Retaining International Students for Advanced Study in Malaysia: An Analysis of Investment and Consumption Motive

FOO CHUAN CHEW

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Retaining International Students for Advanced Study in Malaysia: An Analysis of Investment and Consumption Motive

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FOO CHUAN CHEW

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Tarikh: **15 Disember 2016**
(Date)

Nama Pelajar (Name of Student)	:	**Foo Chuan Chew**
Tajuk Tesis / Disertasi *(Title of the Thesis / Dissertation)*	:	**Retaining International Students for Advanced Study in Malaysia: An Analysis of Investment and Consumption Motive**
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Nama Penyelia/Penyelia-penyelia *(Name of Supervisor/Supervisors)*	:	**Assoc. Prof. Dr. Russayani Ismail** Tandatangan
Nama Penyelia/Penyelia-penyelia *(Name of Supervisor/Supervisors)*	:	**Assoc. Prof. Dr. Lim Hock Eam** Tandatangan

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ABSTRACT

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 retain quality international students for advanced study 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 however, were 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 advanced study. A combination of different probability sampling methods was used with the first stage involving the stratified random sampling where higher education institutions were divided into five strata, followed by the quota random sampling where students were then stratified by their level of studies. Through this sampling, a total number of 1,000 international students were selected. Self-administered questionnaires were distributed but only 753 were valid to be analysed. Using the Binary Logit Model, the study identified the educational choice motive that influences the decision of international students to remain in Malaysia for their advanced study and to recommend Malaysia to their friends. The finding shows that the consumption motive dominates the investment motive, suggesting that students‟ decision to remain in Malaysia for advanced study is highly related to the consumption motive as compared to the investment motive. Moreover, this research also found that both investment and consumption motives influenced the currently enrolled international students to recommend Malaysia to their friends and families. The findings from this study lend support to the commonly held view that the quality of education matters.

Keywords: consumption motive, higher education, internationalisation, investment motive, choice.

ABSTRAK

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 keupayaan sesebuah negara tuan rumah bagi mengekalkan pelajar-pelajar antarabangsa yang berkualiti untuk melanjutkan pendidikan pada peringkat yang lebih tinggi. Terdapat banyak kajian yang dijalankan bagi mengenal pasti faktor-faktor yang mempengaruhi pelajar antarabangsa dalam memilih destinasi pengajian tinggi mereka.Namun begitu, kajian berkaitan faktor-faktor yang mempengaruhi pilihan pelajar antarabangsa sedia ada untuk melanjutkan pengajian pada peringkat seterusnya di Malaysia adalah terhad. Gabungan kaedah persampelan kebarangkalian yang berbeza telah digunakan pada peringkat pertama dengan melibatkan kaedah persampelan rawak berstrata, iaitu institusi pengajian tinggi telah dibahagikan kepada lima strata.Seterusnya diikuti dengan kouta persampelan rawak, iaitu pelajar dipecahkan mengikut peringkat pengajian masing-masing. Melalui persampelan ini, seramai 1000 orang pelajar antarabangsa telah dipilih sebagai responden. Manakala borang soal selidik telah dibangunkan dan diedarkan kepada responden, tetapi hanya 753 borang soal selidik sahaja yang sesuai untuk dianalisis. Dengan mengggunakan Model Logit Binari, kajian ini cuba mengenal pasti motif pemilihan pendidikan yang telah mempengaruhi keputusan pelajar antarabangsa untuk kekal melanjutkan pelajaran di Malaysia dan juga mengesyorkan kepada rakan-rakan yang lain untuk memilih pendidikan di Malaysia. Dapatan daripada kajian ini menunjukkan bahawa motif penggunaan menandingi motif pelaburan dalam mempengaruhi pilihan pelajar antarabangsa. Justeru, ia menjelaskan bahawa pelajar memilih untuk menyambung pelajaran di Malaysia adalah berkait rapat dengan motif penggunaan berbanding motif pelaburan. Selain itu, kedua-dua motif juga didapati mempengaruhi para pelajar antarabangsa untuk mengesyorkan Malaysia sebagai destinasi pendidikan kepada rakan dan saudara mara mereka. Akhir sekali, penemuan kajian ini memberi sokongan kepada pandangan umum bahawa kualiti pendidikan adalah penting.

Kata kunci: motif penggunaan, pendidikan tinggi, pengantarabangsaan, motif pelaburan, pilihan

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LIST OF ABBREVIATIONS

OECD	Organization for Economic Co-operation and Development
PSPTN	*Pelan Strategik Pendidikan Tinggi Negara*
Apex University	Accelerated Programme for Excellent University
AACSB	Association to Advance Collegiate Schools of Business
HICoE	Higher Institution Centre of Excellence
NAFSA	Association of International Educators
UNESCO	United Nations Educational, Scientific and Cultural Organization
ASEAN	Association of Southeast Asian Nations
SETARA	*Penarafan Institusi Pengajian Tinggi Malaysia*
IPPTN	The National Higher Education Research Institute

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CHAPTER ONE

Background of study

1.0 Introduction

Internationalization of higher education is becoming a common phenomenon in the world market nowadays. It is estimated that in year 2012, there were 4.5 million students who pursued tertiary education outside their home country (OECD, 2014). This is in fact a feature of globalization where higher education services have evolved into a business sector which is capable of generating revenue. The internationalization of higher education is defined as the mobility of students from a country (home country) to another country (host country) which offers higher education services, with the intention to further their tertiary education (Mazzarol & Soutar, 2002). International students are defined as those students who crossed borders with the intention to study (OECD, 2010). Most developing and under developed nations send their students to study abroad particularly in developed countries in order to enhance their skills and knowledge so that in future the knowledge that they gained will be utilized to develop their economy. Countries like the United Kingdom, Germany, United States and Australia have begun to invest in

the higher education sector since the 1960‟s, in order to seize the huge opportunities in the business of higher education. For up to four decades these countries remained as the major host countries (OECD, 2011). The higher education institutions in those countries have taken steps to attract students from Asia and Africa like Malaysia, China, India, Nigeria and etc (Verbik, Lasanowski, & Education, 2007)

As the world economy is being opened and interconnected, capital is highly circulated around the world. Furthermore, global skills are becoming critical as the international trade is actively operating all over the world. For example, multinational companies need personnel that possess multiple skills such as the ability to speak foreign languages or understand other cultures in order for them to work better with their international partners. For the government, sending local students to study at overseas institutions will help them to invest in talent where those students are expected to contribute back to the country‟s economy, social development, and also to the local talent development (OECD, 2010). Furthermore, individuals may want to explore opportunities in the global labour market; thus, broadening their understanding of the language and culture of other countries is imperative. Hence, they prefer to study in other countries rather than in their own (OECD, 2014)

From the macroeconomics perspective, the trade in the tertiary education service will contribute to the balance of payment to the host country as a result of revenue generated from the tuition fees and living expenditure from the international students. Besides that, the international trade in tertiary education service can also help to improve the education system and promote cost efficiency in education

provision through economies of scale. The engagement of international students by the host nation"s institutions also may help the host country to build or maintain their reputation in the world (OECD, 2014).

In addition, the recruitment of international students may also help to relieve the financial burden of the government as traditionally public universities are highly reliant on government subsidies. With the international students, these institutions will be able to charge the market tuition fees. In other cases, the international trade in higher education service may also allow the host nation to recruit high skilled labour to contribute to the host nation economy (OECD, 2010). Most of the developed host nations such as Australia, United Kingdom, USA and Singapore are keen to provide permanent residential status to high skilled labours.

1.1 Positioning Malaysia as Higher Education Hub: The Current Scenario

Education hub is the third generation of cross border activities in internationalization of higher education (Vincent-Lancrin, 2007). Knight (2011) defined the concept of education hub as:

It is a country"s plan and efforts to position herself within the region and beyond as a reputed center for higher education and research. Therefore an education hub is not an individual branch campus, or a large number of international students, or a science and technology park. It is more than that. Identifying the country as a hub involves a national level effort to build a critical mass of local and foreign actors- including students, education institutions, training companies, knowledge industries, sciences and technology centers who through

interaction and in some cases colocation, engage in education, training, knowledge production and innovation initiatives (p. 223).

With regard to the education industry in Malaysia, it has been growing rapidly and become an export service for the nation. Public as well as private higher educational institutions have gained impressive reputations at the regional and international markets. In view of the increasing numbers of enrolment, it is not surprising that at the international level, Malaysia has successfully positioned herself to become a competitive regional higher education hub. Indeed, Malaysia was ranked the 11th world's most preferred study destination in year 2009 and attracted 2% of the world's international students' population (Lim, 2009). Inevitably, Malaysia is ready to compete with other host countries especially in South East Asia in attracting the international students and the initiatives taken by the Malaysian government show the seriousness of intent in leading Malaysia towards becoming a successful regional education hub (Knight, 2011).

During the Ninth Malaysia Plan (RMKe-9), Malaysian government has suggested a few steps which should be taken to make the higher education hub successful. Some of the steps include increasing the liberalisation and deregulation of the higher education sector, increasing the academic standards and intensifying the promotion of Malaysia as a centre of excellence in higher education. The government has also enacted the Education Act[1] so that universities and colleges from other

[1]The Private Higher Education Institutions Act 1996. A study by Tham and Kam (2008) stated that the its primary function is to formulate policies and setting the direction of private institutions of higher education in Malaysia. Specifically, this sector processes applications for the establishment of such institutions, sets standards, enforces and regulates laws, manages the collection of fees, supplies services

countries can build their campuses in Malaysia. The Act provides the framework or scope for the development of Private Higher Education Institutions (PHEI) in the country.

In order to boost the development of private higher education, the department of private education was renamed the private higher education management sector[2] after the Ministry of Higher Education was established in 2004. Its primary function is to formulate policies and setting the direction for developing private institutions of higher education in Malaysia. Specifically, this sector processes applications for the establishment of such institutions, sets standards, enforces and regulates laws, manages the collection of fees, supplies services such as providing people with advice, guidance, counselling and consultation, and collects data and information about this sector (Tham & Kam, 2008).

According to Malaysian Ministry of Higher Education, as of 2015, there are ten foreign university branch campuses from Australia, United Kingdom, Singapore and China which are operating in Malaysia. Among them are Monash University, Swinburne University of Technology and Curtin University from Australia. Meanwhile, the University of Nottingham Malaysia, Newcastle University Medicine Malaysia, University of Reading Malaysia, University of Southampton Malaysia and Heriot-Watt University Malaysia are from United Kingdom. There is also Raffles University Iskandar, which is owned by the Raffles education corporation of which

such as providing people with advice, guidance, counselling and consultation, and collects data and information about this sector.

[2]The sector which is designated with the jurisdiction over private higher education in Malaysia which is led by the Deputy Director-General.

the headquarters is located in Singapore (Raffles Education Corporation, 2015). Last but not least, Xiamen University Malaysia from China has just begun their operation in Malaysia in 2016. These well recognized international universities are hoping to further enhance the presence of Malaysia as an education hub and increase the ability to retain more currently enrolled international students for postgraduate studies.

In addition, the Malaysian government is also keen in developing various incentives packages to attract foreign universities to establish their branch campuses in Malaysia; there are the Educity in Iskandar Malaysia located in Johor state and Kuala Lumpur Education City (KLEC) located in Klang Valley, south of Kuala Lumpur (Ministry of higher education, 2010). Tax incentives and non-fiscal incentives are provided in attempt to attract eight international universities to offer programs in selected fields such as medical, business studies, engineering, logistics, creative multimedia and hospitality in Educity Iskandar Malaysia (Ministry of higher education, 2010). Educity aims to provide high quality education and produce skilled workforce to support multinational companies that are located in Iskandar Malaysia‟s commercial zone (Knight, 2011). On the other hand, KLEC is planned as an international educational hub in line with the government‟s policy to make Malaysia a regional centre of excellence in education, by maintaining a proportionate mix of international, regional and local institutions and students (Ministry of higher education, 2010).

Since the Ninth Malaysia Plan (RMKe-9), the Malaysian government also has strived hard to produce the first class talent through the advancement of knowledge,

and; innovation. The National Higher Education Strategic Plan (NHESP) or known as *Pelan Strategik Pendidikan Tinggi Negara* (PSPTN) which was launched in 2007 stressed the objective of transforming Malaysia‟s higher education into a global higher education hub (Ministry of Education, 2007). The National Higher Education Action Plan includes four phases; the first phase (2007-2010), second phase (2011-2015), third phase (2016-2010) and the fourth phase (beyond 2020).

To spearhead Malaysia‟s goal in becoming a high income nation, the Malaysian government further stressed the importance of enhancing Malaysia‟s higher education sector. In April 2015, the Malaysian government launched the Malaysia Education Blueprint (Higher Education) for 2015-2025. The Blueprint highlights the needs to develop Malaysia as a sustainable global education hub that is capable of improving its brand as an international students‟ higher education destination. Hence, the 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, 2015b). This is the extension of the major aspiration for the Malaysian government to position Malaysia amongst the top six destinations that attract international students globally, and the first target is to attract at least 200,000 international students to further their studies in Malaysia by 2020 (Ministry of Education, 2007).

In 2013, there were around 81,424 international students studying in all higher education institutions in Malaysia. Out of this total number of international students, 35.4% were studying in public higher education institutions while 64.6% were studying in private higher education institutions (Ministry of Education, 2013b). By

and large, the education sector continues to be a vibrant sector in which it is expected that around RM 33.6 billion will be contributed through this sector by year 2020 with the opportunity of creating 3.3. million jobs (Performance Management and Delivery Unit (PEMANDU), 2013). Moreover, Education Malaysia Global Service (EMGS) has been established with the mission to develop and implement the marketing strategies in promoting Malaysia to the world. EMGS provides all the information regarding Malaysia‟s environment and social living; education system, cost of education and cost of living, the availability of scholarship, the public and private higher education institutions etc (Education Malaysia Global Services, 2016).

In-line with the Malaysian government‟s "brain gain" objective that intends to attract and retain the best international students for research, development and commercialization (RD&C) purposes (Abd Aziz Ismail & Doria Abdullah, 2014), the needs to strategically shift the direction of internationalization 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 generation which only concentrate on international students‟ mobility and the movement of programs and providers across borders. As for Malaysia, the need for retaining talent in order to fulfil 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 not only influence 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 the Malaysian higher education sector, the needs for providing quality education are 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".

Furthermore, the Malaysian government also aims to achieve at least three local universities in the world"s top 100 ranking and one in the world"s top 50 ranking (Ministry of Education, 2007). This is primarily a step to brand Malaysia as a higher education regional hub at the international level. In the first phase of the higher education action plan, the Malaysian government had restructured all the public higher education institutions to become a better managed and an efficient higher education system in order to ensure that higher education institutions are able to build a dynamic and competitive presence, and ready to react to any challenge in future (Ministry of Education, 2007). In order to be more systematic, the Malaysian government has classified public universities into Research University, Comprehensive University and

Focus University[3]. The Research University will concentrate on research related field and the Focus University will concentrate on certain fields of study while the Comprehensive University will be offering a variety of courses and study fields(Ministry of Education, 2007). Table 1.1 below shows the list of public universities[4] under the three categories:

Table 1.1
The categories of public universities

Research University	Comprehensive University	Focus University
1) UM	1) UiTM	1) UUM
2) USM	2) UIAM	2) UPSI
3) UKM	3) UMS	3) UTHM
4) UPM	4) UNIMAS	4) UTeM
5) UTM		5) UniMAP
		6) UMT
		7) UMP
		8) USIM
		9) UniSZA
		10) UMK
		11) UPNM

Sources: Ministry of Education (2007)

Another high profile project under the first phase of the higher education action plan is the selection of Apex University among the public universities. The establishment of Apex University is to elevate Malaysian higher education to world class level. The university that has been selected as Apex University will play a role as a *commando* to lead the entire Malaysian higher education system to excellent levels. In year 2008, the Malaysian Ministry of Higher Education appointed USM to be the first Apex University in Malaysia. USM had been given five years (2008 – 2013) to carry the mission of the Apex program based on the transformation plan; which are to

[3] Currently the focus universities category were further divided into technical, management, education & defence group (Ministry of Higher Education Malaysia, 2016) .
[4] the full name of the Malaysian public universities can be referred in Appendix 1

be a world class research university with emphasis on sustainability; to be the world renowned university for sustainability; to be the leader in community engagement in the Asia-Pacific Region and also to transform the management of resources, talent and governance of USM (Ministry of Education, 2011a).

Since its inauguration as Apex University, USM has embarked on various initiatives. In 2011, USM led a collaboration among the archaeogeological experts from Universiti Malaya, Universiti Kebangsaan Malaysia, Universiti Tecknologi Petronas, Department of Mineral and Geoscience to plan and conduct a systematics and scientific research in Bukit Bunuh, Lenggong. Their research has established that Bukit Bunuh is an important landscape in Lenggong Valley that capable to contribute towards advanced knowledge on archaeogeology at the global stage. Later in 2012, Lenggong Valley was declared as the world heritage site in Saints Petersburg, Russia (Universiti Sains Malaysia, 2013). Moreover, through the school of Aerospace Engineering, USM engaged with the local aerospace industry with the intention of gaining feedback to improve the existing curriculum. Through that engagement it is expected that the academic knowledge can be translated into industrial practice. To start off the collaboration USM has worked together with Spirit Aerosystems in 2008. This company is a global aerospace company that supplying aircraft components to multinationals aerospace manufacturer such as Airbus and Boeing. The collaborations between the school and the Spirit Aerosystems had open up an opportunity for talented students to go for internships and provide them the hands-on knowledge and working experience in aerospace composited manufacturing. Apart from that, the senior staff from the Spirit Aerosystems have the opportunity to pursue their postgraduate study in

the school of Aerospace Engineering (USM), working towards enhancing research and technology in aerospace industry (Universiti Sains Malaysia, 2013).

The achievement of USM as an APEC university is also manifested through some other indicators. As for example, the number of publication produced by USM had increased around 60% between year 2008 to 2012. Among the publications, the number of indexed journal had increase from 106 to 227, which is around 114% increment (Universiti Sains Malaysia, 2013). In terms of innovation and commercialisation, there are 305 active patent applications by year 2012. Among the 305 patent applications, around 48% is local applications patent, around 34% is the international applications while around 18% is the Patent Cooperation Treaty[5] (PCT) applications. Moreover, the number of consultancy services provided by USM had increased 100% from year 2007 (1023 cases) to 2011 (2055 cases) (Universiti Sains Malaysia, 2013). Hence, this shows that USM through the APEX program is effectively playing its role in educating and encouraging the development of the world class researchers who capable to produce output that benefits the society.

Apart from achieving the aim to make Malaysia as a higher education regional hub, the Malaysian Ministry of Higher Education reward the Top Business School (TBS) to any graduate school of business in public universities that fulfils the TBS criteria. In 2007, Malaysian government announced the UKM Graduate School of Business (UKM-GSB) and Putra Business School (PBS) as the TBS in offering the MBA course that competent with other world class university (Ministry of Education, 2011a). In 2012, Putra Business School successfully gained the accreditation from

[5] PCT is to assist the applicants who are seeking for protection for their invention in international level.

AACSB[6] as one of the Top Business Schools (Goon, 2012) and followed by Universiti Utara Malaysia in 2016 (Universiti Utara Malaysia, 2016).

Malaysian higher education institutions are trying hard to bring in the best researchers around the world to contribute towards higher impact research and produce more postgraduate students in order to achieve the aim of garnering high recognition for Malaysian institutions‟ at the international levels. Table 1.2 shows the number of international academic staff employed in public and private higher education institutions of Malaysia:

Table 1.2
The number of international academic staff in public and private higher education in Malaysia

Year	Higher Education Institutions		Total
	Public	Private	
2008	1,261	1,634	2,895
2009	1,403	4,605	6,008
2010	1,681	5,003	6,684
2011	1,765	2,196	3,961

Sources: Ministry of Education (2012)

Along with attracting more international researchers, the Malaysian government had also established the Higher Institution Centre of Excellence (HICoE) to ensure that the higher education institutions in Malaysia manage to compete in various research fields, expertise and service at the national and international levels. The aim of the Malaysian higher education action plan is to have 20 world class

[6]Association to Advance Collegiate Schools of Business is an international organization that assist the world wide education management through accreditation, though leadership and value added service (AACSB International, n.d.).

HICoE by the year 2020 (Ministry of Education, 2011a). Table 1.3 shows the HICoE that have been recognized and their research concentration:

Table 1.3
Malaysian HICoEs

No	HICoE	Higher Education Institutions	Focus Field
1	UM Centre of Research for Power Electronics, Drive, Automation & Control (UMPEDAC)	Universiti Malaya (UM)	Renewable Energy
2	UKM Medical Molecular Biology Institute (UMBI)	UniversitiKebangsaan Malaysia (UKM)	Cancer Biomarkers
3	Institute for Research in Molecular Medicine (INFORMM)	UniversitiSains Malaysia (USM)	Diagnostics Platforms
4	Institute of Bioscience (IBS)	Universiti Putra Malaysia (UPM)	Animal Vaccines and Therapeutic
5	Centre for Drug Research (CDR)	UniversitiSains Malaysia (USM)	Behavioral Research in Addiction
6	Accounting Research Institute (ARI)	UniversitiTeknologi MARA (UiTM)	Islamic Finance Criminology

Sources: Ministry of Education (2011a)

In the tenth Malaysia Plan (RMKe-10), the second phase of the higher education action plan will monitor the current HICoE to ensure that they can achieve recognition in the region or even globally. The recognition will only be awarded after the evaluation through the enrolment of postgraduate students, collaboration and connection, research and publication at the international levels (Ministry of Education, 2011a). All the efforts taken are to ensure that Malaysia will be known as

a successful and competitive higher education regional hub and further advance to be a talent hub and knowledge or innovation hub.

On the other hand, as a member of the ASEAN community, Malaysia is committed to sharing and exchanging knowledge with the neighbouring Asian countries as well as the Muslim countries. Hence, the Malaysia global outreach program was designed by the Department of Higher Education, Ministry of Education Malaysia (MOE) with the intention to further enhance the collaboration between the local and international experts in order to promote Malaysian higher education at the global arena (IPPTN, 2015). There are six clusters in total which are *MyExpert* which emphasizes on global engagement through academic collaborations and knowledge sharing; *MySkill* which focuses on technical and vocational education and training (TVET) sharing and skill transfer; *MyAlumni* which is to enhance the networking and collaboration between Malaysian higher education institutions and the international partner institutions, and also to sustain a continuous relationship with the graduates that have already returned to their home countries; *MyFellow* which is an effort to promote sustainable cooperation, understanding and quality relationship for Malaysian higher education institutions and their global partners; *MyOdyssey* which serves as a "generator" for the Malaysian government in attracting foreign investment and boosting international trade especially in promoting Malaysian higher education institutions at the global arena; and lastly, *MyCommunity* which is the effort by the Malaysian government to serve the global community through sharing and caring in promoting a sustainable quality of life together with the partner countries (Ministry of Education Malaysia, 2015a).

By and large, this programme was initiated with the objective to position Malaysia higher education at the international stage through the global commitment in sharing Malaysian experiences with partner countries. The implementation of the program is hoped to enhance the sustainability of Malaysian higher education at the global stage when the partner countries are more confident with Malaysia capability in providing "knowledge and innovation" through education services (IPPTN, 2015).

It is a fact that the higher education service is a profitable industry and it is important for Malaysia to correctly position herself to be the leader in this industry by improving the current standards of academic quality and other factors that are deemed vital to ensure its sustainability. Other players in the market such as Singapore and Thailand have long been recognized as best providers of higher education especially the National University of Singapore and Chulalongkorn University. In moving towards becoming successful hub of higher education, Malaysia must identify new opportunities, improve the standards and somehow retain the currently enrolled students who intend to further their higher level of studies to continue choosing Malaysia as their education destination.

1.2 Expanding the Higher Education Hub: The International Case

According to the Organisation for Economic Co-operation and Development (OECD) there are 4.5 million international students who participated in tertiary education out of their home country all around the world in 2012. In 2000, there were 2.1 million students moving to other countries for their tertiary education and this figure had increased to 4.5 million 12 years later. The number of international

students had increased by up to 114% from 2000 to 2012(OECD, 2014). Figure 1.0 below shows the total number of international students around the world from 2000 to 2012:

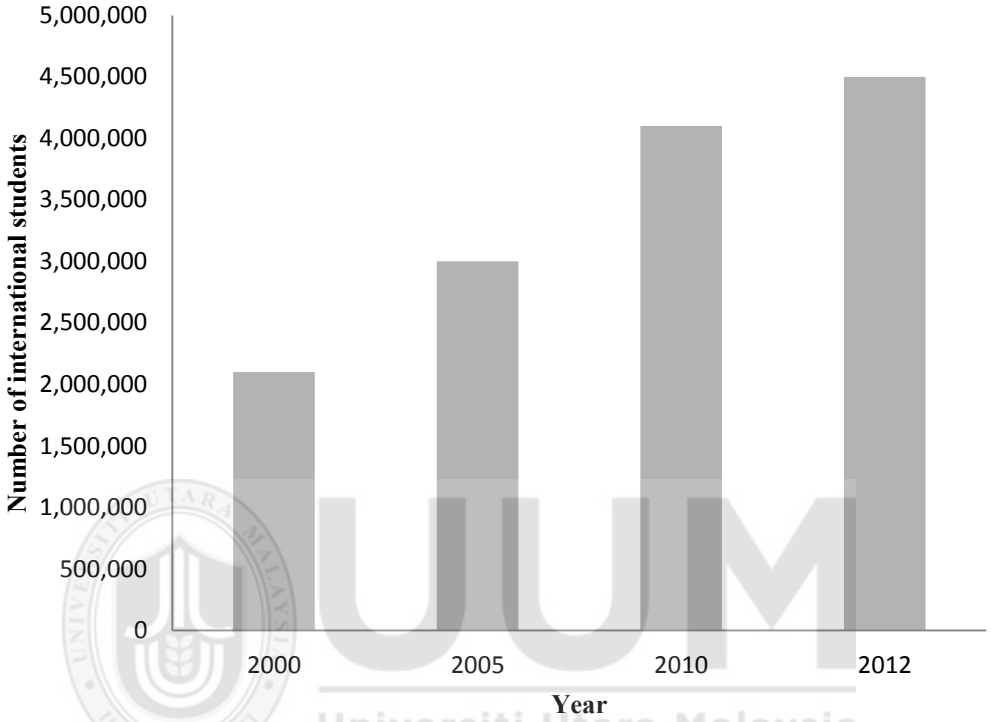


Figure 1.0
The number of international student around the world, 2000-2012
Source: OECD (2014)

To reiterate, internationalization of higher education can contribute positively towards the economic conditions of the host nation. Besides the tuition fees paid to the higher education institutions, international students also contribute to the economy in terms of living expenditure and also the expenses made by the family members during their visits to the host nation.

