consumption motive, higher non-monetary return would have a positive influence on the choice of higher education destination. In this particular case, education is regarded as other goods whereby students gain satisfaction from the consumption of education. Students' choice is led by the consumer preferences that result from satisfaction. Hence, the international students' choice to remain in Malaysia will be highly influenced by the utility gained during or after

consuming education in the host country. The previous empirical studies showed that university's reputation, social factor, service, regulation and the promotion carried out by the host nation are capable of enhancing the international students' utility (He & Banham 2011; Van Bouwel & Veugelers 2009; Li & Bray 2007; Mpinganjira & Rugimbana 2009; Perkins & Neumayer 2011a; Perkins & Neumayer 2011b; Pereda et al. 2007; Bodycott 2009). Whereas in contrary to investment and consumption motives, signalling motive is rather difficult and complicated to measure, thus in most cases, the signalling motive is always being integrated into the investment motive (Kjelland 2004). Considering this limitation, the paper will follow the same argument, *i.e.* treating the signalling motive as the investment motive.

As the above mentioned motives shaped the theoretical foundation of the educational choice model, the present study attempts to apply the educational choice model in the context of retaining students for further degree in the same host country. In this study, the data consisted of international students who are already in Malaysia, therefore allowing for a deeper analysis to be carried out with regard to student retention *i.e.* to determine those who choose to remain for their further studies in Malaysia. Based on the understanding of the different motives influencing the educational choice of students, this paper attempts to ascertain which educational motives are dominant in influencing the decision of international students to remain in Malaysia for their next level of studies; and hopefully will shed light on the important factors that should be given greater attention by either the policy makers or stakeholders in enhancing the capability of Malaysia to become the knowledge and innovation hub, in line with the objective achieving the developed nation status by year 2020. Essentially, the choice of the currently enrolled international students to remain in Malaysia for further degree is to be based on two major motives, *i.e.* the investment and the consumption motive as presented in Figure 1:
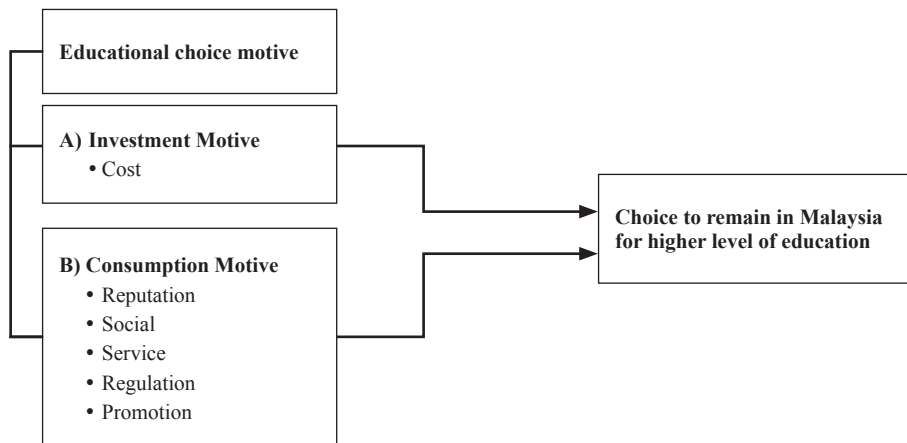

FIGURE 1. A modified theoretical framework of educational choice to remain in Malaysia for higher level of education

METHODOLOGY

TARGETED POPULATION AND SAMPLING METHOD

The targeted population for this study is the international students who are currently studying in Malaysian universities. Table 1 shows the total number of international students in Malaysian universities as in year 2011:

TABLE 1. The total number of international students in Malaysian HEI in year 2011

University	2011
Public	25,855
Private	45,246
Total	71,101

Source: Ministry of Education (2012)

In order to incorporate randomness (also the representativeness and generalizability) into the sampling design, a combination of different sampling methods were used in this study. First, the stratified random sampling was applied. The targeted populations were divided into five strata – public universities that are classified as Research Universities, Comprehensive Universities and Focus Universities, and the private universities which are classified into private universities/university colleges and foreign universities branch (MOHE 2012). These five strata fulfil the characteristic of homogeneous within stratum and heterogeneous across stratum, and thus one university was selected randomly from each stratum. Secondly, a quota sampling was applied; whereby students were grouped by level of studies *i.e.* Master degree, Bachelor degree and Diploma. The reason of this classification is that the motive that influences the students' choice of their higher education destination may vary according to their level of studies.