The amount of expenditures that contribute to the economy from the higher education sector is shown in Figure 1.1:

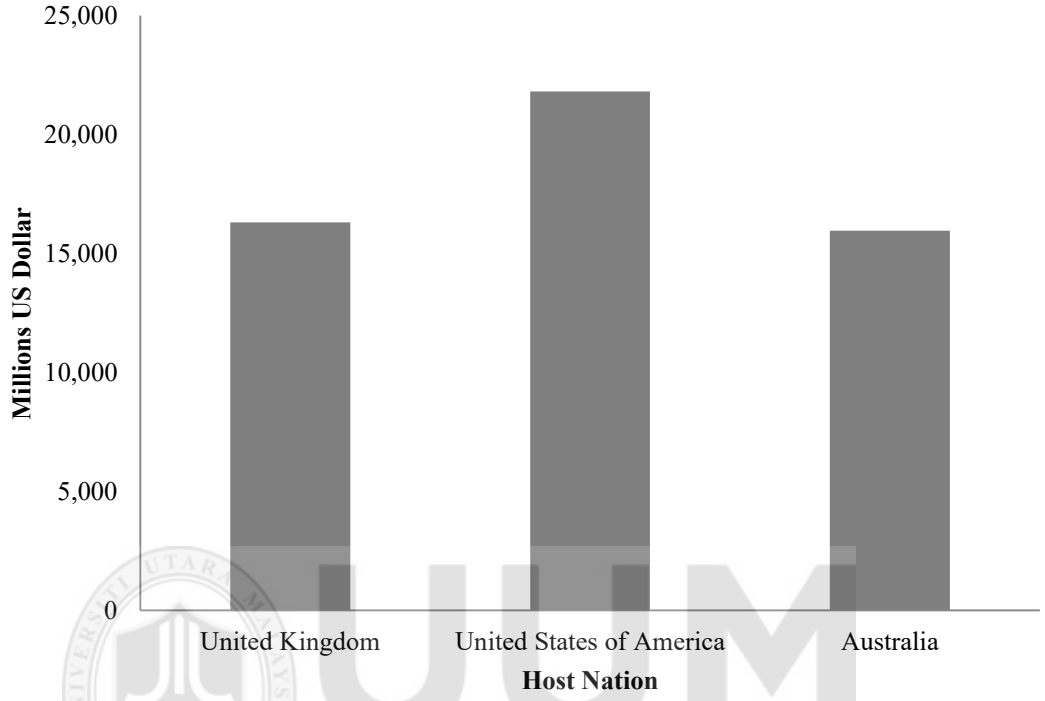


Figure 1.1
Higher education export earnings (international student) received by three major host nations, 2011-2012
Sources: UK: Kelly, McNicoll and White (2014); original value is in British Pound and converted to US Dollar using exchange rate data from the Internal Revenue Service.
USA: NAFSA (2012)[7]
Australia: Australian Government (2013); original value is in Australian Dollar and converted to US Dollar using exchange rate data from the Internal Revenue Service.

Figure 1.1 shows that in 2011-2012, USA education export earnings from international student were estimated at US$ 22 billion (NAFSA, 2012). Meanwhile, Australia received around US$ 16 billion from the tuition fees and living expenses of

[7] Association of International Educators

tertiary international students (Australian Government, 2013) and the United Kingdom also managed to receive around US$ 16 billion (Kelly et al., 2014).

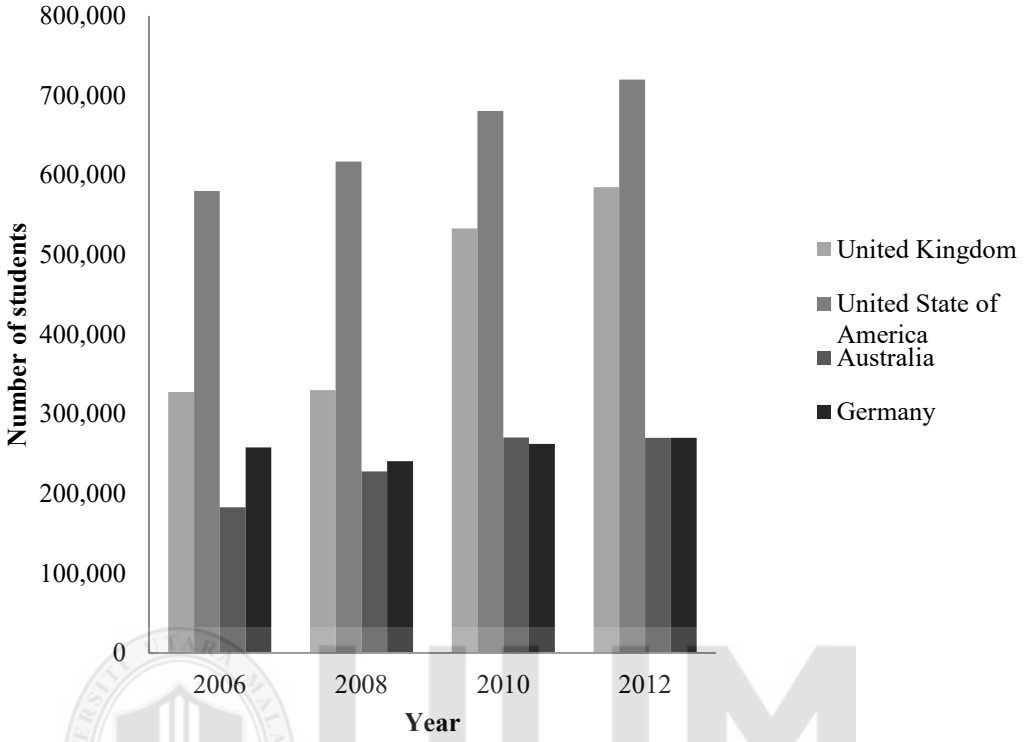


Figure 1.2
The number of international students by top five host nations, 2006-2012
Source: OECD (2008) for the 2006 data
OECD (2010) for the 2008 data
OECD (2012) for the 2010 data
OECD (2014) for the 2012 data

As shown in Figure 1.2, the number of international students enrolled in United States, the United Kingdom, Australia, and Germany which are the major host nations in the internationalization of tertiary education worldwide. They received more than 5% of the world international students‟ number (OECD, 2014). Among them, the United States of America takes up the biggest proportion in terms of exporting higher education with approximately 580,000 tertiary international students studying in universities and colleges in the United States in 2006. This number of international students increased to around 617,100, 680,600 and 720,000

in 2008, 2010 and 2012 respectively. Second is the United Kingdom with around 327,700 tertiary international students in 2006 and this number increased to 330,000 international students in 2008, 533,000 in 2010 and further increased to 585,000 in 2012. Meanwhile Germany is in the third place with around 258,100 tertiary international students in year 2006. However, the number of international students dropped to 240,900 students in 2008. Two years later, the number of tertiary international students recovered, increasing to 262,400 and to 270,000 students in 2012. Meanwhile, Australia had 182,700 tertiary international students in 2006. This number rose to 227,700 students in 2008 before levelling off at around 270,000 students in 2010 and 2012.

Figure 1.2 also depicts that USA, United Kingdom and Australia had a consistent increase in the number of tertiary international students‟ enrolment. From the data, the United Kingdom showed the highest growth rate in attracting tertiary international students, with an increase of around 78% within the six years period. This was followed by Australia, which had a growth of nearly 48% in the number of tertiary international students and thirdly, the USA with a 24% growth rate in the six years period. Meanwhile, Germany‟s international student number had merely grown by approximately 5% over the same period, which is relatively low compared to the other three competitors.

1.3 Expanding the Higher Education Hub: The Malaysian Case

Since the 1960s, Malaysia has sent their best students to further their studies overseas in countries like the US, the United Kingdom, Ireland and Australia hoping to increase the human capital expertise that can contribute towards the economy of the

country. This however has posed a financial burden to the Malaysian government as the students are all given full scholarships by the government. For example, in 2005 the import of higher education services has cost a total of RM 3.6 billion (Tham & Kam, 2008). However, some of these students failed to come back to serve the government after they have finished their studies. This has caused a brain drain and a serious loss to the Malaysian government in terms of monetary loss and high quality human capital. Figure 1.3 shows the trend of students being sent out to other countries.

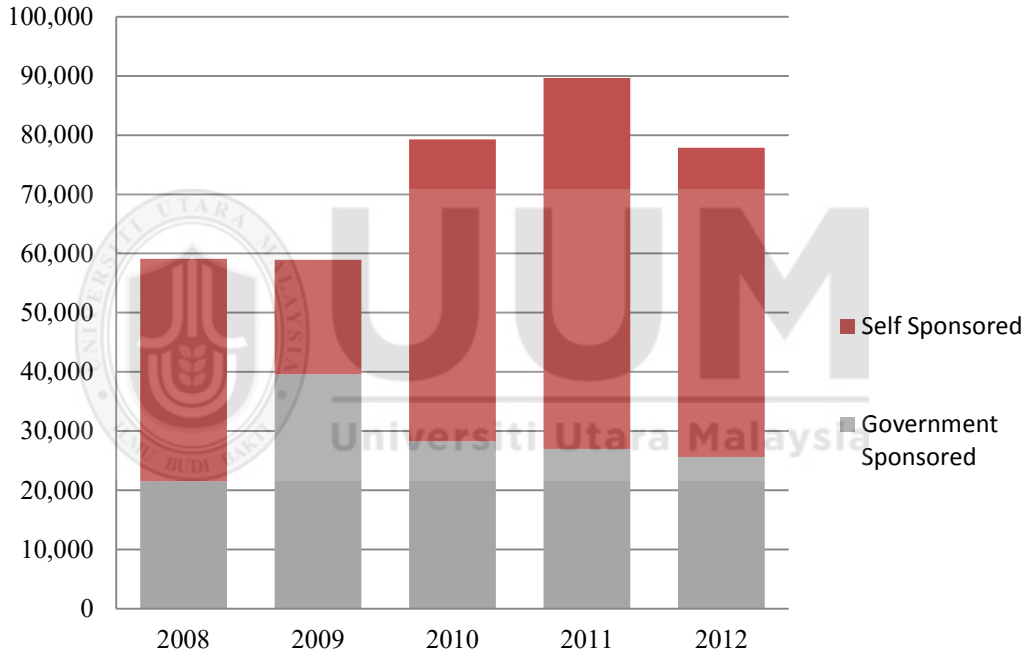


Figure 1.3
The number of Malaysian students studying overseas by government and self sponsorship, 2008-2012
Source: Ministry of Higher Education (2009,2010,2011,2012 & 2013a)
Note: The number of students under government and self sponsorship is incomplete for India, year 2012

Figure 1.3 shows the total number of Malaysian students who chose to study overseas during the period 2008 to 2012 through government sponsorship or self-sponsorship. The number of students who went overseas for their tertiary education

had increased around 32% within the five years. In 2008, there were 59,000 students who went overseas and this number had increased significantly to nearly 90,000 students in 2011. However in 2012 the number dropped to around 80,000. From the total number of students, a large proportion was self-sponsored. In 2008, 36% of the total students were sponsored by the government, followed by 67%, 36%, 30% and 33% in years 2009, 2010, 2011 and 2012 respectively. Although the cost of sponsorships caused some financial strain, the Malaysian government has treated it as an investment in talent.

Since the 1980s, the Malaysian government has started to plan and shift from being the home country to becoming a host country in offering higher education services for international students by offering 40 scholarships under the Malaysia Technical Cooperation Program to students from 136 developing countries. Moreover, since the year 2006, the Malaysian government has introduced Malaysian International Scholarship. There were 100 scholarships that have been offered to the best students worldwide (Ministry of Education, 2007). As of 2010, Malaysia has 20 public universities, 23 private universities, 21 private university colleges and 403 private colleges (Ministry of Education, 2011b). There are 200 private institutions which have been granted permits by the Ministry of Home Affairs Malaysia to bring in international students (Ministry of Education, 2007).

The Malaysian Higher Education Ministry had implemented a quota of 5% for the public universities in recruiting international students for the Bachelor degree programs. This is due to the fact that Malaysian public universities are highly subsidized by the government. However, public higher education institutions are free

to bring in more international students who wish to study at the master degree and PhD levels. Meanwhile, the private higher education institutions are given an important role to attract international students to study in Malaysia. It is estimated that the international students who are studying in private higher education institutions are contributing around RM 1.3 billion to the national income every year (Ministry of Education, 2007). Figure 1.4 below shows the intake of international students in public universities and private universities up until 2013:-

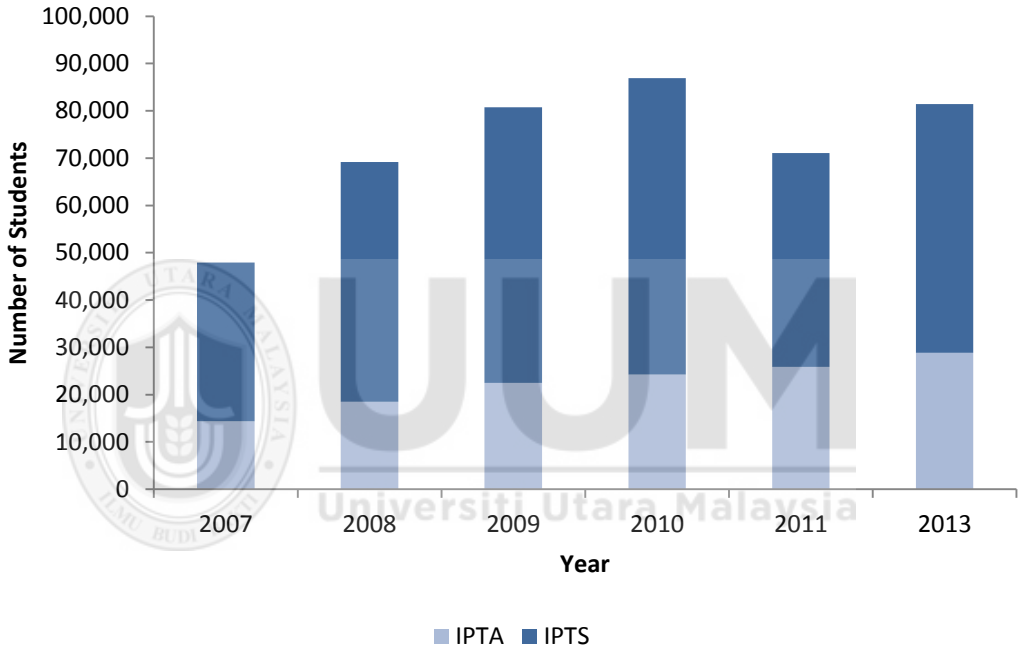


Figure 1.4
Number of international students study in Malaysia higher education institution.
Source: Ministry of Education (2013b)
Note: The data for number of international students studying in private higher education institution for year 2012 is not available (Ministry of Education, 2013a)

From Figure 1.4, we can see that the number of international students who pursued their higher education in Malaysia has increased from 2007 to 2013 in both public and private universities. In 2007, there were 47,928 international students and this number increased to 81,424 international students by 2013. Malaysia achieved the highest enrolment in 2010 with 86,928 international students. On average, the

private higher education institutions have recruited the highest portion of international students as compared to the public higher education institutions. Both institutions are complementering to each other role where the public higher education institutions are focusing on research and postgraduate studies meanwhile the private providers‟ contribution in helping the government to achieve in attracting more international undergradautes enrolments.

Although the number of international students had increased by nearly 95.82% over the five year period, the growth rate from 2009 to 2010 was only at 7.6% compared to 14.6% from 2008 to 2009. Yet, in 2011, the number of international students being recruited by private higher education institutions surprisingly dropped which caused the total number to drop to 71,101 students. This may pose an obstacle to the Malaysian government‟s aim in achieving the target of 200,000 international students by 2020. The dropped in international students enrolment may cause by the global economy slowdown in 2011 after a strong economic growth in 2010 (International Monetary Fund, 2011). Household income may affected by the economy slowing down and influence the decision of parent for their children higher education attainment (Belley & Lochner, 2007). Lovenheim (2011) further explain that housing wealth is also positively affecting the tertiary education enrolment. Housing value may stagnant during the economy slowing down, thus, influence the tertiary education enrolment. His study indicated that when the housing value increase by $10,000 will lead to a 13.8% of increase in tertiary education attendances among the families that earning $70,000 annually. Housing value may serve as an approximation to the family resources to finance their children tertiary education. Therefore, housing value may stagnant during the economy

slowing down; indirectly shows that the family capability to finance their children for tertiary education will be affected.

Table 1.4
The Number of International Student Enrollment in Malaysian Public Higher Education Institutions from 2008-2013

IPTA	2008	2009	2010	2011	2012	2013
UM	2,963	2,925	3,208	3,286	3,289	3,770
USM	1,772	2,388	2,474	2,804	2,502	2,215
UKM	1,842	2,554	2,847	2,823	2,379	3,087
UPM	2,557	2,622	2,829	3,154	3,555	3,704
UTM	2,001	2,818	2,995	3,973	4,103	3.779
UUM	2,553	2,890	2,918	2,217	1,904	2,318
UIAM	3,592	4,545	4,940	4,891	5,408	5,576
UNIMAS	35	48	79	134	184	285
UMS	334	444	398	570	544	754
UPSI	28	71	80	172	224	285
UiTM	424	442	427	488	368	421
UniSZA	30	7	11	24	42	69
UMT	46	74	118	80	67	89
USIM	74	105	175	219	442	694
UHTM	55	223	280	305	403	478
UTeM	46	52	92	239	234	398
UMP	43	106	155	180	173	240
UNIMAP	90	140	183	282	357	606
UMK	0	2	4	10	29	52
UPMN	0	0	1	4	4	6
Total	18,485	22,456	24,214	25,855	26,229	28,826

Source: Ministry of Education (2013b)

Table 1.4 above shows the enrolment of international students in Malaysian public universities from 2008 to 2013. In 2008 there were 18,485 tertiary international students in all the 20 public universities. The number had increased to 28,826 after six years. This shows an increase of nearly 56% over the six year period. From 2008 to 2013, in terms of the research university categories, the number of international students enrolled in UTM recorded the highest increase of nearly

88.8%, followed by UKM and UPM with an increment of 67.5% and 44.8% respectively.

The majority of the universities under the focus university category recorded an increase in terms of the number of international student enrolment except for UUM. Although UUM had the highest number of enrolled international students in the focus university category, in the six year period UUM had a negative 9% growth rate for the international student enrolment. Meanwhile, in the comprehensive university category, UIAM is the university with the highest international student enrolment and the number had increased by 55% over the six years.

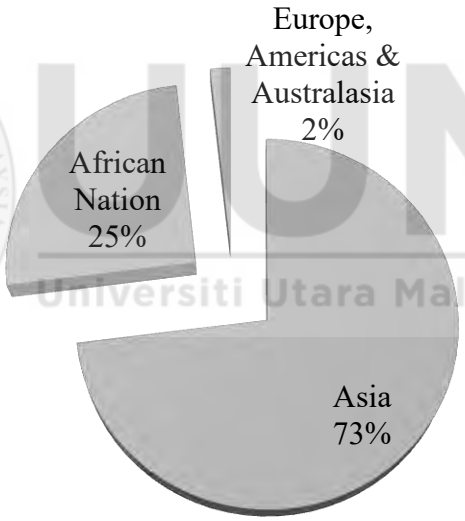


Figure 1.5
The percentage distribution of international students in Malaysia among the five continents, 2010.
Source: Ministry of Education (2011b)
Note: The data for the distribution of international students by nations for the years later was limited to the 32 top countries and the rest was combined as others.

Furthermore, in terms of the country of origin, the students came from nearly 167 countries around the world (Ministry of Education, 2012). As for example, based on the 2010 data, figure 1.5 shows the percentage distribution of international students among the five continents.

Figure 1.5 shows that 73% of the international students who pursued their tertiary education in Malaysia in 2010 were from Asia, i.e. around 61,251 students from the total number of international students. Meanwhile, students from Africa were estimated at 25% or 21,150 students. Lastly, the international students from the European, American and Australasian continents contributed only nearly 2% of the total international students in Malaysia (Ministry of Education, 2011b).

Meanwhile, students from the Asian continent can be divided into four regions which are South East Asia, East Asia, Middle East and Indian Subcontinent[8]. Figure 1.6 shows the international students from the four parts of Asia, from 2005 – 2010.

Figure 1.6 shows that the international students who chose Malaysia as their tertiary education destination had increased continuously from 2005 to 2010. This was nearly a 70% increment. Among the countries in the Asian continent, students from the Middle East showed the biggest increase (500%), as compared to the other parts of Asia. Students from the Middle East countries, were from Iran, Libya, Saudi Arabia, Yemen and Iraq. For example, in 2010, the numbers of students from Iran

[8] The countries that are classified into the 4four parts of Asia can be found in Appendix 2

was estimated at 11,823 and this accounted for 44.5% of the total Middle Eastern students.

Students from South East Asia also showed the same trend but with a rather moderate increase. In the year 2005, there were around 10,110 students from South East Asia and the number increased to 14,661 students five years later. Among the South East Asian countries, Indonesian students constituted the largest number with a total of 9,889 students or 68%.

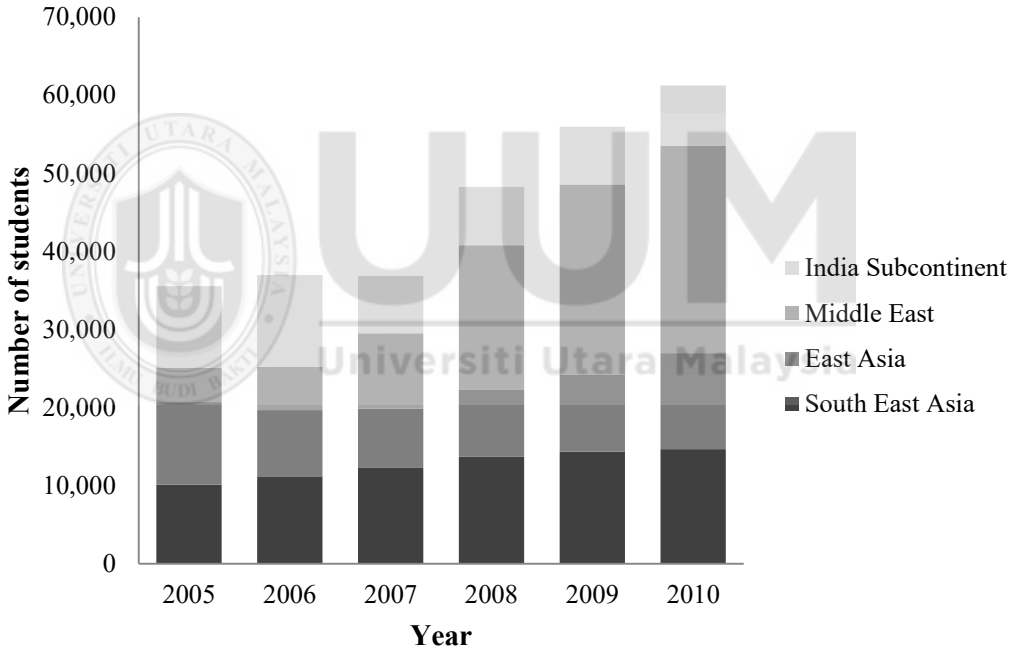


Figure 1.6
Number of international students from Asia
Source: Ministry of Education (2011b)

On the other hand, students from East Asia and the Indian Subcontinent had a U-shape growth over the six years period. Students from East Asia had dropped from 10,592 students in 2005 to 7,556 students in 2007 but increased slowly to 12,295

students in 2010. Among the East Asian countries, the highest number of students was from China. In 2010, there were a total of 10,214 Chinese students which amounted to 83% of the total students from East Asia. The same trend was observed for the students from the Indian Subcontinent who had dropped by nearly 30% from 10,425 students in 2005 to 7,391 students in 2009 but increased slightly to 7,729 in 2010.

Figure 1.7 shows the trend in the growth of student numbers from Africa. From the figure, it clearly shows that the number of students from Africa had increased by approximately 400% over the six year period. Among all the countries in the African continent, Nigeria, Libya and Somalia reported the largest number of international students. The Nigerian students comprised 27.5% of the total number in 2010; followed by Libya (18.5%) and Somalia (7%).

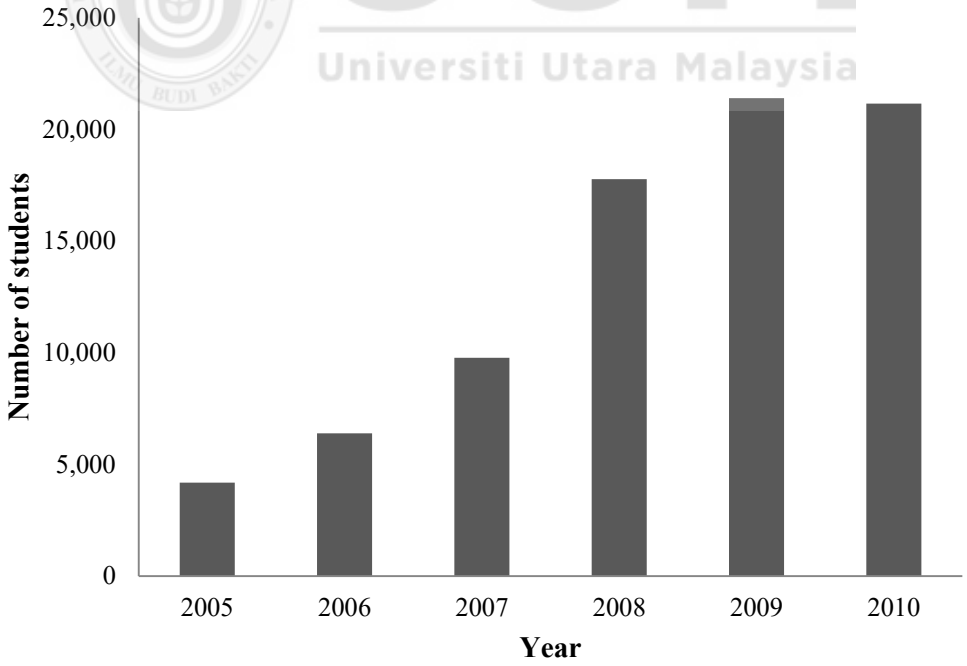


Figure 1.7
Number of students from Africa
Source: Ministry of Education (2011b)

Moreover, figure 1.8 shows the number of international students from the European, Americans and Australasian continents. The number of students from the three continents had increased slowly over the six year period. Students from Europe were mainly from the United Kingdom. The number had increased by nearly 60% from 537 students to 860 students. Meanwhile, students from the American continent had increased from 115 students in 2005 to 492 students in 2010 which largely consisted of students from the United States of America. For Australasia, the highest numbers were from Australia compared to Fiji, New Zeland and Papua New Guinea. The number of students from Australasia had increased from 41 to 115 in 2010.

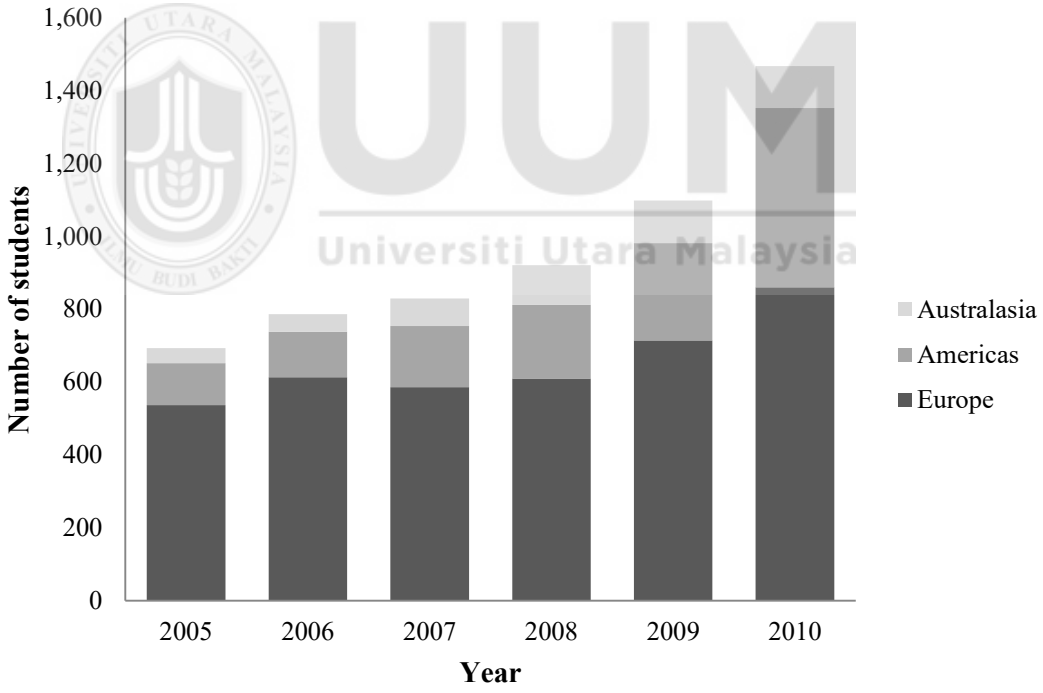


Figure 1.8
Number of students from Europe, Americas & Australasia
Source: (Ministry of Education, 2011b)

In terms of international recognition, Malaysian universities are evaluated by Quacquarelli Symonds (QS) Limited world universities ranking. QS Limited‟s methodology is based on six indicators which are academic reputation (40%), employer reputation (10%), student-to-faculty ratio (20%), citations per faculty (20%), international students ratio (5%) and international faculty ratio (5%) (QS Quacquarelli Symonds Limited, 2014). As of 2015, there are five Malaysian universities listed in the top 500 QS world universities ranking. Table 1.5 ilustrates the five Malaysian universities global achievement.

Table 1.5
The world QS ranking for Malaysian universities

	2011(th)	2012(th)	2013(th)	2014(th)	2015(th)
Universiti Malaya	167	156	167	151	146
Universiti Kebangsaan Malaysia	279	261	269	259	312
Universiti Sains Malaysia	335	326	355	309	289
Universiti Putra Malaysia	358	360	411-420	376	331
Universiti Teknologi Malaysia	401-450	358	355	294	303

Source: QS Quacquarelli Symonds Limited (2011; 2012; 2013; 2014; 2015)

Table 1.5 shows that since 2011, only Universiti Malaya has landed in the top 200 of the world QS ranking. Universiti Malaya has shown a consistent rise in ranking from 167th to 146th . Meanwhile, the other four universities still remained below the top 200 as of 2015. World QS ranking is one of the references for international students when they are choosing their higher education destination and it is also an indication of the reputation of Malaysian higher education instiutions.

Moreover, in 2015, QS Asia ranking shows that Universiti Malaya (29th) and Universiti Sains Malaysia (49th) has successfully ranked in the top 50 while

Universiti Kebangsaan Malaysia (56th) is close to achieving the same. Indeed, the three research universities have consistently increased their ranking positions for the past three years (QS Quacquarelli Symonds Limited, 2015). However, there is still a gap between Malaysia and rivals such as National University of Singapore (1st), The University of Hong Kong (2nd), Korea Advance Institute of Science and Technology (3rd), Nanyang Technological University of Singapore (4th) and The Hong Kong University of Science and Technology (5th) which have been ranked quite consistently in the top 10 in Asia ranking(QS Quacquarelli Symonds Limited, 2015).

Over the last decade, Malaysian higher education has experience huge reforms, in line with the global transformation of higher education. As the world become more globalised, the internationalisationof higher education become more intense with countries competing for international students. In this regard, the ability of a country to strategize and position itself is so important as it would signify the long term sustainability of the higher education sector in relation to the internationalisation agenda. The next section will discuss in detail the problems and possible challenges that post as a basis for this research to be undertaken.

1.4 Problem Statement

The term „education hub" is widely used by countries around the world. Some countries developed their education hub with the intention to attract international students and foreign provider to generate income for their domestic economy as well as to brand their domestic institutions to the international stage; others develop hubs to train the domestic and international student to be skilled labour force; while others

focus on attracting international student, foreign higher institutions and company to develop or invest in research and development through the advancement of knowledge and innovation that may contribute to their country‟s knowledge economy (Knight, 2011). Therefore, we can categorise the hubs into three categories which include student hub, talent hub and knowledge or innovation hub (Knight, 2011). The talent hub or what she termed as skill workforce hub differs from the student hub in which the former relates to human resource development. In this case the goal is to encourage students to remain in the host country for employment purposes.

Knight (2011) further defines knowledge and innovation hub to include the production and distribution of knowledge and innovation. Even though the effort needed to establish these two types of education hubs (talent hub and knowledge or innovation hub) should consist of various players in the education sectors and other sectors alike, the effort taken to encourage international students to go for higher degrees such as Masters and PhD program can be considered as one of the effective ways in achieving the objective. As a matter of fact, enrolling in a Master‟s Degree or PhD program requires certain credible characteristics and ability[9]. Thus talent and knowledge can be further exploited and strengthened. In such a situation, attracting the qualified students and retaining them through continuation up to postgraduate study which concentrates more on research, development and commercialization is of upmost important(Abd Aziz Ismail & Doria Abdullah, 2014).

[9] We do acknowledge that at the moment the international students enrolling in Masters and PhD program in public universities outnumber the undergraduates. However, the screening process to determine their credential level in some cases, is questionable. Thus our rationale to focus on the international students who are currently enrolled either in the first degree program or masters program can partly be considered as the second level screening process

As noted, for Malaysia to sustain in being a exporting higher education services country, the only option is to face strong competitors in the same field. Besides major host nations such as the USA, the United Kingdom, Australia and etc that are continuing to be the preferred destination of tertiary education, the Asian players besides those recognised by Knight (2011) such as China have targeted to attract 500,000 self-funded international students by the year 2020 (Sharma, 2012). Thailand took a creative step in offering a tertiary program in the Mandarin language via collaboration between the Dhurakij Pundit University with Kunming University of Science and Technology (KUST-DPU Chinese International College) to cater to the students from Mainland China. Figure 1.4 indicates that the number of tertiary international students‟ enrolment had expanded inconsistently from 2010 to 2013. Three out of five universities under Research University category have been inconsistent in attracting international students since 2010. Worst, Diana and Ooi (2013) reported that only 10% of the currently enrolled Muslim Chinese international students in Malaysia desired to remain in Malaysia after the completion of their studies due to the difficulty in renewing their student visa or business visa. Worst, if the student would like to obtain a permanent residence status. Hence, the sustainability of Malaysia in being a host country for the knowledge and innovation hub may in a dilemma. In such a case, Malaysia will have to move forward from being a „student hub‟ to „talent hub‟ or „knowledge/innovation hubs‟ to ensure the higher education hubs are sustainable and competitive in the long run.

Realizing that development of human capital and a knowledge based economy will require the ability to retain qualified international students to contribute through research and development activities, it is therefore important for Malaysia to prepare

and move towards the target which is to attract the currently enrolled international students to remain in Malaysia for their advanced study (Ministry of Education Malaysia, 2015b).

Lastly, along with the mission of the Malaysian government to achieve a balanced budget by the year 2020, rationalization of subsidies is taking place to gradually reduce the budget deficit (Ministry of Education, 2007). The move towards reducing financial dependent on the government budget was further reiterated in the Malaysian Education Blueprint (HE) 2015-2025, in which the government highlighted the importance of transforming the public higher education system that highly dependent on government funding to a system that require the institutions to seek for alternative sources funding as to ensure financial sustainability (Ministry of Education Malaysia, 2015b). In presenting the Budget 2017, the Malaysian government continued the reduction in the overall funding to all 20 public higher education institutions by 5.12% as compared to the year before (Ministry of Higher Eduation, 2016). The moves however posed serious challenges to all the public universities as they are traditionally rely heavily on the public funds for their operations. With the political pressure, it is impossible for the public universities to raise the tuition fees for the local students. Therefore, besides of attracting new international students, encouraging currently enrolled international students to remain in Malaysia as "repurchase" our higher education services (re-enrol for advanced study) can be a solution for the public universities to close their financial gaps. Moreover, achieving a financial sustainability is among the main target in Malaysia education blueprint (higher education) (Ministry of Education Malaysia, 2015b). .

In promoting Malaysia as the hub of educational excellence, the ability to attract quality students relies heavily in identifying and comprehending how decisions are being made with regard to education choices. In general, factors affecting their choices have to be identified correctly so that a particular country can readily adjust to any changes and improvements; thus research on the demand for tertiary education is important so as to infer the factors that affect the demand.

With regards to literature, There are huge literature on identifying the factor attracting new international students by applying *push-pull* model (Chien, 2015; Migin, Falahat, Yajid, & Khatibi, 2015; Nachatar Singh, Schapper, & Jack, 2014; Lee, 2013; Baharun et al., 2011; Mazzarol & Soutar, 2002). However, there are limited research focus on sustaining the qualify international students in a host country for advanced study. Furthermore, there are lack of research looking on sustaining international students in host country by incorporating the educational choice motive where most of the done research is focus on demand for higher education for local students (Menon, 1998; Oosterbeek & Webbink, 1995; Wobbekind & Graves, 1989). Hence, this research is done to contribute in retaining the currently enrolled international students for advanced study by incorporating the educational choice motive.

Moreover, to further enhance the sustainability for Malaysia as an exporting higher education service nation, promotion by the currently enrolled international students to their peers through word of mouth is another important option in attracting the "potential buyer" to choose Malaysia as their tertiary education destination. Word of mouth is a greater marketing tool that able to create awareness

to try a product then other form of advertisement (Sheth, 1971). Day (1971) stated that the effectiveness of word of mouth are great in turning the neutral or unfavourable susceptibility into positive attitudes that enable to influence the purchasing behaviour. Indeed, word of mouth do performing better in influencing the purchasing behaviour then other form of advertisement (Mangold, 1988). In relation to this, the current study will further investigate to what extent the identifying factors affect the decision of international students to recommend Malaysia to their friends and relatives in their home country.

1.5 Research Question

In examining the multifaceted dimensions of the factors influencing choice of international students in Malaysia, this research attempts to follow the same line as Oosterbeek and Webbink (1995) where the educational choice will be modelled by intergrating the investment, consumption and signalling motives for the demand for higher education for the local students. However, this present study extend the application of the educational choice model into the cross border higher education and in the context of recommendations of the host country by the currently enrolled international students. The research will focus on the following questions:

i) What are the levels or degree of satisfaction towards the service of higher education in Malaysia based on the *pull* factors?

ii) What are the motives that influence of the currently enrolled international students to remain in Malaysia for their advanced study?

iii) What are the factors that determine the currently enrolled international students choose to recommend Malaysia as a higher education destination to their friends and relative?

1.6 Research Objective

The general objective of this research is to identify the factors that influence the choice of currently enrolled international students to remain in Malaysia for their advanced study based on the investment, consumption and signalling motives. The specific objectives of this research are as follows:

1. To measure the level of satisfaction of the currently enrolled international students towards the service of higher education based on the *pull* factors;
2. To identify the motive that influence the choice of the currently enrolled international students to remain in Malaysia for their advanced study.
3. To identiry the factors that influence the currently enrolled international students choose to recommend Malaysia as a higher education destination.

1.7 Significance of Study

Discussion on the international students‟ mobility is gaining great attention in the business of higher education. As mentioned, it has been growing for a few decades and developed from a pure public goods to an economically industrial or commodity which contributes towards income generation for the host countries. Since the internalization of higher education brings about the development of human capital and contributes positively towards growth, it is significant for a host country to identify correctly the motives that influence the choice of currently enrolled

international students to remain in Malaysia for their advanced study. Moreover for a country like Malaysia which is moving towards becoming a high income nation, the business of higher education goes beyond a mere student hub. Its ability to attract high quality students and retain them in order to build a knowledge based economy is somewhat more important (Abd Aziz Ismail & Doria Abdullah, 2014). As far as the theory of educational choice is concerned, it mostly deals with the choice of whether to go for higher education or not. In fact very few studies chose to discuss this theory regarding the choice of further higher education destination. In most of the literatures regarding higher education destination, the researchers choose to use business or marketing approaches by looking at the pull factors and the push factors in identifying the factors that affect the decision making of international students. The current research however, differs in several aspects as follows:

a. In contrast to huge literatures involving choice of higher education destination which focus on the *push-pull* model, this research tries to incorporate the theory of educational choice in modeling the decision making by the currently enrolled international students on whether to remain in the current host nation for their advanced study.
b. Besides focusing mainly on the currently enrolled international students‟ choice of higher education destination, the present study attempts to extend the research where investment motive and consumption motive may also influence the choice of currently enrolled international students to recommend the present host nation to his or her family and friends in their home country.

The results from this research will be able to help Malaysia in building its strategic planning to remain the currently enrolled qualified international students in Malaysia for their advanced study and consequently contribute towards building the knowledge based economy. Apart from that, the research will also be able to assist the Malaysian higher education institutions to achieve and sustain a good reputation at the international levels in the long run. It is thus in line with the second objective of PSPTN and Malaysia higher education blueprint 2015-2025 which is to enhance the quality of Malaysian higher education. Perhaps the quantity and quality of research and development will increase if we manage to retain the "best brain" from all over the world and it creates positive competitiveness among our local students.

1.8 Scope and Limitation of Study

The scope of this research is limited to the final year international students and those in double degree programs who are currently studying in Malaysia for their Master degree, Bachelor degree or Diploma. This research targets only the higher education institutions that have been classified as University or University Colleges and by law are given the permit to take in international students. Due to time and financial limitations, only few universities are selected for the study. However, in order to ensure that generalization from the research can be made, the right samples are properly chosen.

Based on the classification made by the MOHE, the 20 public universities are categorized into research, comprehensive and focus universities. Meanwhile, the private universities are categorized into locally owned private universities and

foreign branch institutions. These five strata fulfilled the characteristic of homogeneity within stratum and heterogeneity across stratum. One university will be selected from each stratum based on the international students population.

1.9 Chapter summary and the Organization of the Study

As noted, for Malaysia to sustain herself in the higher education industry and to remain competitive, it is important for Malaysia to position herself by going beyond the student hub. In other words Malaysia should progress into becoming the „talent hub" and „knowledge or innovation hub". Realizing that development of human capital and knowledge based economy will require the ability to retain quality international students to contribute through research and innovation, it is therefore important for Malaysia to prepare and move towards the target. Thus, the main focus of this particular research is to analyze the important factors which are crucial in shaping the policy directions and strategies of the government in promoting Malaysia as an regional education hub. Findings from this research hopefully can contribute towards the existing literatures regarding higher education hub.

The research report will be organized as follows. Following the introduction in chapter one, the second chapter discusses the literature review related to the research. The third chapter explains the methodology and the data collection process. Chapter four presents the findings followed by conclusion and policy recommendations in chapter five.

CHAPTER TWO

Literature Review

2.0 Introduction

This chapter will be divided into two major parts. The first part relates to the literature on the underpinning theory while the second part involves the review of the empirical works that are related to the research. This chapter will start off with the discussion on the underpinning theory with regards to educational choice theory that is based on investment motive, signalling motive and consumption motive. Next, this chapter will discuss the empirical studies on the factors that influence the international students‟ choice of destinations for higher education. All the factors which are discussed will then be classified into different types of motives so as to show the influence of these motives towards the students‟ choice of their higher education destination.

2.1 Theoretical Underpinning on Educational Choice Theory

Generally there are three motives related to the educational choice *i.e.* the investment motive, signalling motive and consumption motive. All these motives are discussed in details below.

2.1.1 Investment Motive

Human capital is one of the important factors of production in economics theory and is used to conceptualize the labours or workers, where firms need to rent for their skills in the process of production. Basically the stock of the productive capital for workers is the knowledge and skills that they have gained from education, training and experience. The value of this productive capital is measured by how much this skill can earn in the labour market (Ehrenberg & Smith, 2000).

The human capital approach explains that all labours will have to make investment decision under uncertainty which was traditionally viewed as a pure production agent. This means that besides entrepreneurial ability, labours are investing in their own future earning by taking risk or facing uncertainty i.e. whether their investment will gain a fruitful return or not in the future (Bellante & Jackson, 1983).

According to Schultz (1961, 1962), the concept of human capital is that people can enlarge their range of choice available to them by investing in themselves since not all economic capabilities are provided at birth. Through investment in education, people can enhance their own welfare in the future. This means that, apart from the

innate ability, human beings can expand their ability through the knowledge gained from investment in education. In other words, human beings can expand their productive capacity in the long run by investing in higher levels of education. Blaug (1976) also mentioned in his writing that the concept of human capital is the idea that people spend on education, not for the sake of present consumption but for the future pecuniary and non-pecuniary return. Therefore, the investment motive explains the case for an individual who chooses to invest in education in order to increase his/her job opportunities as compared to those who do not invest, by assuming that there is no on-job-training provide by the employers (Borjas, 2010).

Investment in human capital can be classified into five categories which are education, on-the-job training, medical care, migration and information about job opportunity (Schultz, 1961, 1962 & Becker, 1962). For the purpose of this research, we will emphasize on investment in education. The cost of investment can be divided into two categories which are 1) explicit cost including tuition fees, books and stationery, and other costs of livings; 2) implicit cost or opportunity cost which invloves the foregone income during the investment period since it is impossible to work as full time worker (Schultz, 1961, 1962; Borjas, 2010; Ehrenberg & Smith, 2000; Bosworth, Dawkins, & Stromback, 1996).

Schultz (1961) in*"Investment in Human Capital"*mentioned that the opportunity cost is far more difficult to estimate compared to the monetary cost. He stated that the foregone income was over two-fifth of all cost in education in the USA in 1956. It is thus an important component in the total cost that cannot be ignored.

Voiculescu (2009) also emphasized that the opportunity cost does not only relate tothe losses in terms of physical goods or monetary values, but also includes psychological costs such as the level of dissatisfaction on the educational experience and also stress or sickness that may be caused by the education.

We understand that a person will decide to invest in education in the same way that one would invest in physical assets, where he or she needs to weigh the current expenditures and the future returns. The cost-benefit analyses based on present value allow us to compare the amount of money that we spend and receive at different time (Borjas, 2010). For example, if the cost of education now is RM 100,000 and the present value of benefit receive over the working duration is RM 500,000, then the decision will be invested in the education. On the other hand, if the benefit is less than RM 100,000, the decision is not to invest. Hence, the investment in additional education will be attractive as long as the expected future benefits received over time for an additional education exceeds the investment cost for education (Ehrenberg & Smith, 2000).

There were many empirical studies conducted to estimate the influence of education cost and availability of credits for schooling investment on the demand for higher education. They found that the education cost or price have a negative relationship to the demand for higher education while the availability of credits such as family income has a positive relationship on the demand for higher education (Campbell & Siegel, 1967; Hight, 1975; and Ching & Hui, 1996); It is important to note that, the expected returns in life time earnings do influence the decision to attend tertiary education (Willis & Rosen, 1979). These arguments support the theory

of human capital investment in education where cost and availability of credits will influence the decision making of an individual whether to choose education or directly enter the labour market.

On the other hand, the return for investment in education will be in the form of higher future earnings, increased job satisfaction over one‟s lifetime and a better appreciation of nonmarket activities and interest (Ehrenberg & Smith, 2000). According to Ehrenberg and Smith (2000) a high school graduate who is deciding to enter the labour market or not at the age of 18, those who decide to invest in a high level of education will face the explicit cost (tuition and fees) and the implicit cost (forgone earnings) due to the need to be in college for another four years. However, the college graduates who get additional of four years sof education earn higher salaries compared to the high school graduates. The earning differential between the college and high school graduates shows that the college graduates continuously earn more than the high school graduates until the age of 65. This was supported by Blaug (1976), who mentioned that the demand for a higher level of education is related to the direct and indirect cost of education and the earnings differentials after an individual has invested a few additional years of education.

In addition, Salas-Velasco (2006) conducted a study to identify the determinants of the salaries that Spanish university graduates earn in the labour market. He found that the results support the human capital theory in which an individual will earn a greater salary when he or she has obtained more education, and thus, postulates that investment in tertiary education is indeed a profitable investment.

According to Borjas (2010) education is valued only because it contributes to increased earnings. Employers who wish to employ a highly educated worker will have to offer a higher salary. The different wage pay to different levels of education is to compensate the education cost that is incurred by those who choose to pursue higher education.

In order to estimate the demand for education, Tao (2006) proposed a model that is based on the ability of individuals who choose to enter the labour market or ppt for higher levels of education. The model also contains a test of the screening hypothesis. The research found that higher education is likely to help individuals to accumulate their human capital stock. Furthermore, the model also does not show non-pecuniary impact from higher education. Therefore, the research concludes that higher education is likely to enhance an individual‟s productivity which leads to greater life time earnings. The result is in line with human capital theory for investment in education.

2.1.2 Signalling motive

The human capital theory on enhancing individual productivity is well-developed as mentioned in the above section. However, critics of the human capital theory had argued that education may not necessarily enhance individual productivity but may signal the individual‟s productive ability (Psacharopoulos & Woodhall, 1985). This is supported by Rumberger (1987) who found that additional years of education may not necessarily raise the productivity of an individual and therefore he or she will not be rewarded for it. The signalling approach or “screening hypothesis” is a kind of

identification process to determine the qualities of the commodities. From an employment perspective, firms or employers will hope to employ a highly productive worker. However, an employer has scant information on a worker‟s productive capabilities. Therefore, hiring is considered as an investment under uncertainty from the firms‟ perspective and the cost of production might increase if they employ an inefficient worker (Spence, 1973).