A pre-determined number of international students (quota) were then selected from each stratum. The targeted sample size of each group was determined based on the size of the group, using the table of sample size determination for a given population size from Sekaran & Bougie (2010). Out of the 1000 targeted samples, only 753 returned questionnaires were useable to be analyzed. Table 2 and Table 3 depict the sampling design used in this research.

QUESTIONNAIRE AND METHODS OF ANALYSIS

This study used primary data obtained through structured questionnaires. The data were collected during May 2013 to November 2013. Specifically, the questionnaire is divided into four sections. Section A is designed with the purpose of obtaining the information on respondents' demographic and education background, Section B solicits information on the respondents' choice to further their higher level of studies and destinations. Section C focuses on respondents' self-perception related to the improvement of their soft skills after going through their education experience in Malaysia, and finally Section D probes on the factors influencing respondents' choice of higher education destination; students satisfaction towards various factors identified and also their willingness to recommend Malaysia to their families and friends. Most of the instruments used in this study were modified according to the previous studies such as Rohaizat et al. (2011); Lim et al. (2011); Mpinganjira (2011); Pereda et al. (2007) and Mazzarol & Soutar (2002).

The factor analysis was performed in order to identify the underlying factors that may influence respondents' choice of higher education destination based on a large set of multiple items. Based on the factor analysis, the items were then grouped together under different factors. Basically, the items constructed in this study are based on previous literature. In order to investigate the impact of the motives (investment and consumption), a logit model was employed to measure the probability of the currently enrolled international students' choice to remain in Malaysia as their further study destination which can be described as follows:

Assuming that there are latent variables which represent an individual's underlying choice to remain in Malaysia as their destination for furthering their studies and these latent variables are associated with individual characteristics (Xs). Let Y^* represents these latent variables and assume Y^* is a linear function of Xs, then,

TABLE 2. First Stage – Stratified Sampling

First stage – stratified sampling				
Targeted population	Public universities			Private universities	
	Research	Comprehensive	Focus	Private	Foreign branch
Number of Universities	5	4	11	32	4
Randomly selected university	UM[1]	UIAM[1]	UUM[1]	MMU[2]	UNIM[2]

Note:
1. The selected university under the Research, Comprehensive and Focus university categories are Universiti Malaya (UM), Universiti Islam Antarabangsa Malaysia (UIAM) and Universiti Utara Malaysia (UUM) respectively.
2. The selected universities under private and foreign branch categories are Multimedia University (MMU) & University of Nottingham Malaysia campus (UNIM) respectively.

TABLE 3. Second Stage – Quota Sampling

Second stage – quota sampling		Randomly selected University					
		UM	UIAM	UUM	MMU	UNIM	
Master	N	1,473	1,168	618	885	283	
	%	66.5	38.0	27.0	24.3	23.5	
Bachelor	N	743	1,907	1,673	2,663	919	
	%	33.5	62.0	73.0	73.2	76.5	
Diploma	N	0	1	0	92	0	
	%	0	0	0	2.5	0	
Total	N	2,216	3,076	2,291	3,640	1,202	12,425
	%	17.8	24.8	18.4	29.3	9.7	100.0
Targeted Sample	Total	178	248	184	293	97	1,000
	Master	118	94	50	71	23	356
	Bachelor	60	154	134	214	74	636
	Diploma	0	0	0	8	0	8
Achieved and useable Sample	Total	151	236	169	197	0[1]	753
	Master	100	93	45	80	0	318
	Bachelor	51	143	124	117	0	435
	Diploma	0	0	0	0	0	0
Response rate	Total (%)	84.8	95.2	91.8	67.2	0	83.33[2]

Note:
1. Due to the requirement for approval from the ethical committee of UNIM, the questionnaires cannot be distributed and owing to time constraint, the analysis has to be performed without the samples from UNIM.
2. The response rate is calculated based on the 903 questionnaires (without the samples for UNIM).