Education is one of the best examples of a screening device for employers. Employers tend to assume that there is a direct relationship between the level of education and the individual‟s productive capability. In other words, employers may not be able to recognize the individual‟s productivity but assume that the levels of education that the individual obtained may signal his or her working credibility. This may explain the reason why education is still a good investment. It may give individuals access to better job opportunities that give better private monetary returns. Meanwhile, firms will have to set a higher pay grade if they want to attract high ability workers because workers will only signal their high ability when more people are competing for the job to let themselves to have higher opportunity to gain the high paid job. Moreover, workers will also signal when the expected returns (wages) are larger than the signalling cost (Janssen, 2002). The signalling cost is the cost[10] that is incurred when investing in education (Spence, 1973; Stiglitz, 1975).

Spence (1973) indicated that education merely serves as a pure screening device without an increase in an individual‟s productivity; however, education as a screening device can enhance the chances for an individual to enter into high-paying

[10] The cost are included monetary and non-monetary cost such as time

occupations (Taubman & Wales, 1973). Firms can always develop and use tests in recruiting workers with the required skills for a particular occupation but this incurs some cost, and rational firms will always try to minimize their cost. Therefore, firms use education as an information providing tools during the hiring process, since this is the quicker and cheaper way to identify the most productive worker (Taubman & Wales, 1973; Psacharopoulos & Woodhall, 1985). However, if employers decide to use screening measures that are developed by them such as a hiring test, this will reduce the signalling role played by education degrees (Brown & Sessions, 2006). Education is the only reliable sources for firms to predict an individual's productivity when there is a lack of other information about an applicant (Albrecht & Ours, 2006).

Workers who obtained a higher level of study will continue to get higher pay as shown by the age-earnings graphs if only the employer justifies his or her real productivity through direct evaluation after some time of working rather than just rely on the education as the screening hypothesis (Psacharopoulos & Woodhall, 1985). This statement is proven by Psacharopoulos (1979), who undertook research to draw a theoretical distinction between the *weak* and the *strong* version of the screening hypothesis, depending on whether employers pay irrational wages at the initial hiring point or continuously thereafter. In the strong version, the employer treats schooling purely as a signal without adding any productivity capability to the worker. Therefore, on-job-training is provided to the new worker; however, employers will continue to pay a higher salary to the highly educated worker although they might have observed the worker failing to achieve the estimated potential performance (Barron, Black, & Loewenstein, 1987). On the other hand,

employer will only offer a higher starting salary to the highly educated worker and will do adjustments on their annual salary increment based on their observation‟s outcome of the job performance of these highly educated workers. This is the weak version. This research was conducted using micro data from the United Kingdom and it was found that the empirical result does not support the strong version. This result was then justified by Lambropoulos(1992) who conducted the same research by employing data from Greece; it was also support by Brown and Sessions (1999) who conducted the same research in Italy. However, research conducted by Castagnetti, Chelli, and Rosti (2005) following Brown and Sessions (1999) to discriminate between the weak and strong screening hypothesis showed a different result; the strong screening hypothesis is supported when the researcher switches the measurement to a more specific measurements such as degree score and completed speed.

Arrow (1973) in his article articulated that higher education does not contribute to the economics performance and also does not serve only a screening purpose; in fact, higher education acts as a device where employers can sort out the individuals‟ ability differences. According to him, college or university serves as a double filter; one as a filter when the students apply to enter the university and then the time when they graduate. Therefore, although employer face imperfect information regarding the graduates; at least there is certain information about the workers who have successfully graduated compared to those have not.

Furthermore, Arrow (1973) also emphasized that education credentials might not only be relevant for the job entry level but it might serve as a promotion ladder.

Bills (1988) wrote an article on the relationship between educational credential and job promoted for employee. The data was collected from five organizations‟ hiring and promotion decisions. The results showed that educational credentials play a more significant role in the hiring stage rather than for getting a promotion in an organization. Another research was done by Spilerman and Lunde (1991) to investigate the promotion returns to different educational features. The findings showed that educational achievements such as years of schooling, obtained degrees, university quality and majors have some positive impact on promotion advancement. However, the educational attainment is evaluated together with the particular worker‟s job performance as well. Therefore, additional years of education with a low job performance will not give much influence to promotion advancement.

There are many arguments between human capital and signalling theories on the education value; indeed, there has been empirical research which demonstrated that the signalling hypothesis does not support the notion that education has any effect on wage (Groot & Oosterbeek, 1994; Chevalier, Harmon, Walker, & Zhu, 2004) while human capital theory is predominantly used to explain the education value rather than signalling (Kroch & Sjoblom, 1994; Rinne & Zhao, 2010). However, there were previous studies which proved that obtaining a bachelor degree gives an individual a higher return compared to those without it (Wise, 1975); schooling was used as a screening device for employers (Riley, 1979; Gullason, 2011) and the educational signals have more market value and play an important role in the largely unregulated and highly competitive labour markets such as Hong Kong (Heywood & Wei, 2004). Raymond and Sesnowitz (1975) who conducted a research to examine the returns to investment in higher education indicated that there was

evidence showing that obtaining a tertiary education degree in the job market does not fully explain the increase in productivity of the particular worker but partially plays a role as a screening device for employers. Therefore, it is acceptable to say that an individual may invest in education just to provide the signal to their future employers.

Moreover, Merwe (2010) investigated whether an individual's expected returns to higher education investment are significant and positively relate to the demand in higher education. Using qualitative analysis, he found that the expected rate of return or employment opportunity is one of the factors that significantly influence people to invest in higher education.

2.1.3 Consumption Motive

In some instances, individuals may decide to invest in higher education not necessarily because of the monetary return. They may still be willing to invest in education even though the return is not so high or the probability of being employed is low (Alstadsæter, Kolm, & Larsen, 2008). There was research done to justify the wages across different educational types and the findings shows that many individuals still opt for higher levels of education or major in education field that generate low wage return (Daymont & Andrisani, 1984; James, Alsalam, Conaty, & To, 1989; Loury & Garman, 1995) and even after the researcher controlled the ability sorting (Arcidiacono, 2004). This shows that investment motive is not the only factor that influences the demand for education. Consumption motive which drives an individual to choose to invest in higher education shows the willingness of an individual to pay for the cost of education for non-pecuniary returns. If the benefits

dominate the costs, higher education is considered as consumption good and if the cost is more dominant then it is considered as consumption bad. Generally, higher education generates non-pecuniary return during the education process as well as after the completion (Alstadsæter & Sievertsen, 2009). In a research carried out by Christiansen, Joensen, and Nielsen (2007) it was found that in some situations people might choose to obtain higher education for other purposes rather than investment purpose.

Duncan (1976) carried out a research to investigate the earnings function by combining the pecuniary and non-pecuniary benefits. The research found that the human capital returns had increased when the non-wage benefits were included. Besides that, the research also showed the importance of education had increased when the non-pecuniary benefits were added. Therefore, we can conclude that the non-pecuniary benefit is generating a direct utility to an individual such as the possibility of getting jobs with better working condition. These finding are supported by another research done by Schaafsma (1976) where there was empirical evidence showing that both monetary and nonmonetary values have an important influence on the demand for education. Besides, the research found that students did enrol into graduate studies that have a low or even negative return which indicates that non-monetary return plays an important role in the decision of pursuing graduate studies.

According to Vila (2000), the economic benefits are not just limited to higher expected production or lower production costs but also improving the welfare of an individual in terms of health care such as better nutrition, medical check-up, exercise, choosing a living place with less pollution and also being alert to working hazards.

This can leads to the improvement in life expectancy of an individual. Besides health, education also generates fertility benefits, benefits for children, occupation benefits and benefits related to consumption or savings.

Economics measure the satisfaction for consuming goods and services by utility. Utility refers to the numerical score that measure the level of satisfaction or happiness that a consumer receives when he or she consume a market basket (Pindyck & Rubinfeld, 2009). The notion that individuals get satisfaction from consuming higher education services can be summarized by the utility function:

$$U = f(x_{1,}x_{2,}x_3 \dots x_n) \text{ s.t. available resource}$$

The utility function transforms the person‟s consumption of higher education services into an index U that measures the individual‟s level of satisfaction. The higher the level of utility, the happier the person is. The symbol of $x_{1,}x_{2,}x_3 \dots x_n$ are the factors that contribute to the students‟ utility that are classified under consumption motive. According to the utility theory, every individual will try to maximize his or her utility with all the resources that they have. Therefore, the utility function is subject to any available resources such as income constraints, the individual being unwilling to stay far from his or her family and others.

Economics assume that a person will tend to choose an option that yields him or her the highest utility when given a choice from a number of options. Therefore, one will continue to make additional investment in education if the benefits gained are more than the additional cost (Ehrenberg & Smith, 2000). From an educational perspective, one will invest in obtaining a higher level of education if they see the economic benefits that it might yields them in the future such as better career

opportunity, increase in salary and others. This is supported by the utility-maximization function that allows measuring human preferences for wealth and the amount of cost they are willing to spend for the future wealth (Grigor & Viktoriya, 2009).

Furthermore, Alstadsæter and Sievertsen (2009) pointed out that, private non-pecuniary benefits will be generated both during the educational process and when an individual graduates. Non-pecuniary benefits can be divided into two categories which are intended non-pecuniary and unintended non-pecuniary benefits. Intended non-pecuniary benefits are derived from an individual‟s education choice. Each individual might value it differently based on their own preferences. Joy of learning, life of being a student which allows him or her to be involved in various activities beyond campus such as sports events, dating, meeting new friends and others will contribute to an individual utility directly. Therefore, investment in higher education may increase an individual utility in terms of their personal‟s identity (Akerlof & Kranton, 2002).

On the other hand, unintended non-pecuniary benefit is the change in preferences during the education process from being exposed to new environment, culture and knowledge which may lead to an individual having a better and healthier lifestyle, better family planning and marriage stability. Individuals with higher education will have a higher level of well-being (Frey & Stutzer, 2000 & 2002). Gardner and Oswald (2002) stated that an individual with a higher education levels may have a happier life and a better psychological health. This may be contributed by he or she having greater control of their future life and security.

2.2 Empirical reviews on choice of education destination

In this section, we will discuss the empirical works that have been carried out on the factors influencing international students in their educational choice.

2.2.1 Cost Factor

Decisions to invest in education have been further expanded to the global stage. Students are able to travel to any host nation for their higher education investment. Hence, cost of education and cost of living in the host nation is always considered as one of the major factors that influence the international students‟ choice of their higher education destination (Joseph & Joseph, 2000; Binsardi & Ekwulugo, 2003). In other words, the demand for the higher education service in a host country will be higher if the expected monetary return is more than the incurred cost for the investment in higher education (Foster, 2014). Based on a research conducted by Naidoo (2005 & 2007) , it was revealed that tuition fees charged by the institutions will have a negative effect on the international student flow into that particular host country. This indicate that there is a negative relationship between the fees and living expenses with the higher education destination choice (Migin et al., 2015).

The majority of the higher education host nations including the major players such as the United States of America (USA) and the United Kingdom (UK) cannot deny the importance of cost factor. Binsardi & Ekwulugo (2003) examined the perceptions of international students towards UK education and research performance in the world market, and found that lowering tuition fees is the best way to attract more international students to the UK. Indeed, although the UK is an

attractive higher education destination, high tuition fees and the expensive living expenses have been a barrier to students from developing nation especially those students who from middle class family to fullfil their dream to study in the UK (Foster, 2014). Furthermore, Han, Stocking, Gebbie, and Appelbaum (2015) also found that cost is among the reason why international students choose the USA for their higher education studies.

Moreover, Yang (2007) carried out a research on the factors which influenced students from China to choose higher institutions in Australia as their higher education destination. As noted, Australia is among the top five most attractive higher education destination. The research found that low education fees and low cost of living have been the reasons why students chose to study in Australia.

Meanwhile, for the new players, offering affordable education cost and living cost is the important factor to maintain their competitiveness in the market. Mpinganjira (2011) in his research investigated the factors that influence international students‟ choice of the country as their study destination, and he found that lower cost of study and lower cost of living were rated as one of the top seven factors that influenced the international students in choosing South Africa as their study destination. Ozoglu, Gur, and Coskun (2015) and Lee (2013) also found that affordable tuition fees and living expenses were important for Turkey and Taiwan to attract the international students from around the world to choose them as their education destination.

In the meantime, Malaysia, is also a new player in providing higher education services and it was found that the fees and living cost in Malaysia tended to influence the international students‟ choice of higher education destination (Diana & Ooi, 2013). Baharun et al. (2011) employed factor analysis to categorize the entire related components into seven factors and cost of education was ranked in the fourth place as important factors in influencing the international students. Moreover, the research also found that cost of education was only significant to students from South East Asia in selecting Malaysia as their study destinations. However, another research done by Lim et al. (2011) that examined the pull factors, focusing only on students from Middle East and China, found that lower tuition fees charged by the higher education institutions in Malaysia were among the pull factors that attracted Middle Eastern students to choose Malaysia. Indeed, this is supported by Nachatar Singh, Schapper and Jack (2014) who conducted a qualitative study to investigate the factors that influence international students‟ choice of higher education destination. They found that reasonable tuition fees and low living cost were important factors that attracted international students from Middle East and other parts of Asia to choose Malaysia.

Furthermore, students from different levels of education might have different reaction towards the cost factors when making the decision to study overseas (Lu, Mavondo, & Qiu, 2009). Based on the data collected in several institutions in Beijing, Shanghai and Guangzhou in China, the results showed that the cost of study is an important factor for potential undergraduate students, but it has no influence towards the decision making for potential postgraduate students. This may be due to the fact that the cost for undergraduates are borne by their family while for the

potential postgraduates the cost might be funded by their employers. However, a research conducted by Chen (2007) reported that many self-funded international graduate students are concerned with the cost of graduate education and their living expenses in the host country.

In contrast to the above mentioned findings, Bouwel and Veugelers (2009) argued that there are situations where the cost of education would have a positive relationship with the international student flow. This happens when price is associated with quality. The signalling leads the students to think that high tuition fee are due to high quality education.

2.2.2 Reputation Factor

Reputation in quality higher education is an important measurement for a host country or higher education institution at the global stage where it is always a pull factor that attracts the international student flow (He & Banham, 2011). According to Mazzarol and Soutar (2002), the reputation of the institution itself has an important role in attracting international students. In other words, the higher institution needs to have a good reputation with regard to the quality of their education service and the level of recognition given to the higher institution by the host country and home country. The research further explained that the reasons students pick their host country are based on quality and reputation factor, the recognition of the degree of the higher institution in their home country and the quality of the staff at the institution.

There are several indicators used to measure the quality of higher education in a host country. First, it is measured by the citations received by its scientific publications, labelled as „relative impact", which are authored by researchers who are affiliated to the universities. Second, students can measure the quality of an institution based on the *Academic Ranking of World Universities*, also referred to as Shanghai Ranking[11] and the *World University Rankings* THES[12] ranking (Bouwel & Veugelers, 2009).

Bouwel and Veugelers (2009) examined whether the research quality of a country"s higher education system drives macro-flows of international students in Europe by using secondary data provided by the UNESCO Institute for Statistics. The research found that the „relative impact" in measuring the research quality has a strong positive and significant impact on international student flows. An increase of 10% in the „relative impact" led to an increase in the number of international students by 23%. The number of universities ranked in the top 200 of the Shanghai ranking also had a significant and positive effect where institutions in the top 200 increased the number of incoming students by approximately 15%. However, THES ranking as a closer measure of teaching quality had no significant effect on the international student flows.

However, Perkins and Neumayer (2011a) confirmed that the number of universities ranked in *World University Rankings* (WUR) top 200 or the *Academic Ranking of World Universities* (ARWU) top 500 is a statistically significant

[11] Its compiled annually by Shanghai Jiao Tong University
[12] The ranking of the Times Higher Education Supplement

influence on the number of international students to choose a particular host country. They conducted two studies and the first study was to investigate the reason some host countries receive more international students from certain countries as compared to others and why some countries are more attractive to students from specific source countries than others. They found that there is a positive relationship between the quality of university in the host country and the inflow of international students. When any additional university from a particular host country was successfully ranked in the top 200 in WUR, the inflow of international student increased by 1.5% while the top 500 in ARWU led to an increased of 0.36%. These results are then supported by another research (Perkins & Neumayer, 2011b) that was undertaken to seek more understanding on the debates about the motives for overseas study, the reproduction of class advantage and countries‟ competitive advantage for internationally-mobile students. The results also showed a positive relationship between the two world ranking league tables and the inflow of international students to the host country. If more universities from the particular host country were in the top 200 for WUR and the top 500 for ARWU, the inflow of the international students into the host country was estimated to increase by 1.7% and 0.4% respectively (Perkins & Neumayer, 2011b).

Therefore, it is obvious that achieving a high global reputation is one of the important missions for the host country or host institution to attract international students (Migin et al., 2015). Indeed, Cubillo, Sánchez, and Cerviño (2006) said that the image of the institution is important in attracting the international students. They also agreed that the factors are reputation, quality and expertise of the academic staff, the facilities prepared by the institution and recognition given to the institution

internationally. This is supported by Chen (2007) who found that one of the key factors influencing the choice of an institution is focus on the university reputation, quality and ranking.

We do realize that students in some situations might be willing to go for higher education service (regardless of the fees) when they feel it is worth it to obtain a degree from a certain host country or institutions especially for those major players such as the United States (USA), the United Kingdom (UK), Australia etc. Research done by Binsardi & Ekwulugo (1999) found that educational standards or recognized qualifications worldwide was ranked in the first place as the most important factor that attracted international students to choose UK as their study destination as compared to cost factor which was ranked at fourth place. This is supported by Soo and Elliott (2010) who found that the fees charged to international students might have some influence on their application decision in regard to UK universities; however the number of applications was positively and significantly influenced by the quality of education. Han et al. (2015) further confirmmed that high quality education in the United States was the main factor rated as the reasons that they chose the United States as compared to cost.

Another research done by Maringe and Carter (2007) found that international recognition was ranked first by the students who had been interviewed. The students mentioned that United Kingdom higher education qualification is a lifetime investment for them. Yang (2007) who investigated the choice of higher education destination for Chinese students found that the reputation factor was the most important and significant factor which influenced them to choose Australia. This is

because the students will have more opportunities to secure a job with a degree from Australia upon graduation. The research then further explained that the students chose Australia because Australia has an education system which is recognized internationally, highly reputable and most importantly is highly recognized in China.

Similarly for the new players, a positive reputation of higher education institutions is an important factor for them to stay competent in the market. According to Mpinganjira (2011) South African qualifications are respected at home and the high reputation of South African qualifications internationally was ranked in the first place by international students. This shows that recognition and reputation of higher education institutions internationally played an important role in influencing international students to choose South Africa as their study destination. Furthermore, the factor analysis in this research ranked quality education as the most important dimension that greatly influenced the decision of students to study in South Africa.

This is supported by Braimah (2014) who conducted factor analysis to identify the key determinants of university selection among the international students in Ghana. The research found that reputation factor was among the important factors determining the international students‟ decision in choosing Ghana. Indeed, Migin et al. (2015) who examined the major factors that influenced international students to choose the private higher education institutions in Malaysia as their study destination found that academic reputation was one of the important determinants that significantly influenced the international students‟ decision. Moreover, through an in-depth interview session with the currently enrolled international students conducted by Ozoglu et al. (2015) indicated that quality of education in Turkey was

among the several factors that influenced them to choose Turkey as their higher education destination. Besides that, Lu, Mavondo and Qui (2009) said that university ranking is a significant factor for both potential undergraduate students and potential postgraduate students. Therefore, it is important for the host countries institution to develop their reputation in academic and research quality internationally.

2.2.3 Social Factor

Social factor is another important factor identified by the previous studies that influences the students‟ decision making in choosing their higher education destination. Social factor is related to the learning or living environment provided by the host institution, the safety or political stability in the host nation and the common religion and culture in the host nation. Moreover, students may also decide to further their education in a host nation due to the speciality they obtain from there; for example the English level in the host nation is better or they are able to learn a different culture. Beside that, having family member or friends in the host nation may also influence their consideration.

According to Mazzarol & Soutar (2002), the level of safety in the host country and the environment there also plays an important role in influencing international students in choosing the host country. The crime rate and discrimination rate in the host country are taken into consideration when thinking about the level of safety. Xiong, Nyland, Sue Fisher, and Smyrnios (2015) further justified that the concern of the international students about their safety and also their worries of being victimised by crime during their study in a host nation is becoming an important

factor in determining their choice of higher education destination. Interestingly, the research which was conducted in Melbourne, Australia found that the majority of the international students experienced being discriminated against due to their ethnic origins followed by social crime such as being robbed, sexual harassment or assault, etc. Hence, the research suggested that there is a need by the government to build an environment that is free from this problem (Xiong et al., 2015).

On the other hand, environment factors such as comfortable studying environment and good accommodation are important in influencing the students in choosing the host country. Indeed, Lim et al. (2011) found the reasons students from the People‟s Republic of China chose Malaysia as their tertiary education destination was due to comfortable study environment, the availability of friends or relatives in Malaysia and also low crime rate. Moreover, the research also found that one of the reasons students from the Middle East tended to choose Malaysia was because the climate in this country is suitable to them. This is supported by Baharun et al. (2011) where the quality learning environment factor has been rated as the most important factor for the international students‟ decision in choosing Malaysia. Specifically, this factor was found to significantly influence the students from the African nations and Middle East nations.

Furthermore, improvement in the English language is always a consideration for students when choosing a host nation overseas (Chen & Zimitat, 2006). The researchers found that one of the reasons the Taiwanese students decided to study in Australia were because Australia is one of the English speaking nations. This reason has been an advantage for those English speaking developed nations in attracting

international students (Perkins & Neumayer, 2011a) since the internationalization of higher education started. Hence, it is crucial for the English speaking developing nations to compete with the major players. Mpinganjira (2011) found that use of English medium was ranked as the fifth factors among the seven most important factors that influenced the decision to study in South Africa.

Besides, Maringe and Carter (2007) said that students like to choose United Kingdom because they wanted to have an experience studying in a country which is rich in culture and races diversity. The different education system is also one of the key attraction of for international students. This is supported by Li and Bray (2007) where social and cultural experience is one of the factors that plays an important role in motivating students from China to choose Hong Kong and Macau as their higher education destination. The research shows that 63.3% of Chinese students in Hong Kong and 51% Chinese students in Macau agreed with the factor. On the other hand, having a common language and colonial ties between the host and the home country also has an impact on the international students‟ choice. Grigor and Viktoriya (2009) found that a common language is a significant influence on international students flow and students‟ mobility *i.e.* 1.8 times higher than the host country which does not share the same language with the source country. Meanwhile, the colonial ties between the host and source countries contribute 2.5 times to the international students‟ flow to the host country. The result is then confirmed by studies by Perkins and Neumayer (2011a & 2011b) where both found that a destination country that has a colonial history with the home country will receive more students from the former colonies. Meanwhile, a common language between the host and home countries was found to positively and significantly influence the students‟ decision-making.

2.2.4 Regulation Factor

Every country has their own visa regulations to control the entry of foreign nationals so as to protect the country‟s security (Neumayer, 2010). International students from all over the world will need to follow the host country‟s visa policy. The application process for visa may acquire costs such as processing fees, travelling cost to the embassy, the time spent on waiting for the application result, etc. On the other hand, the international students will have to take the risk due to the fact that they are not assured of entry until the result is released. Therefore, students will consider a certain host country depending on the level of strictness of visa control (Perkins & Neumayer, 2011a). Their research found that visa restriction has a negative and significant impact on students‟ decision to choose the country to study. Therefore, the visa restriction poses an important impact on international students‟ education choice of destination. This result is further supported by another research (Perkins & Neumayer, 2011b).

As reported by Yang (2007), students from China chose to study in Australia because they have the chance of migrating there upon graduation. 97% of the respondents said that they chose Australia because it has a migration policy where they can apply for permanent residency upon graduation. These findings are supported by He & Banham (2011) who also investigated the motivational factors that influence the decisions made by students from China with regards to their education destination. They concluded that providing opportunity for future employment in the host nation by less reputable universities can enhance the Chinese students‟ enrolment in these institutions in comparison to highly reputable

universities. Moreover, the easy admission requirements into the South African university and ease of obtaining visa to South Africa were also among the important factor that attracted international students to choose South Africa as their higher education destination (Mpinganjira, 2011).

According to Binsardi & Ekwulugo (1999) easy acceptance into an institution and a simple immigration process was the second most important factor why students chose the United Kingdom. This shows that besides the efforts from higher institutions, government policy and immigration play an important role in attracting international students to the United Kingdom. This is supported by Maringe & Carter (2007) that a quick and efficient application process will attract students to choose the United Kingdom. Through an interview, they found that the application to the United Kingdom can be done directly through the institutions and the results whether the students are accepted or not can be known in a day or two. On the other hand, application to the United States is rather complicated where the applicants need to go through a computer test, and attend a few interviews regarding the visa application which includes a referee. This is rather cumbersome for the students.

2.2.5 Service Factor

Furthermore, it is important for universities in the host nation to recognize the currently enrolled international students‟ university experience towards the services provided. Pereda, Airey, Bennett and Paper (2007) did a research on measuring the service quality in higher education, focusing on full fee-paying postgraduate students from non-EU countries at one institution in the UK. The main focus of the research

was to measure the service quality in higher education. The students rated fourteen statements related to corporative quality including the reputation of the university in leading in research, being well recognized internationally and academic programmes, also high quality teaching performance.

Another research conducted by Arambewela, Hall and Zuhair (2006) which investigated the relationship between the service quality (SERVQUAL) constructs of reliability, responsiveness, assurance, empathy and tangibles and the country of origin and satisfaction among postgraduate business students from four countries in Asia studying in Australia. They indicated that it is important for universities to recognize the different needs of students who come from various countries, cultures and backgrounds. The results showed that students from China, India and Thailand placed the quality of teaching as the most important variable while Indonesian students found the quality of lecture material to be most important. Besides that, students from China and Indonesia considered modern and adequate library facilities as the most important variable while students from India and Thailand considered modern computer facilities as the most important. This is also supported by research later conducted by Arambewela and Hall (2009) where the education standards and facilities were found to be significant and had a major impact on the international postgraduate students‟ satisfaction varying by their home country.

Also, Mpinganjira (2011) in his research confirmed that service factors does have considerable importance as modern and technologically advanced facilities have been rated as the second most important factor in influencing students to choose South Africa as their higher education destination. Moreover, Emang and

Rasli(2014) indicated that service quality has a direct impact on the international students‟ satisfaction towards the higher education institution and furthermore increases the behavioural of intention to demand.

2.2.6 Promotion Factor

According to Lim et al. (2011), the recommendation from agents was one of the factors that influenced Middle East students to choose Malaysia as their higher education destination. Meanwhile, the recommendation by parents and relatives was found to be the main factor for Chinese students to choose Malaysia. This research which was intended to examine the pull factors influencing students from Middle East and China in selecting Malaysia as the host country found that recommendation had a significant impact in attracting students from both countries to Malaysia.

Another research by Baharun et al. (2011) which was carried out to investigate the choice criteria among international students in Malaysia, found that relatives, print media, electronic media, education expo, internet, friends, the role of education agent, parents and responsiveness of university were named as decision influencers that played a significant role in attracting international students. This factor which categorizes components that relate to information distribution to the students regarding the host institutions had been rated as the second most important among the other six factors.

Both research are consistent with Mazzarol and Soutar (2002) that mentioned that recommendation from friends and family is among the important factors that

influence the international students‟ choice. They found that parents and relatives had more influence than agents did for Taiwan, India and China but not Indonesia. Besides that, the result also highlighted the importance of alumni networks in promoting the institution internationally.

Followed by Maringe and Carter (2007) who had carried out research to explore the decision making and experience of African students in the UK. This research was conducted through focus group interviews with 28 students studying in two universities in the South of England. For the question on how African students choose a university and course of study, the respondents stated that informal agencies such as British Councils or embassies that operate in their home country had high influence. Besides that, family members and friends‟ recommendation also proved to be among the most influential factors. Meanwhile, among the postgraduate students, the role of the research supervisors was found to be the powerful factor in influencing them to choose the UK as their postgraduate study destination.

Chen and Zimitat (2006) investigated the motivation that leads the Taiwanese students to study in western countries. They established the survey instrument based on the theory of planned behaviour. The results found that the influence from family members, friends, teachers and word of mouth from others significantly influenced them to choose the USA as their higher education destination.

A study by Pimpa (2004) explored how the family play a role as an influential factor on Thailand students‟ choice of international education. The research was conducted using two methods of analyses.The first one was a

qualitative analysis that aimed to identify how family can influence students‟ choices. Meanwhile, the second one involved the quantitative method to further investigate the findings from the first approach. The results from both approaches found that the information provided by the family members who used to study in Australia had the significant influence on the students‟ decision-making.

2.3 Student Retention

Student “retention” or “persistence” is defined as the student re-enrolment in university, whether continuous from one semester to another semester or they resume study after being temporarily interrupted (Kwai, 2009). In this research, the researcher intends to investigate the currently enrolled international students re-enrolment into universities in Malaysia for their advanced study. Therefore, the student retention or persistence model are partially applicable to this research in order to cater to the needs of this research. Tinto‟s retention model is often cited in research related to student persistence (Tinto, 1975).

Tinto (1975) indicated that the individual‟s integration into the academic system and social system in the higher education institutions plays a role to ensure the level of persistence among students when they are going through the system in their studies. The retention level will be higher when the student integrates more into the institutions system. After the integration, the individual‟s commitment and institution‟s commitment will be the main determinants on whether or not the individual will remain with the college until the completion of his or her degrees. The higher the individual‟s commitment to complete his or her study, the higher

probability he or she will continue with the college. Tinto‟s model was then supported by Pascarella and Terenzini (1980), who did research to develop a multidimensional instrument to examine the major dimensions of Tinto‟s model and to determine the validity of the instrument in identifying the freshly enrolled students‟ persistence and dropout. The five institutional integration scales that were developed were found to correctly identify the persistent level and dropout for the freshly enrolled students when the researcher added to a discriminant analysis based on fourteen pre-college characteristics, academic performance and extracurricular involvement.

Bean (1980) who investigated the determinants of student attrition in higher education institutions found that institutional commitment is the most important variable that influence the decision to dropout from school for both men and women. Furthermore, the other most influential determinant to the institutional commitment is the opportunity (transfer) variable.

Later, Bean and Metzner (1985) developed a conceptual model of the factor affecting dropout syndrome in their research to emphasize student selection for socialization to certain behaviours and attitudes. The model was estimated by path analysis and it was found that college grades, institutional fit and institutional commitment are important predictors of dropout syndrome. Furthermore, the research also indicated that a student‟s peers are important agents of socialization.

Kwai (2009) stated that there is a need to recognize the retention model for international students who are from other cultures and socioeconomic backgrounds

since most research was concentrating on local students. Therefore, Kwai (2009) carried out a research to investigate the factors influencing retention among international students in two public state-wide four year university systems. The results showed that the variables that had a positive influence on the international students‟ retention into their second year were their spring semester GPA result, credit hours taken and having a part time job in campus.

Another research done by Srivastava, Srivastava, Minerick, and Schulz (2011) to examine the concerns and preferences influencing the international graduate students‟ (IGS) decision to continue their advanced degrees in US universities found that funding support, university and immigration regulations and having a good academic advisor were the top three concerns for the students. Meanwhile, the top three influential factors were funding opportunities, ranking of the school and quality of the faculty members.

2.4 University life happiness (satisfaction)

In this research, students‟ university life happiness is related to the satisfaction with their current university life. The satisfaction achieved by the international students in the existing host country may contribute to the choice in choosing their existing host country for further study. Indeed, students‟ satisfaction is also extremely important for the survival of the higher education institutions especially the private universities since their income depend mainly on the number of student enrolment (Lim, Kuar, & Thi, 2007). In fact, the incomes generated from the fees paid by the international students are the alternative financial source for the private universities. Therefore, it

is important to keep their "customer" happy (Mogilner, Aaker, & Kamvar, 2012). As for public universities, to retain the international students to continue up to their higher degree such as Masters and Doctoral is important if Malaysia were to become a global talent and knowledge hub.

Based on research done in the United States, Mogilner et al. (2012) found that "happiness is a choice" which suggests that the type of happiness that an individual wants to achieve depends on the choice that he or she makes. This indicated that the level of satisfaction that an individual currently obtains may influence his or her decision-making in the future.

Shafiq, Butt, and Shoaib (2012) carried out a research at Kohat University of Science and Technology in order to investigate the factors that affect the student life satisfaction and happiness when the university is located in the terrorism affected area. The research found that proper academic environment, academic staffs" behaviour, good exam results, teaching-learning technologies and physical facilities motivate the students to study and feel happy with the university life. The research also found that the negative feelings caused by terrorism can be reduced when student feel satisfied with the teaching facilities.

Furthermore, Al-Naggar et al. (2010) did research from a sample of Management and Science University students to investigate the perceptions and opinions towards happiness among students in Malaysian universities. The research was conducted using the qualitative method and found that all the respondents indicated that money is the main source that contributes to happiness. Besides,

having a good relationship with friends and family members, stability of life, good health and success in life are the other factors that contribute to happiness.

The above research is in line with Chan, Miller, & Tcha (2005), who had carried out research to investigate the factors that contribute to university students‟ happiness. The research which was done at the University of Western Australia found that students‟ university life satisfaction is influenced by various factors such as the amount of pocket money and income from job, school workload, the university environment and resources, relationship with peers, time management and the university‟s reputation.

Later, Hirvonen and Mangeloja (2007) conducted a research using data from Finland to compare the similar research conducted in Australia. The findings of this research revealed that the important factors that influence students‟ level of satisfaction are social relationships, university environment, academic achievement and extracurricular activities.

Another research was conducted by Martikainen (2009), who aimed to measure the levels of general life satisfaction among Finnish young adults with an academic degree. The research investigated the relationship between young adults‟ educational level and life satisfaction. The findings showed that the level of life happiness was higher for the highly educated Finnish young adults as compared to the young adults in general.

Arambewela, Hall, and Zuhair (2002) carried out a research to examine the relative importance of factors and their impact on the satisfaction levels of international postgraduate students from four Asian countries studying at Victorian universities. Based on the logistic regression conducted, reputation factor was identified as a significant influence on the international students‟ decision in choosing the host institution.

2.5 Recommendation

The recommendation (word of mouth) refers to the opinion and advice given by the consumers who experienced the product or service to the potential consumers (Gray, Fam, Che, & Singh, 2015). Arndt (1967) was one of the pioneers who investigated the importance of recommendation (word of mouth) in influencing the consumer demand behavior. In his study, he stated that the consumer tends to demand more when positive recommendation is provided and otherwise is true. Word of mouth is a greater marketing tool that able to create awareness to try a product then other form of advertisement (Sheth, 1971). Day (1971) stated that the effectiveness of word of mouth is great in turning the neutral or unfavourable susceptibility into positive attitudes that enable to influence the purchasing behaviour. Indeed, word of mouth do performing better in influencing the purchasing behaviour than other form of advertisement (Mangold, 1988). Herr, Kardes, and Kim (1991) further stated that word of mouth communication between individuals effectively influences the decision making of consumers compared to printed format advertisement. Indeed, compared to other forms of advertising[13], word of mouth is more influential on the

[13] The study did not state clearly what the other forms of advertisement are.

demand behavior (Buttle, 1998). Furthermore, Buttle (1998) also stated that the impact of recommendation is higher on service offer compared to product offer.

Recent research further justified that recommendation is always recognized as an important prospect in influencing the consumer demand behavior towards a product or service (Yang, Hu, Winer, Assael, & Chen, 2012; Podnar & Javernik, 2012). In a research done by John, Justie, and Biobele (2014) confirm that word of mouth was positively significant influence the consumer demand on goods and services. As for the higher education industry, recommendation from friends or family members is always one of the important components under the marketing strategy in promoting the higher education destination by the host nations to attract international students (Wu, 2014; Nachatar Singh et al., 2014; Binsardi & Ekwulugo, 2003; Pimpa, 2003; Mazzarol & Soutar, 2002).

Furthermore, Buttle (1998) in his study explained that the willingness of a consumer to recommend the product or service used to other consumers is largely influenced by whether or not the consumers‟ experience meet the expectation. This is agreed by Yang et al., (2012) who stated that consumer experience in consuming the product or service tend to increase the possibility to recommend the product or service to other consumers. Moreover, the recommendation is believed to have an impact towards the future prospective international students who might potentially choose Malaysia as their higher education destination (Wu, 2014; Yasvari, Ghassemi, & Rahrovy, 2012). Hence, it is therefore interesting to further analyse on whether the perception of the currently enrolled international students on the various identified

pull factors will influence their choice to recommend Malaysia to their friends as their higher education destination.

2.6 Chapter Summary

The review on the theory of educational choice has provided the basis for the underpinning theory in which three significant motives i.e. the investment motive, signalling motive and consumption motive are identified. Since it is complicated to disentangle the signalling motive from the investment motive for the educational choice due to the fact that both motives are based on cost-benefit comparison, the signalling motive is integrated into the investment motive. This is acceptable since both motives are based on the same presumptions related to the benefits received from investment in education. Meanwhile there are quite a number of empirical studies done to investigate the factors that affect the international students‟ decision in terms of their choice for higher education destination(Migin et al., 2015; Nachatar Singh et al., 2014; Iyanna & Abraham, 2012). As far as the research in this area is concerned, there is however lack of research done to investigate the factors that explain the choice of study destination by integrating the investment and consumption motives and identifying which motive dominates the other. Thus, this particular research attempts to bridge the gap in the literature by incorporating both motives in analysing the choice of currently enrolled international students to remain in Malaysia for their advanced study .

Moreover, there is also scant research on investigating the factors that influence the choice on word of mouth for cross border higher education services

(Lee, 2010; Zamil, 2011; Yasvari et al., 2012). Hence, this research also attempt to investigate the factors that influence the currently enrolled international students‟ choice to recommend (word of mouth) Malaysia to their friends in their home country by incorporating the education choice motives.

CHAPTER THREE

Methodology

3.0 Introduction

This research attempted to first measure the level of satisfaction of the currently enrolled international students towards the service of higher education based on the identified *pull* factors. Furthermore, this research examined the influence of the investment and consumption motives on the choice of currently enrolled international students whether to continue to study in Malaysia for their higher level degree. Lastly, this research also attempted to identify the factors that influence the willingness of the currently enrolled international students to recommend Malaysia to their friends and family members in their home country.

Following the literature review in Chapter Two, this chapter discusses the methods used to achieve the research objectives. This topic will focus on the research framework of educational choice, sampling method, data collection and instruments, method of analysis, and model specification.

3.1 Research Framework

Based on the underpinning theory that was discussed in the previous chapter, the individual choice of education can be modelled based on investment, consumption and signalling motives as shown in Figure 3.0. Through investment in education, the individual can enhance his or her own welfare in the future. This means that, apart from the innate ability, human beings can expand their ability through the knowledge gained from investment in education. In other words, human beings can expand their productive capacity in the long run by investing in a higher level of education (Becker, 1962). Hence, investment in education will be made by an individual when his or her present value of future benefits exceeds the cost of investment in education.

In some conditions, the individual‟s decision to invest in higher education is not necessarily influenced by monetary return. People still invest in education that might provide them with relatively low wage or high probability of unemployment (Alstadsæter et al., 2008). Therefore, one will continue to make additional investment in education if the benefits gained (in this case the benefits gained refer to non-pecuniary return) are more than the additional cost (Ehrenberg & Smith, 2000).

Moreover, Spence (1973) indicated that education is just serving as a pure screening device without an increase of an individual‟s productivity. “Screening hypothesis” is a kind of identification device to identify the qualities of the commodities. Employers tend to assume that there is a direct relationship between the levels of education and the individual‟s productive capability. Therefore, it makes

sense that an individual may invest in education just to provide a signal to their future employer in order for the employers to differentiate him or her from others.

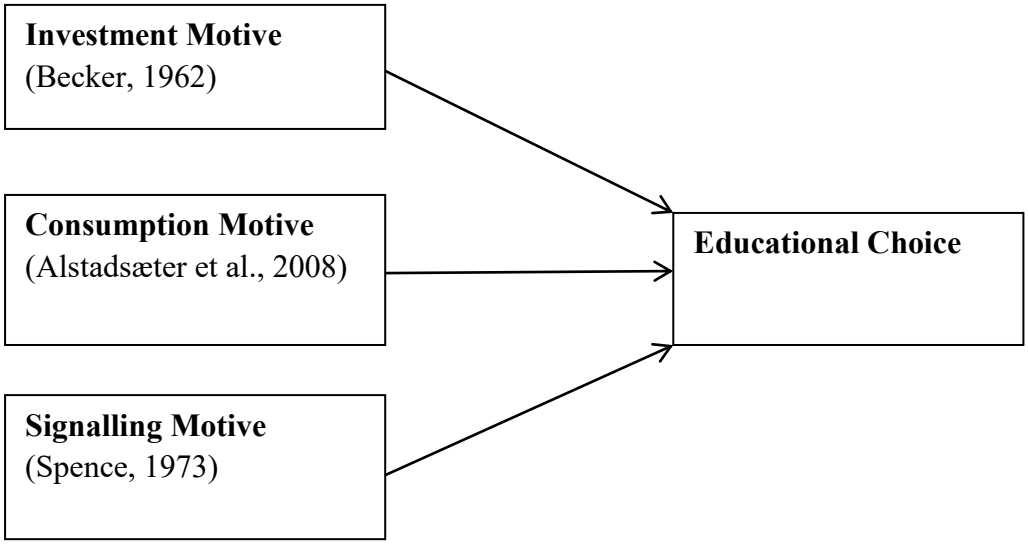


Figure 3.0
An underpinning theoretical framework of educational choice

Demand for overseas higher education was traditionally engaged by underdeveloped or developing nations in expecting to enhance the development of the nation with the knowledge gained from developed nations after the students‟ completion of study. Later, the trend has transformed into an international trade industry with host nations exporting their higher education services. Mcmahon (1992) conducted a study on the flow of international students from 18 developed nations to developed nations during 1960s and 1970s. The study tested the outbound (push) and inbound (pull) model and stated that the outbound was due to the internal development of the home country while the inbound was the capability of attraction by the host country. Mazzarol and Soutar (2002) furthered the investigation of the push-pull factors that influenced the international students‟ choice of higher education destination. The study concluded that the majority of the governments of

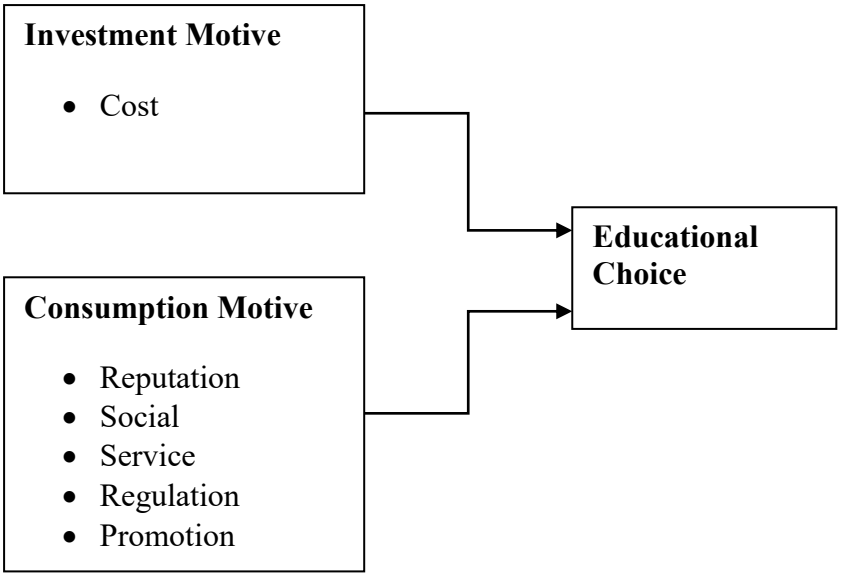
developing nations were keen in upgrading their internal higher education supply in expecting to keep their local students in the country for their higher education and even joined the developed nations in offering the export of higher education service. Hence, the ability of the host nations to understand the international students‟ choice of higher education destination and enhance their pull factors is of utmost importance.

The international students‟ choices of higher education destination can be divided into two stages. The first stage is the choice of a particular country when the students first make their decision to go abroad and secondly is their intention of whether to further their study at the higher level at the same host country. The decision made in the first stage is more or less based on certain predictions and the second stage (retention) which is the objective of this research involves the perception based on the real experience after they have enrolled in a particular institution. Hence, identifying the *pull* factors as compared to the *push* factors in attracting the currently enrolled international students‟ choice to remain in the particular host institution for their advanced study is of utmost importance (Mazzarol & Soutar, 2002).

According to previous empirical studies, cost factor is always the major concern of the international students for their choice of higher education destination (Mpinganjira 2011; Lim et al. 2011;Baharun et al., 2011) The cost factor includes the tuition fees and cost of living. The assumption here is that, be it an investment or consumption motive, the monetary return would be the same in both cases, thus the analysis will focus on cost factor alone when it refers to the investment motive. Hence, cost factor can be categorized under the investment motive. Based on the

cost-benefit analysis, the proposed research framework suggests that the lower the cost and the higher the monetary return i.e. a higher salary, the higher is the possibility that students will invest in education or in this case, to choose to remain at a certain higher education destination. This is rational since most individuals will choose the host country‟s higher education institution that has value for their money. When the cost of education in the particular host nation increases, then it will reduce the potential return from investment in higher education. Therefore, cost is expected to have a negative impact on the choice of higher education destination. As far as the indirect cost (forgone income) and the expected return after the completion of study are concerned, both are treated as limitations in this research due to the difficulty in obtaining the information.

Besides, this research framework also suggests that the consumption motive has a positive influence on the choice of higher education destination. As explained, individuals may enjoy non-monetary return while or after the education process. The previous empirical study showed that a university‟s reputation factor, social factor, service factor, regulation factor and the promotion factor carried out by the host nation are able to enhance the international students‟ utility. Therefore, if the host country and the institutions manage to provide the non- monetary return to the international students, then this will attract the currently enrolled international students to choose to continue to further their study there. Therefore, reputation, social, service, regulation and promotion factors are expected to have a positive impact on the choice of higher education destination (He & Banham 2011; Bouwel & Veugelers 2009; Li & Bray 2007; Mpinganjira & Rugimbana 2009; Perkins & Neumayer 2011a; Perkins & Neumayer 2011b; Pereda et al. 2007; Bodycott 2009)



Note: signaling motive is integrated into the investment motive since both motives are based on the same presumptions related to return to education. The mutual exclusive of term used is shown in Appendix 7.

Figure 3.1
A modified theoretical framework of educational choice

Since the data for this research consisted of the international students who were already in Malaysia, the present study has the limitation in terms of analyzing the choice of educational destination in the first stage. However the data allowed for a deeper analysis with regard to student retention for higher degree study at the same host country. Furthermore, it is complicated to disentangle the signaling motive from the investment motive for the educational choice due to the fact that both motives are based on cost-benefit comparison; thus, the signaling motive will be integrated into the investment motive since both motives are based on the same presumptions related to return to education. Therefore for the purpose of this study, we modeled the choice of higher education destination of international students based on the two major motives i.e. the investment and the consumption motive as presented in Figure 3.1.

Furthermore, this research also attempted to determine the relationship between the choice of the currently enrolled international students in recommending Malaysia to their friends in their home country based on the investment and consumption motive.

3.2 Targeted Population and Sampling Method

The targeted population of this research was the international students who were currently studying in Malaysian universities[14], at the time of data collection of this present research which was in 2013. Due to the large number of international students in Malaysia, it is very costly and time consuming to obtain the population frame (a list of all international students). Table 3.1 shows the total number of international students in Malaysian higher education institutions (HEI) as in year 2013.

Table 3.1
The total number of international students in Malaysian HEI in 2013

University	2013
Public	28,826
Private	52,598
Total	81,424

Source: Ministry of Education (2013b)

Moreover, in order to incorporate randomness (also representativeness and generalizability) into the sampling design, a combination of different probability sampling method was used in this research.

[14] The list of international students' country of origin can be found in Appendix 2.

Table 3.2

Sampling design (combined methods)

A. First stage - strata sampling

	Public			Private	
	Research university	Comprehensive university	Focus university	Private university	Foreign branch
List of universities	UM USM UKM UPM UTM	UiTM UIAM UMS UNIMAS	UUM UPSI UTHM UTeM UniMAP UMT UMP USIM UniSZA UMK UPNM	HELP University INTI International University MSU MMU QIUP Sunway University Taylor‟s University IMU LUCT UTP UNITEN UCSI U AUCMS AP-UCTI IUCN KDU UC Berjaya UC Nilai UC Segi UC Linton UC UCSA MEDIU UniKL INCEIF MUST AIU UNISEL WOU UTAR UNITAR KUIS KIUN	MUSM Swinburne UNIM NUMed
Selected university	UM	UIAM	UUM	MMU*	UNIM

(**Please refer to Appendix 3)**

Table 3.2 (Continue)
Sampling design (combined methods)

B. Second stage - quota sampling

		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	2663	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

First, the stratified random sampling was applied. The targeted populations were divided into five strata – public universities that were classified as Research University, Comprehensive University and Focus University[15], and the private universities which were classified into private university/university college and foreign university branch[16]. These five strata fulfilled the characteristics of homogeneous within stratum and heterogeneous across stratum and thus one university was selected randomly from each stratum.

Next, the quota random sampling was applied where students were stratified by level of studies i.e. Master degree, Bachelor degree and Diploma. The reason for this classification is that the motive that influences students‟ choice of their higher education destination may vary according to their level of study.

[15] The full name of each public university can be found in Appendix 1.
[16] The full name of each private university can be found in Appendix 4.

A pre-determined number of international students were then selected from each stratum. The sample size of each stratum was determined based on the size of the stratum, using the table of sample size determination for a given population size from Sekaran & Bougie (2010) for random sample size.

According to Sekaran and Bougie (2010) the sample size of 1,000 students is sufficient for a population size that more than 70,000 students. Although the population of international students for the year 2013 is available, the statistics of international students by level of study for year 2013 could not be obtained. Hence, the sampling design (combined methods) for this research was based on the population size for year 2010 (86,923 students) as depicted in Table 3.1. A quota sampling had to be applied due to unavailability of population frame (the list of international students with contact numbers). The request for the international student contact list was rejected on the grounds of data confidentiality. Since the sample size of the present research is more than 700, by the central limit theorem, the concern of none normal distribution and representativeness is at the minimum (Zikmund, Babin, Carr, & Griffin, 2010).

Table 3.2(A) shows the first stage of sampling by strata where the universities were selected based on quota sampling as shown in Appendix 3. Meanwhile, Table 3.2(B) shows the distribution of the 1,000 samples of the selected universities. The research focused on the existing first and master degree students. Meanwhile, the currently enrolled PhD international students were excluded since PhD is the highest level of study (no opportunity for further study).

The Malaysian universities is heterogenous and hence the sample representativeness need to be taking care off. There are three main heterogeneities: public versus private, different category of public universities (research, comprehensive and focus) and private universities (local and foreign branch). The multiple strata sampling design ensures the representitives from the public and private universities; the three different categorise of public universities and the two different categorise of private universities (See Table 3.2). Hence, the sample should have at least acceptable level of representativeness to the Malaysian universities education sector.