$$Y_i^* = X_i\beta + \varepsilon_i \tag{1}$$

Where,

Y_i^* = underlying choice to remain in Malaysia as their further study destination

X_i = Independent variables

ε_i = error terms

The model assumes that the observed outcome on choice (as revealed by the respondent), is related to the Y^* (which is unobservable). The observed international students' choice to remain in Malaysia as their further study destination (Y) takes the nominal category of 0 (otherwise) and 1 (choose Malaysia). Then, the value of Y is observed as:

$$Y_i = \begin{cases} 1 & \text{if } Y_i^* > 0 \\ 0 & \text{if } Y_i^* \leq 0 \end{cases} \tag{2}$$

Assuming that the error term in the latent equation (1) is logistically distributed, the probability that the currently enrolled international students' choice to remain in Malaysia as their further study destination is given as:

$$\begin{aligned} \Pr(Y = 1 \mid X) &= \Pr(Y^* > 0 \mid X) \\ &= \Pr(X\beta + \varepsilon > 0 \mid X) \\ &= \Pr(\varepsilon > -X\beta \mid X) \\ &= \Pr(\varepsilon < X\beta \mid X) \end{aligned}$$

Thus, the cumulative density function (cdf) of the error distribution will be:

$$\Pr(Y = 1 | X) = F(X\beta) \tag{3}$$

Where, $F(.)$ is the logistic cumulative density function (cdf) and $\Pr(y=1|X)$ is the probability of choosing Malaysia given the X.

The maximum likelihood estimation is used to estimate the probability, thus the value of   need to be identified. The probability of observing the value of Y is described as:

$$P_i = \begin{cases} \Pr(Y_i = 1 | X_i)1 & \text{if } Y_i = 1 \text{ is observed} \\ 1 - \Pr(Y_i = 1 | X_i)1 & \text{if } Y_i = 0 \text{ is observed} \end{cases} \tag{4}$$

And if the observations are independent, the likelihood equation will be in the form of:

$$L(\beta | Y, X) = \Pi_{i=1}^{N} P_i \tag{5}$$

Thus, substituting P_i into the function of $L(\beta | Y, X)$, we obtain:

$$L(\beta | Y, X) = \Pi_{y=1}\Pr(Y_i = 1 | X_i)\Pi_{y=0}[1 - \Pr(Y_i = 1 | Xi) \tag{6}$$

The area of cdf function is now replacing the probability of observing value of Y in likelihood function which allows us to obtain the following equation:

$$L(\beta|Y, X) = \Pi_{y=1}F(X_i\beta)\Pi_{y=0}[1 - F(X_i\beta) \quad (7)$$

Finally, the log is being incorporated into equation (7) in order to obtain the log likelihood equation:

$$\ln L(\beta|Y, X) = \sum_{y=1}\ln F(X_i\beta) + \sum_{y=0}\ln[1 - F(X_i\beta) \quad (8)$$

The matrix of consists of the following independent variables:

X_1 = University Environment
X_2 = University Service
X_3 = Academic Quality
X_4 = Education Cost
X_5 = Information Guidance
X_6 = Social
X_7 = Regulation
X_8 = Individual Background
X_9 = Education Background
X_{10} = Financial Background

The model was estimated with the robust variance estimates (Huber/White/sandwich estimator of variance). Overall, the influence of the independent variables to the dependent variable is shown by the estimated coefficients. The marginal effect of independent variables on the probability to remain in Malaysia for further study is calculated from the estimated coefficients holding the values of other independent variables at various mean values respectively.

RESULTS AND DISCUSSION

FACTOR ANALYSIS

First and foremost, KMO and Bartlett's test were performed in order to determine whether all the items are suitable or adequate to be analysed using a Factor Analysis. The value of KMO is found to be 0.956 which according to Hair et al. (2010), a value of 0.8 and above is considered good and the factor analysis is able to yield distinct and reliable factors. Subsequently, the Bartlett's test of Sphericity which examines the correlation matrix was conducted for the purpose of determining the suitability of applying the factor analysis into the items. Table 4 shows the Bartlett test of Sphericity is significant at 1% level, signifying that the items or variables are significantly correlated with no identity-matrix and thus

TABLE 4. *KMO & Bartlett's test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.956
Bartlett's test of Sphericity	Approx. Chi-Square	20802.028
	Df	946
	Sig.	0.000

suitable to be factored analyse (Hair, Black, Babin, & Anderson 2010).