3.3 Data Collection and Instrument

In this section, the data instrument, data collection procedures, pilot test, and the conducted reliability test of the instrument are described.

3.3.1 Primary data

In this research, the primary data were obtained through self-administered questionnaires distributed to the targeted samples.

3.3.1.1 Questionnaire

The self-administered questionnaire was selected as the data collection method to collect all the completed responses within a short period of time that suited the purpose of this research. The data collected include some micro-level information such as (i) demographic data of the students who are studying at Malaysian

universities; (ii) the choice of the currently enrolled international students whether to choose Malaysia or another country for their higher level degree (iii) their self-perception on their soft-skill; (iv) the factors that influence the currently enrolled international students decision-making and; (v) level of satisfaction on the factors and their willingness to recommend Malaysia to their friends and relatives.

3.3.1.2 Questionnaire design

The questionnaire is divided into four sections[17] as below:

Section A:-

This section is to solicit the background information of the respondents. The data collected include socio-demographic information such as the respondents‟ sex (female or male), age, country of origin, the education background such as the program, which tertiary institution he/she is in, the level of study and also the information related to expenditure including financial supports that they are getting.

Section B:-

This section is to get information on whether the currently enrolled international students who are studying in Malaysia have the intention to further their higher level of study and the choice of the destination for further study.

[17] The details of the questionnaire can be found in Appendix 6

Section C:-

This part contains questions related to the self-perception of the international students towards their soft skills before the period of their study at a Malaysian university. The 7-point Likert-scale[18] is used to measure their soft skills level.

Section D:-

Section D contains questions that measure the perception of currently enrolled international students on various factors with regard to education in Malaysia. This will be used as factors that determine the choice of currently enrolled international students to remain in Malaysia for their advanced study. The 7-point Likert scale is used to measure the perceptions of the international students towards various factors related to the university that they are currently enrolled in particular and Malaysia in general.

This is followed by questions on the decision whether they will or will not recommend Malaysia to their relatives/friends in their home country to come and study in Malaysia. Questions regarding the willingness of the international students to recommend Malaysia to their family members/relatives/friends in their home country are included in this section. Furthermore, a question that measures the satisfaction level of the international students towards the various factors (question 84) is also included.

[18] Johns (2010) stated that there is no theoretical reason to determine the range of response scale. This is supported by Krosnick & Presser (2010) which stated that 7 point likert scale achieve a significant level of reliability and validity.

Items 39 to 82 (except 45 & 46) in section D were adopted and modified from the previous studies[19]. Modifications were needed to comply with the objective of the present research. Table 3.3 shows the factors that were identified in previous studies.

Meanwhile question 45 and 46 was adopted and modified from the *potential earnings streams* and *wage-schooling Locus* in human capital theory (Ehrenberg & Smith, 2000; Borjas, 2010). Questions 45 and 46 measure the benefit received by the international students.

Table 3.3
Factors adopted from previous studies

Factors	Authors
Cost	Baharun et al.(2011); Lim, Yap& Lee(2011); Mpinganjira,(2011)
Reputation	Baharun et al.(2011); Lim et al.(2011); Mpinganjira(2011)
Social	Baharun et al.(2011)); Mazzarol & Soutar(2002); Joseph & Joseph(2000)
Regulation	Mpinganjira(2011); Joseph & Joseph(2000)
Service	Baharun et al.(2011); Pereda et al.(2007)
Promotion	Lim et al.(2011); Mazzarol & Soutar(2002)

3.3.2 Data collection procedure

This research began in May 2013, through the arrangement with the international student office of the selected universities. An application was submitted to gain permission to distribute questionnaires during collection of the convocation robes except for Universiti Utara Malaysia (UUM).

[19] Appendix 5 shows the list of the previous studies that have been adopted.

The questionnaires were distributed in UUM at the end of May. The distribution process was done in the library, cafeteria, and also the student residential hall. By early July, 231 questionnaires had been collected. In mid August, the data collection was conducted at Multimedia University, followed by Universiti Malaya in September and International Islamic University Malaysia in November 2013.

At the end of December, 2013, there were 819 questionnaires successfully collected from the total 903 [20] observations that were distributed at selected universities in the Research University, Focus University, Comprehensive University and Private University categories. Out of the 819 questionnaires, 91.9% were useable for analysis.

On the other hand, the selected university for foreign branch university (University of Nottingham Malaysia campus) required the application to be verified by the university's ethical committee. However after three months, the permission to distribute the questionnaires had yet to be approved by the ethical committee. By early January 2014, due to time constraints, the researcher decided to proceed to the next stage without the foreign university branch category.

3.3.3 Secondary data

The secondary data used in this research include the data obtained from the Ministry of Higher Education, UNESCO, World Bank and other related materials.

[20] Ninety-seven observations allocated for Nottingham University Malaysia campus were unable to be distributed

3.3.4 Pilot Test

A pilot test with a sample size of 20 respondents (international students from UUM) was conducted to ensure the instrument had a satisfactory level of readability and practicability (Bryman & Bell, 2011). Readability ensures that the questions are clear and understandable; while practicability ensures that respondents are willing to answer the questionnaire.

3.3.5 Reliability of instrument

Reliability test was conducted to measure the internal consistency and stability of the multi-item scales as shown in Table 3.4.

Table 3.4
Reliability test

Motives	N	α
Investment:		
Education cost	6	0.830
Consumption:		
University service	6	0.894
Academic quality	4	0.861
University environment	8	0.868
Information guidance	5	0.854
Social	5	0.800
Regulation	2	0.692

Note: N is the number of observations. α is the Cronbach‟s alpha.

Cronbach‟s alpha is one of the commonly used methods to measure the reliability level of the variables (Cronbach, 1951). Its coefficient measures how well the items in the measurement are positively correlated to one another. If the Cronbach‟s alpha coefficient approaches close to the value 1, the higher will be the internal reliability of the multi-item scales (Sekaran & Bougie, 2010; Tan, 2007). According to Nunnally (1978), the reliability of the constructs should be above 0.70

but for the early stages of research, the reliability of 0.60 is also acceptable. Hence, the results indicated that all the seven factors were reliable[21].

3.4 Method of Analysis

The primary data collected were analyzed using the descriptive statistics, factor analysis and logistic regression.

3.4.1 Descriptive statistics and hypothesis tests

Table 3.5
Descriptive statistical analysis, hypothesis tests and one-way ANOVA

Analysis	Purposes
Numerical descriptive statistics	Mean, standard deviation, and percentage distribution were used and tabulated in one-way or two-way table to describe the sample characteristics.
Independent sample t-test	To test whether or not the means of two sample populations differ significantly (George & Mallery, 2010).
Chi-square test	The rationale of conducting the chi-square test of independence is to determine whether the two categorical variables are independent to each other or not and also how large the discrepancy is between them (George & Mallery, 2010).
One way ANOVA	Analysis of variance (ANOVA) is frequently used to compare more than two sample means; hence, it is suitable to conduct it to find out the differences in mean satisfaction across the various factors are significant or not among the currently enrolled international students (George & Mallery, 2010).

[21] Clark & Watson (1995) mentioned that there are no clear standards that the acceptable reliability level should be strictly 0.7 and above since there are researchers who accept 0.6 as a good reliability level (Holden, Fekken, & Cotton, 1991). Hence, in this research, it was recommended to accept the 0.6 threshold of Cronbach"s alpha value a reliable level.

Table 3.5 presents the descriptive analysis, hypothesis test and one way ANOVA that conducted. Descriptive statistics, either numerical or graphical, was used to analyze the background information of the respondent such as the international students‟ country of origin and how they financed their education in Malaysia.

Moreover, hypothesis tests using independent sample t-test and chi-square test were carried out on the currently enrolled international students‟ choice of their further study destination. Moreover, one-way ANOVA analysis was performed to find out how the level of satisfaction among the currently enrolled international students on Malaysia differs across the various factors (as identified from previous studies).

3.4.2 Factor analysis

Factor analysis is a statistical technique that is able to reduce a large number of variables into a smaller number of factors (George & Mallery, 2010). Factor analysis was conducted in this research in order to identify the factors from the variables which represent the multiple items of an underlying construct. The method that is usually used to construct the factoring approach is principle components analysis (Tan, 2007). However, the constructed factors might not be 100% similar to the factor identified since the items were modified from previous research. This is because every research has different sets of data. Therefore, based on the perception of the respondents, the factors categorized under the investment and consumption motive were reconstructed. Moreover, Hair et al.(2010) indicated that a sample size with more than 100 cases is considered sufficient for conducting the factor analysis.

3.4.3 Logit Model

Furthermore, in this research, the logit model was used to answer the second and third objectives. The logit model was employed to investigate the impact of the motives (investment and consumption), together with social demographics on the choice of the currently enrolled international students on their advanced study destination as the control variables. Moreover an analysis was also conducted to measure the choice of the currently enrolled international students in recommending Malaysia to their friends influenced by the motives (investment and consumption). The dependent variable used in our study is a limited dependent variable with binary outcome. Hence, use of the logit model is appropriate (Hosmer & Lemeshow, 1989).

The influence of the independent variables on the dependent variable was shown by the coefficients (β). The probability was calculated from the estimated coefficients and at various mean values of independent variables. The logit model is used to model a binary categorical dependent variable which enables the use of the estimated regression models to predict the probability of a particular categorical response for a given set of explanatory variables (Gujarati & Porter, 2009).

3.5 Model Specification

There are two model specifications in this research as shown below:

Model Logit I (Choice to choose Malaysia as advanced study destination)

Logit model was suggested to measure the probability that the currently enrolled international students" choice was to remain in Malaysia for their advanced study. It is assumed that there is a latent variable which represents an individual"s underlying choice to remain in Malaysia for their advanced study. This latent variable is associated with individual characteristics (*Xs*). Let Y_i^* represent this latent variable and assume Y_i^* is a linear function of Xs, then,

$$Y_i^* = \beta X_i + \varepsilon_i \quad i=1,2,3\ldots,n \quad (1)$$

Where,

Y_i^* = underlying choice to remain in Malaysia for their advanced study for student *i*

X_i = Independent variables

ε_i = error terms

n=sample size

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 for their advances study (Y) takes the nominal category (J) of 0 (being not remain), and 1 (being remain).Then, the value of Y is observed as:

$$Y_i = \begin{cases} 1 & if\ Y_i^* > 0 \\ 0 & if\ Y_i^* \leq 0 \end{cases} \quad (2)$$

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 for their advanced study is given as below:

$$\Pr(y=1 \mid X) = \Pr(y^*>0 \mid X)$$

$$= \Pr(X''\beta + \varepsilon > 0 \mid X)$$

$$= \Pr(\varepsilon > -X''\beta \mid X)$$

$$= \Pr(\varepsilon < X''\beta \mid X)$$

The cumulative density function (cdf) of the error distribution is shown below:

$$\Pr(y = 1|X) = F(X\beta) \qquad (3)$$

Where, F is the logistic cdf for the logit model. While, the $\Pr(y=1 \mid X)$ is the probability of observing a satisfying event given X is the cumulative density.

The maximum likelihood estimation is used to obtain the probability, thus the values of $X_i$and β need to be identified. Then, we need to define the probability of observing the value of y and the model is specified as follows:

$$P_i = \begin{cases} \Pr(y_i = 1|X_i)\ if\ y_i = 1\ is\ observed \\ 1 - \Pr(y_i = 1|X_i)\ if\ y_i = 0\ is\ observed \end{cases} \qquad (4)$$

Likelihood equation is shown as below which shows if the observations are independent:

$$L(\beta|y, X) = \prod_{i=1}^{N} P_i$$

If we substitute the P_i into the function of $L(\beta|y, X)$, then we obtain:

$$L(\beta|y, X) = \prod_{y=1} \Pr(y_i = 1|Xx_i) \prod_{y=0} [1 - \Pr(y_i = 1|X_i]$$

The area of cdf function is replacing the probability of observing value of y in likelihood function, then we obtain the following equation:

$$L(\beta|y,X) = \prod_{y=1} F(X_i\beta) \prod_{y=0} [1 - F(X_i\beta)$$

The log is being incorporated to obtain the log likelihood equation:

$$lnL(\beta|y,X) = \sum_{y=1} lnF(X_i\beta) + \sum_{y=0} \ln[1 - F(X_i\beta]$$

The matrix of X_i consists of the following 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 is estimated with the robust variance estimates (Huber/White/sandwich estimator of variance). The logit model is estimated with the independent variables that measure the investment and consumption motive (X_1 toX_7), followed by socio-demographic variables (X_8 to X_{10}) as a control variables for the investment and consumption motive. It is important for us to incorporate the control variables into the model. Omitting the control variables may seriously affect the true value of the parameters (Gujarati, 2003).

Multinomial Logit model (Choice to choose Malaysia as advanced study destination)

Moreover, as a robustness check and comparison purpose to the estimated logit model, the choice of "not choosing Malaysia" is further dvided into three categories:

- Intended to further study but do not choose Malaysia
- Do not intent to further study
- Inteded to further study and uncertain about destination

Since the dependent variables is now consistes of four choices, a multinomial logit model was suggested to measure the probability that the currently enrolled international students" choice was to remain in Malaysia for their advanced study. It is assumed that there is a latent variable which represents an individual"s underlying choice to remain in Malaysia for their advanced study. This latent variable is associated with individual characteristics (*Xs*). Let Y_i^* represent this latent variable and assume Y_i^* is a linear function of *Xs*, then,

$$Y_i^* = \beta X_i + \varepsilon_i \quad i=1,2,3\ldots,n \quad (1)$$

Where,

Y_i^* = underlying choice to remain in Malaysia for their advanced study for student *i*

X_i = Independent variables

ε_i = error terms

n=sample size

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 for their advances study (Y) takes the nominal

category (J) of 1 (Intended further study but not choose Malaysia); 2 (Intended further study and choose Malaysia); 3 (Intended further study but uncertain on destination); and 4 (Not intended further study).

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 for their advanced study is given as below:

$$\Pr(y_i = m|x_i) = \frac{exp(x_i\beta_m)}{\sum_{j=1}^{J} exp(x_i\beta_j)} \quad \text{where } \beta_1=0$$

The maximum likelihood estimation is used to obtain the probability, thus the values of X_i and β need to be identified. Since exp $(x_i\beta_1)$ = exp $(x_i 0)$= 1, The model is commonly written as:

$$Pr(y_i = 1|x_i)= \frac{1}{1+\sum_{j=2}^{J} exp(x_i\beta_j)}$$

$$Pr(y_i = m|x_i) = \frac{exp(x_i\beta_m)}{1+\sum_{j=2}^{J} exp(x_i\beta_j)} \quad \text{for m > 1}$$

Likelihood equation is shown as below which shows if the observations are independent:

$$L(\beta|y, X) = \prod_{i=1}^{N} P_i$$

If we substitute the P_i into the function of $L(\beta|y, X)$, then we obtain:

$$L(\beta_2, \dots, \beta_j|y, X) = \prod_{m=1}^{J} \prod_{y_i=m} \frac{exp(x_i\beta_m)}{\sum_{j=1}^{J}(x_i\beta_j)}$$

The matrix of X_i consists of the following 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 multinomial logit model is estimated with the robust variance estimates (Huber/White/sandwich estimator of variance). The logit model is estimated with the independent variables that measure the investment and consumption motive (X_1 toX_7), followed by socio-demographic variables (X_8 to X_{10}) as a control variables for the investment and consumption motive. It is important for us to incorporate the control variables into the model. Omitting the control variables may seriously affect the true value of the parameters (Gujarati, 2003).

Model Logit II (Recommend Malaysia as higher education destination)

Likewise, logit model is suggested for further analysis to measure the factors that affect the currently enrolled international students‟ choice to recommend Malaysia as higher education destination to their friends and relative in their home country. It is

assumed that there is a latent variable which represents an international student‟s choice to recommend Malaysia as higher education destination. This latent variable is associated with individual characteristics (X). Let y^* represent this latent variable and assume that y^* is a linear function of x_i, then,

$$Y_i^* = \beta X_i + \varepsilon_i$$

Where,

Y_i^*= the choice to recommend Malaysia as higher education destination for student *i*

X_i= the Independent variables (as the explanatory and control variables that are applied in the model I)

ε_i = the error term

The model assumes that the observed international student‟s choice to recommend (y), is related to the y^* (which is unobservable). The observed currently enrolled international students‟ choice to recommend (y) takes the nominal category (J) of 0 (being not recommended) and1 (being recommended)

Then, the value of Y is observed as:

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

Assuming that the error term in the latent equation (1) is logistically distributed, the probability that the international students‟ choice to recommend Malaysia as higher education destination is given as below:

$$\Pr(y=1 \mid X) = \Pr(y^* > 0 \mid X)$$

$$= \Pr(X\ddot{}\beta + \varepsilon > 0 \mid X)$$

$$= \Pr(\varepsilon > -X\ddot{}\beta \mid X)$$

$= \Pr(\varepsilon < X'\beta \mid X)$

The cdf of the error distribution is shown below:

$$\Pr(y = 1|X) = F(X\beta) \qquad (3)$$

Where, F is the logistic cdf for the logit model. While, the $\Pr(y=1 \mid X)$ is the probability of observing a satisfy event given X is the cumulative density

The maximum likelihood estimation will be used to obtain the probability, thus the values of X_i and β need to be identified. Then, we need to define the probability of observing the value of y and the model is specified as follows:

$$P_i = \begin{cases} \Pr(y_i = 1|x_i)\ if\ y_i = 1\ is\ observed \\ 1 - \Pr(y_i = 1|x_i)\ if\ y_i = 0\ is\ observed \end{cases} \qquad (4)$$

Likelihood equation is shown as below which shows if the observations are independent:

$$L(\beta|y, X) = \prod_{i=1}^{N} P_i$$

If we substitute the P_i into the function of $L(\beta|y, X)$, then we obtain:

$$L(\beta|y, X) = \prod_{y=1} \Pr(y_i = 1|X_i) \prod_{y=0} [1 - \Pr(y_i = 1|X_i]$$

The area of cdf function is replacing the probability of observing value of y in likelihood function, then we obtain the following equation:

$$L(\beta|y, X) = \prod_{y=1} F(X_i\beta) \prod_{y=0} [1 - F(Xx_i\beta)$$

The log is being incorporate to obtain the log likelihood equation:

$$lnL(\beta|y, X) = \sum_{y=1} lnF(X_i\beta) + \sum_{y=0} \ln[1 - F(X_i\beta]$$

The matrix of X_i is as below:

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 is estimated with the robust variance estimates (Huber/White/sandwich estimator of variance). Similarly, there is two separate logit models to be estimated. First, the logit model with the independent variables that measure the investment and consumption motive (X_1 toX_7), followed by the independent variables that measure socio-demographic (X_8 to X_{10}) as control variables for the investment and consumption motive. It is important for us to incorporate the control variables into the model. Omitting the control variables may seriously affect the true value of the parameters (Gujarati, 2003).

CHAPTER FOUR

Analysis of Results

4.0 Introduction

The purpose of this chapter is to provide the discussion on the findings from the analysis. This chapter begins with the descriptive statistics of the respondents‟ demographics such as age, gender, country of origin and their education and financial background. With the purpose of obtaining basic information related to students‟ ability, the respondents‟ self-perception towards their own initial soft-skill level, i.e. before they came to Malaysia will be highlighted. Next, the results of the independent t-test and chi-square test are presented.

The first research objective was investigated by conducting a one-way ANOVA to ascertain the respondents‟ level of satisfaction towards several factors as identified in previous literature. Based on the data collected, factor analysis was then conducted to categorize the variables into different factors. Following that, logistic regression is carried out to answer the other two objectives.

4.1 Descriptive Statistics

This section is dedicated to a brief presentation of the respondents‟ socio-demographic characteristics which include age, gender, country of origin; length of time spent in Malaysia, education, and financial background. It is then followed by the analysis on the respondents‟ self-perception towards their own initial soft-skill level before they came to Malaysia.

4.1.1 Respondents' General Background

Table 4.1 depicts the profile of the respondents. It is found that the majority of respondents are male (65.6%) compared to female (34.4%). This sample distribution reflects the population characteristics. In 2010, there are 57,665 (66.3%) male and 29,254 (33.7%) of female currently enrolled international students in Malaysia (Ministry of Education, 2011b).

Table 4.1
Individual Background

	Frequency	%
Gender:		
Male	494	65.6
Female	259	34.4
Age:		
21 years old or younger	71	9.4
21 – 25years old	400	53.1
26 – 29 years old	197	26.2
30 years old and older	85	11.3
Home Country:		
East Asia	77	10.2
South East Asia	179	23.8
African Nation	180	23.9
Middle East	231	30.7
India Subcontinent	86	11.4

Note: N = 753

In terms of age, the majority of them are in the age range of 21 to 25 years old which makes up 53.1% of the total respondents. Students from the Middle East (30.7%) recorded the highest percentage followed by African Nation (23.9%) and South East Asia (23.8%).

4.1.2 Respondents' Education Background

Table 4.2
Education background

	Frequency	%
Education level:		
Bachelor	434	57.6
Master	319	42.4
Previous university from which bachelor degree was obtain:		
Malaysian University	102	32.0
Non-Malaysian University	217	68.0
Length of time spent in Malaysia:		
12 months and below	34	4.5
13 – 36 months	264	35.1
37 – 60 months	331	43.9
61 months and above	124	16.5
Current field of study:		
Education, Religion, Art & Philosophy	64	8.5
Social Sciences, Business & Law	418	55.5
Information Technology & Communication	121	16.1
Engineering, Manufacturing, Architecture & Construction	134	17.8
Health sciences & Medicine	16	2.1
Current CGPA:		
2.00 – 2.99	228	30.3
3.00 – 3.50	318	42.2
3.51 – 4.00	155	20.6
Research Based	52	6.9
English test:		
Yes	547	72.6
No	206	27.4

Note: N = 753

Table 4.2 presents the education background of the respondents. In term of the distribution by level of study, 57.6% of respondents were pursuing their Bachelor degree and 42.4% were undergoing the Master program. Out of the 345 respondents who were undergoing Master program, 32% obtained their Bachelor degree from Malaysian universities, while the remaining 68% were from non-Malaysian universities.

Moreover, out of 753 respondents who were studying in Malaysia, 43.9% had been in Malaysia for a period of three to five years followed by 35.1% who spent more than five years. With regard to the field of study, students from Social Sciences, Business and Law made up 55.5% of the total sample, 17.8% were from Engineering, Manufacturing, Architecture and Construction and 16.1% were from Information Technology and Communication. In terms of their academic achievement, 42.2% achieved a cumulative grade point average (CGPA) between 3.00 – 3.50, 30.3% between 2.00 – 2.99, while 20.6% achieved between 3.51- 4.00. Out of the total respondents in this Master program, 57 of them were research-based candidates. Meanwhile, 72.6% of the respondents had taken the required English test such as Test of English as Foreign Language (TOEFL) or International English Language Testing System (IELTS) before enrolling in Malaysian universities and the remaining 27.4% had not done so yet.

4.1.3 Respondents' Financial Background

Table 4.3
Financial background

	Frequency	%
Financing education:		
Self/Parent supported	600	79.7
Scholarship (from Malaysia)	28	3.7
Scholarship (other than Malaysia)	106	14.1
Loan	19	2.5
Work part-time:		
Yes	117	15.5
No	636	84.5
Expenditure in Malaysia :		
Below USD 5,000	146	19.4
USD 5,001 – USD 10,000	181	24.0
USD 10,001 – USD 15,000	180	23.9
Above USD15,000	246	32.7

Note: N =753
USD = RM 4.1345 on 1st June 2016 (Bank Negara Malaysia, 2016)

In terms of the methods of financing higher education, Table 4.3 shows that the majority of the respondents financed their education either by themselves or through the support of family (79.7%). Meanwhile, 32.7% of the respondents spent above USD 15,000 yearly in Malaysia followed by 24% who spent between USD 5,001 to USD 10,000. In addition 15.5% reported that they did part-time jobs while pursuing their studies while 84.5% did not.

4.1.4 Respondents' Choice of Higher Education Destination

In this section, the discussion will be focused on the intention of respondents to go for further study at the higher level and their choice of destination. Initially, the respondents were classified into two main categories i.e. those who had the intention

to further their study and those who had no intention. After identifying those who had the intention to further their study, this group was then classified into three categories i.e. those who are choosing Malaysia, those who were uncertain and those who chose other countries.

Table 4.4 illustrates that 71.8% of the total respondents had the intention to further their study after completing their current level of study, while, 28.2% had no intention at all. Further investigation found that 44.7% out of the 541 respondents who intended to further their study would choose Malaysia as their destination, while 35.3% were uncertain and 20.0% chose to go to other countries.

Table 4.4
Intention for further study and choice of higher education destination

	Frequency	%	Master	Bachelor
Intention to further study				
Yes	541	71.8	222	319
No	212	28.2	97	115
Total	753	100.0	319	434
Choose Malaysia for advanced study				
Yes	242	44.7	127	115
Maybe Yes and maybe No	191	35.3	55	136
No	108	20.0	40	68
Total	541	100.0	222	319

Note: N = 753

Moreover, among those who intended to continue for their advanced study, 59% of them are currently studying for bachelor degree and intend to continue their studies in master degree; and 41% of them are master degree students now and intend to continue for PhD studies. Meanwhile, among those who intended to continue their advanced study, 242 respondents are confirmed to choose Malaysia as their advanced study destination. Out of this, 52% are those currently studying their

master degree and will choose Malaysia to continue for their PhD studies; the remaining are studies for undergraduate now and will choose Malaysia to continue their studies in master degree.