Hair et al. (2010) indicated that a sample size with more than 100 cases is considered sufficient for conducting the factor analysis.

Table 5 depicts the outcome of the factor analysis. Using the criteria of factor loading of more than 0.5 (George & Mallery 2010); seven factors were constructed from the total of 36 items and these factors explain around 60% of the total variance. The seven factors are labelled as "University Environment" (Baharun et al. 2011), "University Service" (Pereda et al. 2007), "Academic Quality" (Braimah 2014), "Education Cost" (Migin, Falahat, Yajid, & Khatibi 2015), "Information Guidance" (Arambewela, Hall, & Zuhair 2002), "Social" (Mpinganjira 2009) and "Regulation" (Baharun et al. 2011) (see Table 5 for details). In terms of the total variance explained, university environment is found to be the factor that accounted the most of the total variance (11.54%). It is followed by university service (9.76%), academic quality (9.5%), education cost (9.41%), information guidance (7.71%), social (6.87%) and regulation (5.6%). The factor of "education cost" is categorized as investment motive and the remaining are categorized as consumption motive.

Furthermore, the Cronbach's alpha test of reliability was conducted to determine the internal consistency of the seven factors. The alpha values ranged between 0.7 to 0.9 which indicates that the items are closely related with each other as a group (Tan 2007). The identified factors are used as the independent variable for the regression analysis.

LOGISTIC REGRESSION

Logistic regression was conducted to estimate the choice of currently enrolled international students in continuing their further studies in Malaysia. There are two comparison groups (1 = choose Malaysia, 0 = otherwise).

The overall fitness of the model presented in Table 6 shows that the estimated model fits well into the sample at 1% significant level. The value of Pseudo R2[1] is recorded as 0.1335. In relation to heteroskedasticity[2] problem, Cameron and Trivedi's test failed to reject which indicates that there is no evidence of heteroskedasticity problem in the estimated model. Furthermore, multicolinearity test was carried out based on the variance inflation factor (VIF). The value of VIF is in the range of 1.05 to 3.78, thus implying that there is no multicolinearity problem in the model (based on the rule of thumb of 10[3]) (Gujarati 2003).

Moreover, the Percentage Correctly Predicted[4] (PCP) is also presented. The value of PCP is 73.29% which means that the model correctly predicted about 73.29% of the outcomes in the sample. In conclusion, the results of the goodness of fit tests suggest that the estimated model is fit.

TABLE 5. Factor Loadings for determinants of currently enrolled international students' choice to remain in Malaysia for further study

Factor	1	2	3	4	5	6	7
Factor 1: University environment							
A Comfortable study environment	0.756						
Adequate facilities in the library	0.664						
Satisfied with my current university	0.653						
Good security is provided	0.620						
Facilities in lecture hall are in good quality	0.570						
Proud of my current university	0.556						
Able to adapt to the weather	0.522						
Computer labs equipped with high-technology instruments.	0.507						
Factor 2: University service							
Admin staff in international office is helpful & friendly.		0.690					
Info provided by international office is timely & accurate		0.688					
Admin staff in other departments is helpful & friendly		0.658					
Info provided by other departments is timely & accurate		0.632					
Facilities provided in the cafeteria are clean		0.515					
Facilities provided in the students hostel are in good condition		0.510					
Factor 3: Academic Quality							
Lecturers are internationally known (publications)			0.753				
Lecturers are highly qualified in their fields			0.721				
Lecturers are always well-prepared for lectures.			0.713				
Lecturers are fluent in English language.			0.652				
Factor 4: Education cost							
Accommodation fee charged is reasonable				0.722			
Prices of food and groceries are reasonable				0.717			
Prices of book and study equipment are reasonable				0.714			
Other utility expenditure is reasonable				0.707			
Tuition fee charged is reasonable				0.654			
Public transportation charged is reasonable				0.629			
Factor 5: Information Guidance							
Info provided by print media regarding Malaysia is informative and accurate					0.708		
Info provided by other media regarding Malaysia is informative and accurate.					0.700		
Info provided by internet regarding Malaysia is informative and accurate					0.629		
Info provided by *Education Malaysia* regarding Malaysia is informative and accurate.					0.625		
Malaysian institutions had involved a lot of the well-known education expo/fair in my home country.					0.566		
Factor 6: Social							
Malaysians are very friendly and helpful						0.667	
No racial discrimination in Malaysia						0.638	
Malaysians can speak fairly good English						0.633	
Able to adapt to the Malaysian lifestyle						0.608	
Malaysia is a very peaceful and safe country						0.543	
Factor 7: Regulation							
Allowed to take up part time job							0.732
Encouraged to apply the permanent residential status after my graduation.							0.689
Variance (%)	11.542	9.759	9.496	9.410	7.707	6.871	5.598
Cumulative variance (%)	11.542	21.301	30.798	40.208	47.915	54.785	60.384
Cronbrach's Alpha	0.878	0.901	0.886	0.851	0.872	0.823	0.702
Number of items	8	6	4	6	5	5	2

TABLE 6. Goodness of fit test

	Results
Prob > chi2 (Overall fit test)	0.0000
Pseudo R^2	0.1335
Heteroskedasticity* (Cameron & Trivedi's test)	0.3712
Multicolinearity (VIF)	1.05 to 3.78
Percentage Correctly Predicted (PCP)	73.29%

Note: * this test was performed based on linear probability model, to serve as an indicator to potential heteroskedasticity

After confirming that the model is fit, the logistic regression analysis was then carried out using all 753 useable samples. Table 7 presents the estimated Logit model. The result indicates that the consumption motive is dominant in influencing the currently enrolled international students' choice to remain in Malaysia for further study as compared to the investment motive. The finding is quite different from some of the previous studies such as Foster (2014), Asgari & Borzooei (2014), Diana & Ooi (2013) that found both investment and consumption motives are of equal importance in influencing the international students' choice of higher education destination5. The finding from this study also pointed out that the consumption motive such as university environment; university service and academic quality are positively significant at 1% level while information guidance is positively significant at 5% level. The outcome is consistent with other previous studies which suggested that those mentioned factors are important factors in influencing the international students' decision of study in a particular host nation (Han, Stocking, Gebbie, & Appelbaum 2015; Baharun et al. 2011; Mpinganjira & Rugimbana 2009). Even though the investment motive seems to play an important role in determining the education destination (Migin, Falahat, Yajid, & Khatibi 2015; Iyanna & Abraham 2012) nevertheless the findings from this study show that the consumption motive proved to dominate the investment motive in retaining the currently enrolled international students for further degree.

Furthermore, in terms of individual socio-demographic background, the currently enrolled international students who are older tend to have higher probability to choose Malaysia for further study. On the other hand, students from South East Asia tend to have lower probability to stay over for further degree in Malaysia as compared to African Nation (a comparison group). In relation to the ASEAN Economic Community, this result may provide significant input for policy formulation concerning student and staff's mobility. The ASEAN Economic Blueprint has highlighted that one of the important agendas is to strengthen the students and faculty members' mobility among the universities within this region. Moreover, it is crucial for Malaysia to retain talents from the Southeast Asia countries to further study in the country as this will help to develop labour skills, sharing of expertise, provide job opportunities and promote networking among the ASEAN member countries.

With regard to educational background, the finding shows that the international students who are currently enrolled in the Social Sciences, Information Technology & Communication and Engineering courses have lower probability to choose Malaysia for further study as compared to those who enrolled in Education (comparison group) course. There is no accurate explanation for this rather than those who enrol in education courses normally have higher possibility to be recruited in the job market. Furthermore, based on university's category, the result shows that the currently enrolled international students who are studying in private universities have higher probability to choose Malaysia for further degree as compared to those who are pursuing their studies in Research Universities (comparison group). This result may be due to the fact that private universities in Malaysia are now strengthening their presence by improving quality. Based on the data of the 2013 rating for Malaysian higher education institutions (SETARA13), there are 25 private higher education institutions (including colleges) out of 52 institutions that are being rated as excellent (Malaysian Qualification Agency 2014).