4.1.5 Respondents' self-perception on soft-skill

Table 4.5
Self-perception on soft skills

	Mean	Standard Deviation
Personal confidence	4.91	1.322
Emotional, intellectual and spiritual quotient skills	4.87	1.256
Leadership skills	4.85	1.314
Adoption and practicing on positive value	4.82	1.243
Team work	4.78	1.333
General knowledge exposure	4.77	1.233
English language skills	4.75	1.422
Problem solving skills	4.75	1.256
Good image outlook	4.73	1.286
Etiquette skills	4.71	1.270
Analysis skills	4.69	1.230
Consultation skills	4.65	1.376
Interpersonal communication skills	4.63	1.305
Creative and critical thinking skills	4.63	1.177
ICT skills	4.59	1.354
Entrepreneurship skills	4.48	1.376
Job interview skills	4.26	1.411
Resume writing skills	4.25	1.384
Job searching	4.20	1.441

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points.
N = 753

In order to havea quick overview on the possession of soft skills among the international students, the respondents‟ self-perception on their own soft skill before they came to Malaysia is presented. From Table 4.5, on average the respondents rated their personal confidence as the highest soft-skill (4.91), followed by the emotional, intellectual and spirit quotient skills (4.87). Meanwhile the soft skills on

job searching (4.20) were found to be relatively lower compared to other skills. This outcome explains that the international students who came to Malaysia were confident with their soft skills (all the soft skills were rated more than 4.0).

4.2 Level of Satisfaction

In this section, one-way analysis of variance (one-way ANOVA) was conducted. One-way ANOVA is widely used to compare more than two means in a single variable (Tan, 2007). Therefore, one-way ANOVA was used to perform the analysis related to the level of satisfaction by the currently enrolled international students towards several factors. The descriptive and one-way ANOVA analysis achieved the first objective of this research. The currently enrolled international students were relatively satisfied with the reputation of Malaysian universities and the services provided to the international students. Although cost was found to record the lowest satisfaction among international students, this does not imply that they were unhappy with the cost charged by Malaysian universities. In general the currently enrolled international students were satisfied with all the factors in Malaysia (the score was more than 4.0 in a 7 point likert scale).

Table 4.6 illustrates the outcomes. In terms of the mean value, reputation scored a value of 4.52 (reputation includes the lecturer‟s academic quality, recognition of Malaysian institutions in home country as well as at the international level). This shows reputation factor was satisfied the most relatively compared to other factors by the currently enrolled international students in Malaysia. The results of one way Anova rejected the null hypothesis of equal mean for all the six factors

jointly at 1% level. Furthermore, one-way ANOVA"s post-hoc analysis provided detailed mean comparison tests among the various factors. Students were found to be highly satisfied with the reputation and service.

Table 4.6
Level of Satisfaction

Descriptive statistic	Mean
Reputation	4.52
Service	4.51
Regulation	4.48
Social	4.43
Promotion	4.35
Cost	4.11
One-way ANOVA	P-value
Overall	1%
Reputation, Social, Regulation, Service, Promotion> Cost	5%
Reputation, Service> Promotion	5%
Regulation > Promotion	10%

Note: The Likert scale ranges from one to seven points. N=753

4.3 Hypothesis Testing

The hypothesis testing was conducted as a quick overview before the logistic regression been conducted. Independent-sample t-test and cross-tab analysis were used to test the mean difference between the two groups of samples i.e. those who chose to remain in Malaysia for their advanced study and those who did not based on various characteristics of social demographic variables and also the educational choice motive (i.e. factors which are based on previous studies). The hypothesis testing was conducted with 350 observations that focus on respondents who had the intention to further their study and those confirmed to choose either to remain in Malaysia or to go to another host country for their advanced study.

Table 4.7 depicts that the impact of the educational choice motive towards the currently enrolled international students‟ choice of Malaysia as their advanced study destination is significant at 1% level. It is important to highlight here that the variables constructed under the investment and consumption motive were based on previous studies. The mean differences (between those who chose and those who did not choose Malaysia as their further study destination) were significant at 1% level for services, promotion, reputation, social, and regulation factors (consumption motive), as well as the cost factor (investment motive).

Table 4.7
Independent sample t-test: consumption and investment motives

	To choose Malaysia as further study destination			
	Yes	No	Mean different	P-value
Service	4.8193	4.0893	0.7300	0.001
Reputation	4.7542	4.1629	0.5913	0.001
Social	4.9462	4.3705	0.5757	0.001
Regulation	4.2878	3.7545	0.5333	0.001
Promotion	4.6118	4.0786	0.5332	0.001
Cost	4.5299	4.0815	0.4484	0.001

Note: The Likert scale ranges from one to seven points. N=350

The findings imply that both consumption motive (service, reputation, social and promotion) and investment motive (cost) were able to influence the currently enrolled international students‟ choice of Malaysia as their further study destination. The outcome from the hypothesis testing explains that both educational choice motive (investment and consumption motive) are important elements that need to be highlighted by the Malaysian government in the effort to retain the currently enrolled international students for postgraduate study in Malaysia.

Table 4.7 also shown that compared to those who did not choose Malaysia for their further studies, those who chose Malaysia scored higher mean values across all the factors that influence their choice. The highest mean difference scored was service factor (0.73), followed by reputation factor (0.5913), social factor (0.5757), regulation factor (0.5333) and promotion factor (0.5332). On the other hand, cost factors reported mean differences of less than 0.5.

Table 4.8
Independent sample t-test: socio-demographic factors

	To choose Malaysia as further study destination			
	Yes	No	Mean different	P-value
Age	26.38	24.99	1.39	0.001

Note: The Likert scale ranges from one to seven points. N=349

Table 4.9
Chi-square test of independence: socio-demographic factors

	To choose Malaysia as further study destination		
	Yes (%)	No (%)	P-value
Level of study:			0.030
Bachelor (N=434)	62.8	37.2	
Master (N=319)	73.7	26.3	
Field of study:			0.043
Education (Education, Religion, Arts & Philosophy) (N=64)	73.5	26.5	
Social Sciences (Social Sciences, Business & Law) (N=418)	66.1	33.9	
Information Technology & Communication (Nn=121)	66.1	33.9	
Engineering (Engineering, Manufacturing, Architecture & Construction) (N=134)	66.7	33.3	
Health Sciences & Medicine (N=16)	68.0	32.0	

Note: N=350

Secondly, Table 4.8 depicts that age is reported to be significant in mean difference. In particular, the mean age of international students who were more likely

to choose Malaysia for advanced studies was around 1.39 years older than the mean age of international students who did not choose Malaysia for their advanced studies,

Thirdly, Table 4.9 shows the results of chi-square independent tests. The results clearly show the choice to further study in Malaysia was found to be significantly related to level of study and current field of study.

Currently enrolled international students who were undergoing Master program showed a higher percentage of continuing their higher degree in Malaysia (73.7%) compared to those who were undergoing Bachelor program (62.8%). This outcome is in line with the age outcome reported earlier.

Furthermore, international students who enrolled in the Education, Religion, Arts & Philosophy recorded a relatively higher percentage (73.5%) in choosing Malaysia as their advanced study destination compared to those who enrolled in Health Science & Medicine (68%), Engineering, Manufacturing, Architecture & Construction (66.7%), Information Technology & Communication (66.1%) and Social Sciences, Business & Law (66.1%).

4.4 Factor Analysis

In order to categorise a large number of items into smaller factors for modelling purposes, the factor analysis is one of the techniques used (Tan, 2007). All measurement items for this research were adopted and modified from previous

studies. Hence, factor analysis was applied to reconstruct the variables into factors based on the data collected for this research.

KMO and Bartlett"s test was performed to determine whether all the items are suitable or adequate to be factor analyzed. Firstly, the value of KMO was found to be 0.956. It was ranged from 0 to 1; according to Hair et al. (2010) KMO Measure of sampling[22] of 0.8 and above is considered good and the factor analysis is able to yield distinct and reliable factors.

The other method that can be used to determine the appropriateness of factor analysis is by examining the correlation matrix which is performed in Bartlett"s test of Sphericity. Table 4.10 shows the Bartlett test of Sphericity which was significant at 1% level. This illustrates that the correlation matrix had a significant correlation among the variables, and there were no identity-matrix for the variables that were included in the analysis (Hair et al., 2010). Therefore, it can be concluded that the variables were suitable to be factor analyzed.

Table 4.10
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.	0.001

[22] When the value is close to 1 or at least 0.80 and above shows that each of the variables is nearly ideal to predict without error. Followed by 0.70 to 0.50 shows that each of the variables is moderately in predicted other variables without error, while below than 0.50 is unacceptable (Hair et al., 2010).

Table 4.11 depicts the outcome for the factor analysis. Using the criteria of factor loading of more than 0.5, seven factors had been constructed with a total of 36 items. The seven factors explained 60.38% of the total variance in the data set.

Table 4.11
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							
Comfortable study environment	0.756						
Facilities in library are complete	0.664						
Satisfied with my current university	0.653						
Satisfied with the security 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							
Administrative staffs in international office are helpful and friendly.		0.690					
Information provided by international office is timely and accurate		0.688					
Administrative staff in other departments are helpful and friendly		0.658					
Information provided by other departments is timely and accurate		0.632					

Table 4.11 (continue)

Factor Loadings for determinants of currently enrolled international students" choice to remain in Malaysia for further study

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 field		0.721			
Lecturers are always well-prepared for lectures.		0.713			
Lecturers are fluent in English language.		0.652			
Factor 4: Education cost					
Accommodation fees charged are reasonable			0.722		
Prices of food and groceries are reasonable			0.717		
Prices of books and study equipment are reasonable			0.714		
Other utility expenditure is reasonable			0.707		
Tuition fees charged are reasonable			0.654		
Public transportation fares charged are reasonable			0.629		
Factor 5: Information Guidance					
Information provided by print media regarding Malaysia is informative and accurate				0.708	
Information provided by other media regarding Malaysia is informative and accurate.				0.700	

Table 4.11 (continue)

Factor Loadings for determinants of currently enrolled international students" choice to remain in Malaysia for further study

Information provided by internet regarding Malaysia is informative and accurate					0.629		
Information provided by *Education Malaysia* regarding Malaysia is informative and accurate.					0.625		
Malaysian institutions are involved in a lot of the well-known education expos/fairs 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 for 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

The first factor consisted of eight items related to the study environment and the academic-related facilities that were provided to the students during their study. This factor was named as university environment and accounted for 11.54% of the variance. The second factor consisted of six items in which the variables constructed are related to the services provided by the administrative staffs and the non-academic related facilities. Hence, this factor was named as university service and accounted for 9.76% of the variance. The third factor was named as academic quality where the four items are related to the quality of the faculty members in Malaysia. This factor accounted for 9.50% of the variance.

Moreover, the fourth factor consisted of six items related to the cost of education and living in Malaysia. Hence, this factor was named as education cost and accounted for 9.41% of the variance. The remaining three factors which in total accounted for the variance of 20.176% were named as information guidance, social and regulation respectively. Furthermore, cronbach"s alpha test was conducted to determine the internal consistency of the entire seven factors. The alpha values ranged between 0.7 to 0.9 which are considered as achieving the minimum requirement (Tan, 2007). Overall, the result of the factor analysis was supported by the previous studies (Braimah, 2014; Wilkins & Huisman, 2011; Pereda et al., 2007).

4.5 Descriptive Analysis on the Identified Factors

Descriptive analysis on the items (categorised by factor analysis) was conducted. This is to obtain in-depth information from the respondents, in particular the score of the mean value of the items under each factor.

Table 4.12
University Environment

No.	Items	Mean	SD
1	My current university has a comfortable study environment	5.11	1.343
2	I am satisfied with my current university.	5.01	1.297
3	I am proud of my current university in Malaysia	4.99	1.363
4	The facilities in library such as books, other material and information that I need to complete my assignments are enough.	4.99	1.331
5	I am satisfied with the security provided by my current university.	4.90	1.337
6	I am able to adapt to the weather in Malaysia	4.89	1.378
7	The facilities provided in the lecture hall are in good quality	4.70	1.274
8	The computer labs in my university are very up-to-date and equipped with high-technology instruments.	4.70	1.407

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points. N=753

From Table 4.12, for the university environment, a comfortable study environment at the currently enrolled university scored the highest mean value (5.11), followed by the satisfaction on their current university (5.01), and being proud of their current university (4.99). Meanwhile, the condition of facilities provided in the lecture hall and the condition of the computer labs scored equal mean values of 4.70.

Table 4.13
University service

No.	Items	Mean	SD
1	The administrative staff from other departments are helpful and friendly	4.40	1.338
2	The information provided by the international office/department is timely and accurate	4.36	1.365
3	The information provided by other departments is timely and accurate.	4.36	1.281
4	The administrative staffs from international office/departments are helpful and friendly.	4.34	1.392
5	The facilities provided in the cafeteria are clean and in good quality	4.28	1.355
6	The facilities provided in the student hostels are in good quality	4.18	1.528

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points. N=753

Table 4.14
Academic Quality

No.	Items	Mean	SD
1	Lecturers are highly qualified in their field	4.50	1.290
2	Lecturers are always well-prepared when they give lectures.	4.39	1.315
3	Lecturers are internationally known in term of their publications	4.33	1.251
4	Lecturers are fluent in English language	4.27	1.443

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points. N=753

Furthermore, Table 4.13 presents the mean value for the university service component. From the table, it clearly shows that the services provided by the administrative staff (other than international office) scored the highest mean value of 4.40. This was followed by the accuracy and time taken in providing information to the international students by the international office and other departments (4.36). Meanwhile, the condition of the facilities provided in student hostels scored an equal mean values of 4.18.

Four items were constructed in academic quality component. As shown in Table 4.14, the reputation achieved by the faculty members in their particular field scored the highest mean (4.50). Meanwhile, the English proficiency of the Malaysian university lecturers scored an equal mean values of 4.27.

Moreover, in terms of the education cost (table 4.15) during their study in Malaysia, the cost charged by the public transportation service scored the highest mean value of 4.77. This was followed by the price of goods and groceries sold in Malaysia (4.56), and other utility cost (4.42). On the other hand, tuition fees charged by Malaysian universities scored an equal mean values of 4.10.

Table 4.15
Education Cost

No.	Items	Mean	SD
1	The public transportation cost charged in Malaysia is reasonable.	4.77	1.315
2	The prices of food and groceries sold in Malaysia are reasonable.	4.56	1.278
3	The other utility expenditure such as electric bill, phone bill & etc in Malaysia is reasonable.	4.42	1.354
4	The prices of books and study equipment sold in Malaysia are reasonable.	4.39	1.293
5	The accommodation fees charged are reasonable.	4.37	1.343
6	The tuition fees charged by Malaysia higher education institutions are reasonable	4.10	1.492

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points. N=753

Table 4.16
Information & Guidance

No.	Items	Mean	SD
1	The information provided by internet regarding Malaysia is informative and accurate	4.53	1.191
2	The information provided by other media regarding Malaysia is informative and accurate.	4.41	1.184
3	The information provided by print media (newspaper, magazine, etc) regarding Malaysia is informative and accurate.	4.40	1.188
4	The information provided by *Education Malaysia* (a government agency) regarding Malaysia is informative and accurate.	4.36	1.218
5	Malaysian institutions are involved in a lot of the well-known education expos/fairs in my home country.	4.18	1.402

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points. N=753

Table 4.16 presented the means and standard deviations for the information and guidance component. From the table, it shows that the information provided through the internet regarding Malaysia scored the highest mean value rated at 4.53. This was followed by the information provided by other media and print media regarding Malaysia with mean value rated at 4.41 and 4.40 respectively. Meanwhile,

the involvement of Malaysian institutions in international well known education fairs scored an equal mean values of 4.18.

Table 4.17 depicts the mean and standard deviation for the social component. The table below shows that the safety and peacefulness in Malaysia gaining the highest mean rating at 4.83. This was followed by whether the currently enrolled international students were able to adapt to the Malaysian lifestyle or not after studying in Malaysia (4.69). Meanwhile, the seriousness of racial discrimination in Malaysia scored an equal mean values of 4.09.

Table 4.17
Social

No.	Items	Mean	SD
1	Malaysia is a very peaceful and safe country.	4.83	1.396
2	I am able to adapt to the Malaysian lifestyle.	4.69	1.300
3	Malaysians are very friendly and helpful.	4.41	1.480
4	Malaysians can speak fairly good English.	4.32	1.281
5	I believe there is no racial discrimination in Malaysia.	4.09	1.502

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points.
N=753

Table 4.18
Regulations

No.	Items	Mean	SD
1	I am allowed to take up part time job while studying in Malaysia.	3.94	1.747
2	I am encouraged to apply for permanent residential status after my graduation.	3.75	1.666

Note: SD refers to standard deviation. The Likert scale ranges from one to seven points
N=753

Lastly, Table 4.18 depicts the mean and standard deviation for the regulation component. The regulation on allowing the currently enrolled international students to take up a part-time job and whether they are encouraged to apply for the

permanent residential status after their graduation, which were rated at 3.94 and 3.75 respectively.

4.6 Logit Model

Logistic regression was conducted in order to model the choice of the currently enrolled international students to remain in Malaysia as their advanced study destination. There were three choice (0 = not choose Malaysia, 1 = choose Malaysia and 2 = uncertain). Since the focus choice of the present study in on "choose Malaysia", for easy of understanding, the groups 0 and 2 were combined and identified as group 0. The analysis was carried out based on the two groups i.e 0 (0 and 2) as "otherwise" and group 1 as "choose Malaysia". The analysis was analyzed by using the full sample of 753 observation.

There are three main reasons for using full sample. First, the focus of the present thesis is to investigate the drivers that influence the choice of existing international student to choose Malaysia as their further studies destination. Technically, the drivers of Pr(Y=1). The international students who are not intend to further studies or not choosing Malaysia as their destination of further studies, are served as comparison group. Second, the targeted population for the present thesis are the international students who are currently enrolled in Malaysian universities. Practically, it is almost impossible to distinguish the international students who are intend or not to further their studies. Third, from the policy implication perspective, it is almost impossible to distinguish the international students by intention of their further studies. The government policies are implemented to the international students regardless of their intention to further studies. Hence, use of full sample is

the real life setting for the policy makers. Nevertheless, the robustness of the findings using full sample against the sub-sample will be checked. The results that found to be robust will be interpreted, discussed and highlighted for theoretical and policy contributions.

Lastly, another logit model analysis was carried out to estimate the currently enrolled international students‟ choice to recommend Malaysia as a higher education destination to their friends in their home country. A binary logit model was applied to the analysis where the choice is either yes to recommend or no to recommend.

4.6.1 Logit Model 1: Choice to Remain in Malaysia for Advanced Study

The overall fitness of the model presented in Table 4.19 shows that the estimated model fit well into the sample at 1% significant level. The value of Pseudo R2[23] was recorded as 0.1335. In relation to heteroskedasticity[24] problem, Cameron and Trivedi‟s test failed to reject H_0 which indicated that there was 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 was in the range of 1.05 to 3.78, thus implying that there was no multicolinearity problem in the model (based on the rule of thumb of 10[25])(Gujarati, 2003).

[23] McFadden's pseudo R2 index that more than 0.1 is considered acceptable (Long, 1997)
[24] Heteroskedasticity occurs when the disturbance variance is unvarying across the observations (Greene, 1997)
[25] 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)

Moreover, the Percentage Correctly Predicted[26] (PCP) was also presented. The value of PCP was 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 4.19
Goodness of fit test

	Results
Prob > chi2 (Overall fit test)	0.0000
Pseudo R2	0.1335
Heteroskedasticity* (Cameron & Trivedi‟s test)	0.2973
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 a indicator to potential heteroskedasticity

After confirming that the model is fit, the logistic regression analysis was then carried out using all 753 useable cases. Table 4.20 presents the estimated Logit model. The result indicates that the consumption motive was dominant in influencing the currently enrolled international students‟ choice of Malaysia as their further study destination as compared to investment motive. The domain for the consumption motive such as university environment, university service and academic quality were positively significant at 1% level while information guidance was also positively significant at 5% level. This outcome is consistent with other previous studies that highlight the consumption motive as important factors in influencing the international students‟ decision of study in a particular host nation (Braimah, 2014; Mpinganjira & Rugimbana, 2009). According to Braimah (2014), consumption motive (learning environment, university reputation, career prospect, cultural intergration, personal value and marketing communication) have been identified to

[26] To a certain how fit the data to estimate model, we could use the hit-miss table, that is the number of respondents whose actual choice to choose Malaysia is correctly predicted (Long, 1997). In binary category model, it is practicable to correctly predict at least 50% of the outcome by the model without knowledge about the independent variables (Long, 1997).

be influencing the international students‟ selection of foreign universities. This is supported by (Lu, Mavondo, & Qiu, 2009) which found that potential Chinese postgraduates are influence by the consumption motive such as university ranking, university service and living and working overseas. Indeed, the quality of the goods and services offered is found to positively influence the consumption behaviour (John et al., 2014). In contrast, the findings of the present study contradict some of the previous studies that found that both the investment and consumption motives are similarly important in influencing the international students choice of their higher education destination (Ozoglu et al., 2015; Singh, 2016). Foster (2014) indicated that although consumption motive plays an important role in attracting international students in choosing the UK, the investment motive (cost) is the main barrier that affect international students not to choose the UK as their study destination. This is supported by Migin et al., (2015) who found that cost of education, academic reputation, programme offered and facilities provided influence the choice of international students in choosing Malaysian private higher education institutions.

However, this research analysed the factors that affect the decision of the currently enrolled international students to remain in the particular host nation to continue their advanced study rather than attracting new international students. Since they already studied here, it is reasonable if the students emphasise more on the quality of the education provided compared to the cost of education when they consider to remain in the same host nation to further their higher level of education(Lee, 2013). This is consistent with the report done by Atherton, Jones, and Hall (2016) which found that a moderate raise in tuition fees by the higher

education institutions in England is acceptable by the majority of the respondents and has less impact on the demand for higher education services.

Table 4.20

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	-0.8660	**0.009*** **
Information Technology & Communication	-0.7449	**0.057** **
Engineering	-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 $5,000	-0.4770	**0.087***
Spend between $ 5,001 –10,000	-0.2002	0.465
Spend between $10,001 –15,000	0.0509	0.832
constant	-1.3174	0.348

Note: *** is significant at 1%, ** is significant at 5% & * is significant at 10% significant level.
The summary statistic of variable used in logit model is presented in Appendix 7
N = 753

Furthermore, in terms of individual socio-demographic background, the students who are older have a higher probability to choose Malaysia as their further study destination. On the other hand, students from South East Asia tend to have a lower probability to remain in Malaysia for their advanced study compared to African Nation (comparison group). As a member of ASEAN community, this result signifies further efforts that need to be carried out at different levels in attracting more ASEAN students to remain in Malaysia for their study. According to ASEAN Economic Community Blueprint, one of the important agenda is to strengthen the student and faculty member mobility among the universities within this region. Moreover, another item on the agenda is to build up and sustain the research competency in terms of developing the labour skills, job availability and labour market networking among the ASEAN member countries (Association of Southeast Asian Nations, 2008). Hence, it is crucial for Malaysia to contribute to developing talents from Southeast Asian countries for further study at the postgraduate level.

With regard to education background, the findings show that the international students currently enrolled in the social sciences; Information Technology & Communication; and Engineering faculties had lower probability to choose Malaysia as their further study destination compared to those enrolled in Education (comparison group) course. This result may be due to the quality of courses offered. As reported by the QS ranking 2015, the social sciences faculty (69^{th}) for Universiti Malaya was ranked lower than the engineering and technology faculty (54^{th}). Similarly in Universiti Sains Malaysia, the engineering faculty (85^{th}) ranked slightly better than the social sciences faculty (89^{th}) (QS Quacquarelli Symonds Limited, 2015). Furthermore, based on the university category, the result shows that currently

enrolled international students studying in private universities had higher probability to remain in Malaysia for their advanced study as compared to those pursuing their study in Research Universities (comparison group). From the 2013 rating for Malaysian higher education institutions (SETARA13), there were 25 private higher education institutions out of 52 institutions that were rated in a excellent cluster (Malaysian Qualification Agency, 2014). Although ranking evaluation is said to be an unfair game, one cannot deny that rankings play an important role in determining the international student flows to the particular host nation (Bouwel & Veugelers, 2009).

Based on the financial background, the results show that those students who were spending below USD 5, 000 per year had lower probability to remain in Malaysia as compared to those who spent 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 Bouwel and Veugelers (2009) in their study, high education cost may reflect the quality of the host institutions, and that is indeed in contrast with the cost-benefit analysis in human capital investment theory.

Since the estimated coefficient of a logit model did not provide complete information on the impact of the independent variables on the probability, as suggested by Long (1997), therefore the analysis of the marginal effect needs to be carried out separately. The marginal effect will measure the discrete change in probabilities and is an effective method to interpret the continuous and dummy variables (Long, 1997).

As previously mentioned, the consumption motive is shown to significantly influence the choice of the currently enrolled international students‟ to remain in Malaysia for their advanced study. The marginal effect provides further details by showing that, as one unit increases (7 point Likert scale) in the university environment factor, the probability for the currently enrolled international students to remain in Malaysia for further study will increase by 10.4%. Similarly, if one unit increases (7 point Likert scale) in the service provided, the academic quality acquired by the faculty member and the easiness to access information regarding Malaysia, the probability of the currently enrolled international students to remain in Malaysia for further study will increase by 5.42%, 5.41% and 4.53% respectively.