In relation to the financial background, the results show that those students who are spending below USD5,000 per year have lower probability to choose Malaysia as compared to those who spend more than USD15,000 per year (comparison group). To some extent, the result indirectly implies that costs are not a major concern for those who choose to remain in Malaysia for their further studies. As mentioned by Van Bouwel & Veugelers (2009), high education cost may reflect the quality of education offered and people are willing to pay for quality.

Since the estimated coefficient of a logit model does not provide complete information on the impact of the independent variables on the probability, as mentioned by Long (1997), therefore the analysis of the marginal effect needs to be carried out separately. The marginal effect measures the discrete change in probabilities and able to provide valuable and meaningful interpretation.

As previously mentioned, the consumption motive is shown to significantly influence the choice of the currently enrolled international students' to remain in Malaysia for further study. The marginal effect provides further details by showing that, a one unit increase (7 point likert scale) of the university environment factor, the probability to choose Malaysia for further study will increase by 10.4%. Similarly, for a one unit increase in a service being provided by the university, the academic quality and the access to information regarding Malaysia, the probability to remain in Malaysia for their further degrees will increase by 5.42%, 5.41% and 4.53%, respectively.

TABLE 7. Binary logit estimates for full samples of choice to choose Malaysia as further study destination

	Coefficient	P-value
Investment:		
Education cost	0.0622	0.538
Consumption:		
University environment	0.5235	**0.000***
University service	0.2730	**0.003***
Academic quality	0.2727	**0.007***
Information guidance	0.2282	**0.016**
Social	0.0198	0.837
Regulation	0.1209	0.237
General Background:		
Male	-0.0707	0.741
Age	0.0926	**0.008***
East Asia	-0.4978	0.168
South East Asia	-1.0818	**0.000***
Middle East	-0.1584	0.542
India Subcontinent	-0.2292	0.508
Period spend in Malaysia	-0.0085	0.129
Education Background:		
Master	-0.2463	0.353
Social Sciences (Social Sciences, Business & Law)	-0.8660	**0.009***
Information Technology & Communication	-0.7449	**0.057**
Engineering (Engineering, Manufacturing, Architecture & Construction)	-0.8430	**0.034**
Health sciences & Medicine	-0.7102	0.443
CGPA	0.1079	0.599
Focus university	0.2480	0.440
Comprehensive university	-0.4878	0.121
Private university	0.5483	**0.099***
Financial Background:		
Part-time jobs	0.3287	0.218
Self/Parent support	-0.6717	0.224
Scholarship (from Malaysia)	0.5051	0.388
Loan	-1.4805	0.108
Spend below USD5,000	-0.4770	**0.087***
Spend between USD5,001 –10,000	-0.2002	0.465
Spend between USD10,001 –15,000	0.0509	0.832
Constant	-1.3174	0.348

Note: *** is significant at 1%, ** is significant at 5% & * is significant at 10% significance level. The number of observation is 700. The full model of this study incorporates the control variables into the explanatory variables as to avoid mislead in true value of the parameters (Gujarati 2003)

In terms of individual background, those who are older are found to have higher probability to choose Malaysia for further degree as compared to the younger age group. Quantitatively, one year increase in age will lead to 1.84% increase in probability of choosing Malaysia. With regard to the country of origin, students from Southeast Asia are found to have lower probability to choose Malaysia for further study, by 18.71% as compared to the African Nation students

Meanwhile for the educational background, compared to those who enrolled in Education course, the international students who enrolled in Social Sciences, Information Technology & Communication and Engineering courses have a 17.48%, 13.04% and 14.56%,

TABLE 8. Marginal effects

	$d(P_rY = 1)/dx$
Consumption:	
University environment	0.1040
University service	0.0542
Academic quality	0.0541
Information guidance	0.0453
General Background:	
Age	0.0184
South East Asia	-0.1871
Education Background:	
Social Sciences (Social Sciences, Business & Law)	-0.1748
Information Technology & Communication	-0.1304
Engineering (Engineering, Manufacturing, Architecture & Construction)	-0.1456
Private university	0.1152
Financial Background:	
Spend below USD 5,000	-0.0881

respectively, lower tendency to remain in Malaysia. Furthermore, the international students who are studying in private university have 11.52% higher probability to remain in Malaysia for their further studies as compared to students at Research University.

Lastly, the international students who spent USD 5,000 per year have 8.81% lower probability to remain in Malaysia as compared to those who spent USD 15,000 per year.

CONCLUSION

The policy development initiative under the Ninth Malaysia Plan has laid out the goal of Malaysia to become a regional education hub and a dominant player in the higher education landscape. The initiatives include among others the enhancement of research and development capabilities through the advancement of critical mass of researchers, scientist and engineers. On top of this, Malaysia aims to promote development through international cooperation via capacity building program and technical collaboration. In line with these objectives, the internationalisation of higher education is seen as one of the vehicles to spearhead the development initiative through student exchanges, staff exchanges and collaborative research. Thus, it is imperative to attract and retain quality international students in ensuring that these talents help to contribute towards the development of Malaysia. Against this backdrop, this paper examines the factors that influence the decision of the international students who are currently studying in Malaysia of whether to remain in the country for their further

degrees. From the result, it is suggested that a good study environment, quality of service provided by the support staff, the academic quality and the extent of promotion regarding Malaysia's higher education are found to significantly influence the currently enrolled international students' decision to choose Malaysia for their further degrees, thus signifying the importance of consumption motives in determining their educational choice.

Hence based on the findings, it is indeed crucial for the higher education institutions in Malaysia to focus on creating a comfortable and safe environment for study; the needs to address the policy that aimed at improving infrastructure and establishing effective administration and support system that are able to enrich the international students' experience in Malaysia. Furthermore, improving quality and standards in education which includes improving the education's delivery and outcomes together with government policies related to quality assurance and accreditation procedures should also need to be further enhanced in order to strengthen Malaysia's position as one of the attractive higher education destinations with global recognition(Ministry of Education Malaysia 2015). As far as Malaysia is concerned, the higher education sector Malaysia is dynamic and tremendous improvement has been made. Based on the 2014-2015 QS global university ranking, Universiti Malaya had successfully landed at the top 200 (QS Quacquarelli Symonds Limited 2014). However, this achievement has not yet reached the targeted goal set by the National Higher Education Strategic Plan that was launched in year 2006 whereby at-least two universities should be in the top 100 while one university in the top 50 ranking by year 2015 (Ministry of Education 2007).

As for the promotion, the right marketing strategy such as the implementation of Malaysia's global outreach programme and the setting up of Education Malaysia Global Services (EMGS) as one stop centre that offers services to the international students will help to promote Malaysia as an education hub internationally. Nonetheless, the services under EMGS should be further improved as any setback would jeopardise the internationalisation initiative.

NOTES

1   McFadden's pseudo R^2 index that more than 0.1 is considered acceptable (Long 1997).
2   Heteroskedasticity occur when the disturbance variance is unvarying across the observations (Greene 1997).
3   Indicate that if the VIF of a variable exceeds 10, which will happen if R^2 exceeds 0.90, that will be highly collinear (Gujarati 2003).
4   To a certain how fit the data in estimating a model, we could use the hit-miss table, that is the number of respondent whose actual choice to choose Malaysia is correctly predicted (Long 1997). In binary category model, it is possible to correctly predict at least 50% of the outcome by the model without the knowledge about the independent variables (Long 1997).

5   However it is important to note that the current study's focus is specifically on retaining international students for further degree as compared to the previous studies that analyzed choice of destination.

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Chuan Chew Foo*
School of Economics, Finance and Banking
College of Business,
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman, Malaysia.
&
Department of Economics,
Faculty of Business & Finance,
Universiti Tunku Abdul Rahman,
31900, Kampar, Perak,
Malaysia
foocc@utar.edu.my

Russayani binti Ismail
School of Economics, Finance and Banking,
College of Business, Universiti Utara Malaysia,
06010 UUM Sintok,
Kedah Darul Aman, Malaysia

Hock Eam Lim
School of Economics, Finance and Banking,
College of Business, Universiti Utara Malaysia,
06010 UUM Sintok,
Kedah Darul Aman, Malaysia

*Corresponding author