Table 4.21
Marginal effects

	$d(\Pr Y = 1)/dx$
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	-0.1748
Information Technology & Communication	-0.1304
Engineering	-0.1456
Private university	0.1152
Financial Background:	
Spend below $ 5,000	-0.0881

Note: N=753

In terms of individual background, those who are older were found to have a higher probability to choose Malaysia as their further study destination compared to the younger age group. Quantitatively, one year increase in age will lead to 1.84%

increase in probability of choosing Malaysia. In contrast, as compared to African Nation students, students from Southeast Asia were found to have lower probability to choose Malaysia as their further study destination, by 18.71%.

Meanwhile on education background, compared to those enrolled in Education course, the international students enrolled in Social Sciences, Information Technology & Communication and Engineering course had a lower tendency to choose Malaysia as their further study destination by 17.48%, 13.04% and 14.56% respectively. Furthermore, the international students who were studying in private universities had a higher probability to choose Malaysia as their further study destination as compared to Research Universities, by 11.52%.

Lastly, the international students who spent USD 5,000 per year had a lower probability to choose Malaysia as their further study destination by 8.81% as compared to those who spent USD 15, 000 per year.

Furthermore, it is important to note that the above findings are based on the overall sample that consists of undergraduate and postgraduate respondents that meet the second research objective of the present research. It is possible that the behavior of undergraduate and postgraduate respondents are different and this may incurred significant policy implications. In order to ascertain this potential behavior difference, two separate models are estimated for undergraduate and postgraduate respectively. The results are as shown in Appendix 11. Overall, there are no noticeable difference found, except the factor of academic quality which shows insignificant for postgraduate sample; and the factor of information guidance shows insignificant for

undergraduate sample. This may highlight the behavior difference which the policy makers need to take into consideration. However, the main findings of table 4.20 that educational choice of individuals are driven by the consumption motive remains intact.

Multinomial Logit Model Analysis on The Choice of Currently Enrolled International Students to remain in Malaysia for their Advanced Study

Moreover, a multinomial logit model analysis[27] was carried out for an additional robustness check on the consistency of the main estimation model where the full sample was used in this analysis.

There were four categorical variables for comparisons which were yes intended to further study and yes to choose Malaysia as further study destination (1); yes to further study but no to choose Malaysia as further study destination (0); yes to further study but uncertain to choose further study destination (2) and lastly no to further study at all (3). The group 0 was chosen as the comparison group since the multinomial analysis was on robustness check. Hence, the major comparison was between group 1 and 0.

Table 4.22 depicts that consumption motive still remains dominant compared to the investment motive for those currently enrolled international students who intended to further study and chose Malaysia as their further study destination compared to those currently enrolled international students who intended to further

[27] Multinomial logit was an extension from the binary model that made to measure a larger number of comparisons (Long, 1997).

their study but did not choose Malaysia as their further study destination. The domains constructed under consumption motive that were positively significant (at 1% level) were the university environment provided, university service provided, and academic quality achieved by Malaysian higher education institutions, whereas social and regulation factors were positively significant at 5% level. It is important to highlight that the university environment factor, university service factor and academic quality factor were consistently significant. It can be concluded that consumption motive was dominant in influencing the currently enrolled international students" choice compared to the investment motive in this research.

Table 4.22
Multinomial logit for full sample of choose Malaysia as further study destination

	Sub-model 2					
	Prob (YesYes): (YesNo)		Prob (Yesuncertain): (YesNo)		Prob (No): (YesNo)	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Investment:						
Education cost	0.1935	0.186	0.1520	0.299	0.1641	0.247
Consumption:						
University environment	0.4177	0.004***	0.0602	0.688	-0.3937	0.015**
University service	0.4378	0.000***	0.3068	0.028**	0.1479	0.270
Academic quality	0.4038	0.004***	0.3123	0.034**	0.0565	0.701
Information guidance	0.2345	0.103	-0.0543	0.703	0.0839	0.545
Social	0.2517	0.057**	0.2722	0.039**	0.3561	0.013***
Regulation	0.3650	0.015**	0.2670	0.073*	0.4206	0.006***
General Background:						
Male	0.0722	0.807	0.3528	0.236	0.0418	0.888
Age	0.0474	0.358	-0.0678	0.276	-0.0426	0.504
East Asia	-0.2878	0.602	-0.1706	0.786	0.4891	0.387
South East Asia	-1.1090	0.015**	0.0543	0.903	-0.1706	0.714
Middle East	-0.3872	0.307	0.0749	0.855	-0.5428	0.192
India Subcontinent	-0.3587	0.466	-0.5580	0.288	0.0930	0.851

Table 4.22
Multinomial logit for full sample of choose Malaysia as further study destination (Continue)

	Prob (YesYes): (YesNo)		Prob (Yesuncertain): (YesNo)		Prob (No): (YesNo)	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Years been in Malaysia	0.0035	0.678	0.0028	0.751	0.0248	0.005***
Education Background:						
Master	-0.1443	0.720	-0.0313	0.940	0.8589	0.040*
Social Sciences	-0.7940	0.075**	0.2199	0.643	-0.0119	0.998
Information Technology & Communication	-1.0040	0.052**	-0.1189	0.829	-0.5349	0.365
Engineering	-0.6145	0.249	0.1540	0.789	0.4078	0.498
Health sciences & Medicine	13.2945	0.000***	13.7673	0.000***	14.8888	0.000***
CGPA	0.1139	0.763	0.1431	0.709	-0.1515	0.696
Focus university	0.9734	0.047**	0.8471	0.124	1.0960	0.038**
Comprehensive university	-0.2394	0.585	0.8435	0.086*	-0.1524	0.742
Private university	0.8902	0.058**	0.7217	0.170	0.2605	0.592
Financial Background:						
Part-time jobs	-0.0015	0.997	-0.5680	0.131	-0.2924	0.449
Self/Parent support	-0.5026	0.239	-0.4927	0.275	-0.4397	0.331
Scholarship (from Malaysia)	-0.1684	0.836	-0.4465	0.596	-1.8056	0.062*
Loan	0.1404	0.913	0.4844	0.706	1.4519	0.225
Spend below $5,000	0.2253	0.575	0.9179	0.031**	0.8517	0.035**
Spend between $5,001 –10,000	0.7381	0.093*	1.4407	0.001***	0.8252	0.064*
Spend between $10,001 - 15,000	0.1941	0.559	0.2305	0.523	0.2178	0.542
Constant	-0.3209	0.986	0.7715	0.717	0.6349	0.772

Note: N=753

In terms of general background, students from South East Asia were found to be negatively significant at 5% level. Regardless of education background; the

currently enrolled international students enrolled in Social Sciences and Information Technology & Communication courses were found to be consistently significant at 5% level. Moreover, in terms of the financial background, the focus and private universities seemed to be able to influence the currently enrolled international students to choose Malaysia as their further study destination where they were positively significant at 5% level.

Sub-Sample of International Students' Choice to remain in Malaysia for their Advanced Study

Further analysis was performed by dropping out those observations that had no intention to further study and also those who intended to further study but wereunsure to choose Malaysia or not as their further study destination. The purpose of performing this analysis is to check the robustness of the model estimation on the currently enrolled international students‟ choice to choose Malaysia for their advanced study destination. Table 4.23 depicts the sub-sample model analysis.

In terms of the educational choice motive, the result shows that university environment, university service, academic quality were positively significant at 1% level meanwhile regulation was positively significant at 5% level. Hence, the outcome indicated that consumption motive was dominant in affecting the choice of currently enrolled international students to remain in Malaysia for their further study destination. Investment motive was found not to be significant in influencing the currently enrolled international students‟ choice in this analysis. .

Table 4.23
Binary logit estimate Sub-sample of choice to Malaysia for advanced study

	Sub-model 1 Coefficient	P-value
Investment:		
Education cost	0.1619	0.272
Consumption:		
University environment	0.3136	0.048**
University service	0.5413	0.000***
Academic quality	0.4714	0.003***
Information guidance	0.1983	0.166
Social	0.2592	0.098*
Regulation	0.2994	0.046**
General Background:		
Male	0.0494	0.879
Age	0.0682	0.343
East Asia	-0.0936	0.892
South East Asia	-1.3908	0.017**
Middle East	-0.2985	0.484
India Subcontinent	-0.3487	0.512
Years been in Malaysia	0.0091	0.350
Education Background:		
Master	-0.1173	0.816
Social Sciences	-1.1799	0.017**
Information Technology & Communication	-1.8182	0.006***
Engineering	-1.1597	0.060*
CGPA	-0.1699	0.672
Focus university	1.4864	0.009**
Comprehensive university	0.0436	0.926
Private university	0.9244	0.063*
Financial Background:		
Part-time jobs	0.4089	0.366
Self/Parent support	-0.6201	0.179
Scholarship (other than Malaysia)	-0.1507	0.847
Loan	-0.0117	0.991
Spend below $5,000	-0.1120	0.824
Spend between $,001 –10,000	0.7953	0.069**
Spend between $10,001 – 15,000	-0.1507	0.689
constant	0.6091	0.815

Note: N=350

Likewise, the social demographic variables (general background, education background and financial background) showed only minor differences compared to the full sample model. First, the currently enrolled international students from South

East Asia remained negatively significant as compared to students from African Nation at 5% level. Secondly, in terms of field of study, the international students enrolled in Social Sciences, Engineering and Information Technology & Communication faculties remained significant compared to the students enrolled in Education faculty. Moreover, in term of university category, focus university and private university were found to be positively significant at 1% and 10% respectively

Therefore, both of the further analysis confirmed that the choice of currently enrolled international students to remain in Malaysia as their advanced study destination was influenced by the consumption motive and this was fairly consistent with the main estimation model outcome. The variables that found to be robust are university environment, university service and academic quality.

4.6.2 Logit Model 2: Choice to Recommend Malaysia as Higher Education Destination

A second estimation model was carried out on the currently enrolled international students‟ choice to recommend Malaysia as higher education destination to their friends in their home country. Binary logit model was applied to the analysis where the choice was either yes to recommend or otherwise. Before going further, the goodness of fit test was conducted to check whether the model fit with the data set. Table 4.24 illustrates the outcome on the goodness of fit test for estimation model 2.

The overall fit test shows that the overall model was fit with the data set at a 1% significant level. This was followed by the Pseudo R^2 which was achieved at 0.1515. This shows that the proportion of variation in dependent variable that can be

explained by the independent variables was 15.15%. Next was the heteroskedasticity; Cameron and Trivedi‟s test was significant and the model accepted H_1. This shows that there was heteroskedasticity problem occurring in the model. However, this problem can be easily solved when the estimation was conducted with robust. In addition, the heteroskedasticity here was only serving as a proxy test.

Furthermore, multicolinearity problem occurred when the measured variables were highly intercorrelated. The measurement on multicolinearity in this research was based on the Variance Inflation Factor (VIF). VIF is based on the proportion of variance shared by one independent variable with the other independent variables in the model (O‟brien, 2007). The VIF value in this research ranged from 1.05 to 3.78, hence, it can be concluded that there was no multicolinearity problem in the model (based on the rule of 10).

Table 4.24
Goodness of fit test: Model 2

	Results
Prob > chi2 (Overall fit test)	0.0000
Pseudo R2	0.1515
Heteroskedasticity* (Cameron & Trivedi‟s test)	P-value = 0.0147
Multicolinearity	1.05 to 3.78
Percentage correctly predicted (PCP)	76.00%

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

Moreover, the percentage correctly predicted (PCP) statistic was also presented. The PCP was to measure on how well the model can be predicted by the observations. In binary category model, it is practicable to correctly predict at least 50% of the outcome by the model without knowledge about the independent variables (Long, 1997). The PCP in this research was 73% which means that the

model correctly predicted about 76% of the outcomes. Overall, the model was fitted with the data set and can be used in the analysis

Table 4.25 depicts the binary logit model outcome on the currently enrolled international students‟ choice to recommend Malaysia as higher education destination to their friends and relatives in their home country. First, the results show that both investment and consumption motive influenced the international students‟ choice to recommend Malaysia as higher education destination. An in depth examination shows that education cost was positively significant at 5% level, whereas, university environment, university service, academic quality and social in Malaysia were all positively significant at 1% and 5% level respectively. This outcome is consistent with Lee (2010) who found that the quality of campus service provided, whether the international students are treated equally and fairly as the locals and also the financial constraint for their living and tuition fees have an influence on their willingness to recommend the host nation to their peers. Moreover, Su, Swanson, Chinchanachokchai, Hsu and Chen (2016) found that a corporate reputation positively influences the customer satisfaction that enhances the customers‟ repurchasing intention and also willingness to recommend. Hence, this supports that academic achievement on the global stage by Malaysian higher education institutions may influence the willingness to recommend by the currently enrolled international students. Meanwhile, the education cost was found to have a positive relationship with willingness to recommend to friends and family. This is when the quality of education and service provided are worth the price charged; price may signal the quality of the education offered, supported by Bouwel and Veugelers (2009).

Moreover, in terms of social demographics, only the home country under individual background variable shows that the currently enrolled international students from South East Asia were positively significant at 5% level.

Table 4.25
Binary logit estimate for recommend Malaysia to friends in home country

	Model 2	
	Coefficient	P-value
Investment:		
Education cost	0.2270	**0.021****
Consumption:		
University environment	0.4799	**0.000*****
University service	0.2016	**0.033****
Academic quality	0.3150	**0.001*****
Information guidance	0.1535	0.106
Social	0.5183	**0.000*****
Regulation	0.1575	0.137
General Background:		
Male	-0.0584	0.795
Age	0.0366	0.274
East Asia	-0.3896	0.354
South East Asia	0.7721	**0.023****
Middle East	-0.1827	0.500
India Subcontinent	0.1159	0.737
Years been in Malaysia	-0.0021	0.714
Education Background:		
Master	0.1239	0.646
Social Sciences	-0.0134	0.974
Information Technology & Communication	-0.3620	0.425
Engineering	0.0342	0.942
Health sciences & Medicine	0.7307	0.621
CGPA	-0.0929	0.733
Focus university	-0.2386	0.524
Comprehensive university	-0.0294	0.937
Private university	-0.4286	0.239
Financial Background:		
Part-time jobs	-0.2363	0.409
Self/Parent support	-0.2070	0.524
Scholarship (from Malaysia)	-0.2489	0.683
Loan	-0.3701	0.587
Spend below $5,000	-0.3693	0.169
Spend between $ 5,001 –10,000	0.0459	0.870
Spend between $10,001 –15,000	0.1233	0.636

Note: *** is significant at 1%, ** is significant at 5% & * is significant at 10%.
N = 753

Furthermore, the marginal effect analysis was conducted when the estimation for the binary logit model in Table 4.26 was claimed to have not provided complete information to the research (Long, 1997). Hence, to provide a better interpretation, the marginal effect analysis shown in table 4.27 is presented. The marginal effect that measure the discrete change in probabilities is an effective method to interpret the continuous and dummy variables (Long, 1997).

In relation to the investment motive, the result shows that when the education cost in increases by one unit the probability of the currently enrolled international students to recommend Malaysia to their friends in their home country will increase by 4.15%. Based on the theory of cost-benefit analysis, the result is rather counter-intuitive. Nonetheless, there are studies that shown a positive relationship between price and choice as such that expensive tuition fees signal quality (Bouwel & Veugelers, 2009; Chen & Riordan, 2008). Indeed, Dills and Rotthoff (2013) stated that in higher education industry, those institutions who achieve higher quality[28] in their brand will raise their prices to compete with the entry ot lower-quality institutions. The raising price action by the higher quality institutions is merely to differentiate their brand quality as compared to those lower quality institutions. Moreover, expectation on positive growth in their earnings or other kind of non-pecuniary benefits after obtaining the bachelor degree or higher level of study may explain their willingness to recommend Malaysia to their friends eventhough the education cost is rising (Eide, Brewer, & Ehrenberg, 1998; Abel & Deitz, 2014). This is supported by Ching (2010) stated that consumer experience and learning on

[28] Quality is measured by the fraction of applicants who are admitted, average faculty salary, and faculty-student ratio (Dills & Rotthoff, 2013).

the quality of the product used allow the original firms to keep selling in a increasing price when more firms enter into the markets. In essence, according to OECD report, USA, United Kingdom and Australia still remain as favourite destinations to the international student even they are facing a soaring cost of living and a expensive tuition fees (Minsky, 2016).

Table 4.26
Marginal effect of Model 2

	dy/dx
Investment:	
Education cost	0.0415
Consumption:	
University environment	0.0879
University service	0.0369
Academic quality	0.0577
Social	0.094
General Background:	
South East Asia	0.1272

Furthermore, if the university environment provided by Malaysian institutions increases by one unit the probability for the currently enrolled international students‟ choice to recommend Malaysia to their friends will increase by 8.97%. Similarly, when the university service provided increases by one unit, the probability that they will choose to recommend Malaysia increases by 3.69%. Also, when the academic quality achieved by Malaysian institutions (5.77%) and the social environment in Malaysia (9.4%) increases by one unit, the probability for them to recommend Malaysia will increased. Lastly, international students from South East Asia had a higher probability by 12.72% compared to students from African Nation to recommend Malaysia to their friends in their home country.

4.7 Chapter Summary

The purpose of this research are (1) to examine the satisfaction level of the currently enrolled international students towards Malaysia, (2) the factors that influence the decision of currently enrolled international students to choose Malaysia as their advanced study destination and (3) the factors that influence their decision to recommend Malaysia to their peers in their home country.

From the ANOVA results, the international students studying here were the most satisfied with the reputation factor achieved by Malaysia including the achievement obtained by faculty members in terms of academic publications. Furthermore, finding from the logit model estimation pointed out that the consumption motive such as university environment; university service and academic quality are positively significant at 1% level and is consistent in the two conducted further analysis. Moreover, if only focus on those are intended to choose Malaysia as their advanced study destination, there are additional two variables (social factor and regulation factor) that also categorized in consumption motive are found to be significant. However, for policy implication purpose, focus are given to the university environment factor, university service factor and academic quality factor since the difficulty for the policy maker to distinguish the currently enrolled international students who intended or not intended to further study.

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, thus signifying the importance

of consumption motives in determining their educational choice (Han et al., 2015; Baharun et al., 2011; Mpinganjira, 2009). Even though the investment motive seems to play an important role in determining the education destination (Migin, Falahat, Yajid, & Khatibi, 2015; Nachatar Singh, Schapper, & Jack, 2014; 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 their advanced study.

Moreover, the good study environment and services provided by university, academic quality provided by the faculty members and their achievements in publication and education cost charged to the international students and also easiness to obtain the university information on an international level are the factors that lead to the currently enrolled international students being willing to recommend Malaysia to their peers in their home country.

CHAPTER 5

Conclusion, Implications and Recommendations

5.0 Introduction

As Malaysia is moving towards becoming a developed and high income nation, the initiative of transforming the Malaysian higher education from being merely a "student hub" into a "knowledge and innovation hub" is timely. For this transformation to succeed, the needs for retaining quality international students for advanced degree is imperative and it requires the relevant stakeholders to rightly identify the critical factors that affect the students‟ decision to remain in Malaysia to pursue their advanced studies. Parallel to this issue, this particular study attempts to provide answers through detailed analysis to determine those critical factors. It is hoped that the findings from the analysis will help the respective stakeholders such as the higher education providers and the relevant ministries to take appropriate actions and measures to ensure that the international students are keen to continue to pursue their higher level of studies in Malaysia and contribute, not only in terms of revenue through their spending but also in terms of their expertise through research

undertaken at various levels of studies. In this chapter, some policy implications will be drawn from the analyses and the relevant recommendations will be put forth. This will hopefully pave the way for a better future for the higher education sector in Malaysia in general and Malaysia‟s internationalization agenda of higher education in particular. The chapter will start with a summary of the findings, the contribution of the research towards the Malaysian higher education sector, limitations of the current study and recommendations for future research.

5.1 Summary of findings

The first objective of this research is to identify the level of satisfaction of the currently enrolled international students towards various factors. The items that represent various factors were drawn from literatures (with no factor analysis being applied at this stage). These factors include cost, reputation of university, social, regulation, services and promotion. One-way Anova was employed to analyze the level of satisfaction of international students towards various factors. The results indicate that the currently enrolled international students in Malaysia are satisfied with all the factors, with mean scores above 4. However if we were to compare the level of satisfaction among these six factors, reputation scored the highest followed by services, regulation, social, promotion and cost.

The second objective of this research is to identify the motives that influence the choice of the currently enrolled international students‟ to remain in Malaysia for their advanced study. A logistic regression approach was employed with a factor analysis performed earlier on, to categorize the number of items into a smaller

component/factor. From the factor analysis, seven factors were then derived which includes university environment, university service, academic quality, education cost, information guidance, social and regulation. All the factors were later grouped into two distinct motives *i.e.* investment motive and consumption motive.

The investment motive consists of cost factor and the consumption motive consists of the other six factors. The findings from the research show that the influence of the consumption motive towards the choice of the currently enrolled international students to remain in Malaysia for advanced study is relatively higher compared to the investment motive. Alternatively it signifies that the non-pecuniary return which is the consumption aspect of higher education plays an important role. These findings are supported by previous studies which found that the educational choice of individuals is driven by the consumption motive (Oreopoulos & Salvanes, 2014; Alstadsaeter, 2010; Christiansen et al., 2007; Pereda et al., 2007). Previous empirical studies also supported that consumption motive (university environment, university service and academic quality) plays an important role in attracting international student enrollment to a particular host country (Mazzarol & Soutar, 2002; Pereda et al., 2007; Lim, Yap & Lee, 2011; Baharun et al., 2011).

Moreover, the findings of this study have proven that the consumption motive as one of the major factors that is able to influence the currently enrolled international students‟ choice to remain in the same host country. The findings lend support to the commonly held views that the consumption motive is not only serve as important factor in attracting potential new students to choose their higher education in a particular host country but equally affect the decision of the currently enrolled

international students to pursue their higher level of studies in the same host country. Hence, the findings contribute further to the pool of literatures on the factors affecting choice for higher education destination. In addition to that, the departure from applying the standard pull and push factors in determining the important factors affecting choice of international students‟ destination for further study provides quite a distinct approach. The application of both investment motive and consumption motive in analyzing the intention of international students to pursue their higher degree in the same host country has in part bridged the gap in literature.

Furthermore, two further analyses were carried out for robustness check: (i) the analysis using multinomial logit that consists of four group (Group one: Yes to further study and yes to choose Malaysia; Group two: Yes to further study but not choosing Malaysia; Group three: Yes to further study but uncertain with the destination; Group four: No to further study) and (ii) the analysis that consists, only of those respondents who decided to further their studies after graduating and were certain with their study destination. The variables that found to be robust are university environment, university service and academic quality.

The third objective of this research is to measure the probability of the currently enrolled international students to recommend Malaysia as higher education destination to their friends and relatives. Similarly, a logistic regression was applied to answer the third objective. The finding from the research showed that both investment motive and consumption motive played important roles in influencing the currently enrolled international students to recommend Malaysia to their friends and relatives with only four factors from the consumption motives showed significant

effect *i.e.* the university environment, university service, academic quality and social factors while the cost factors (investment motive) also showed a significant effect. This finding is supported by Wu (2014) who stated that all these factors are used as an intention reference for international student (existing or prospective students) in choosing a country or the higher education institution for their advanced study, hence, bridge the gap that educational choice motive model does influence the word of mouth in promoting Malaysia as host country in the global higher education industry.

5.2 Policy Implications

This research contributes to the literature of internationalization of higher education through the application of the educational choice model, focusing on two important motives that are the consumption and investment motive as opposed to the standard approach using the push and pull models (Chien, 2015; Baharun et al., 2011; Yang, 2007). The findings from the research provide useful policy implications which will be discussed in detail in the following subsections.

5.2.1 University environment

The statistical result revealed that the university environment significantly influenced the choice of the currently enrolled international students‟ to remain in Malaysia for their advanced study and their willingness to recommend Malaysia to their friend and relative in their home country. This study used a number of items to measures the university environment such as the area and facilities for study which includes facilities provided in the library, lecture halls, computer labs, security within the

university‟s compound and weather. The findings showed that a good university environment is important, which signifies that it is worth for universities to invest in modern facilities and resources, in particular the study area, lecture hall and the library. In addition, the university can provide a comfortable and fully equipped postgraduate office for the postgraduate students. Moreover, it is important to provide up-to-date and the latest technology of teaching facilities in the lecture halls as to enhance the effectiveness of teaching and learning that suits the education delivery of the 21th century. Singapore is a good example when it comes to providing world class facilities in welcoming the international students (Sidhu, Ho, & Yeoh, 2014). As Malaysia is keen to become the hub for education, there are still a lot of improvement to be made. As reported by Akamai (2016), Malaysia connection speed among the Asia Pacific countries is ranked at 73rd place; far behind Hong Kong (6th), Singapore (16th) and Thailand (42nd). This is indeed a setback for Malaysia as it reflects the low level of capacity in internet services which indeed will lessen Malaysia‟s competitiveness in attracting or retaining the international students and their willingness to recommend Malaysia.

In terms of security, it is important for the host country and higher education institution to provide a safe environment for students whether they are outside or within the campus. Although Malaysia is ranked as the 28th safest country in the world (Institute of Economics and Peace, 2015), the report on the intrusion by Sulu intruder gunmen in Sabah (Tariq, 2013); several kidnapping cases by Southern Philippine terrorist and several gun shooting murder cases (“Shooting cases in 2016: A chronology,” 2016) may potray the negative image of Malaysia. Studies by Morshidi (2008) and Xiong et al. (2015) found that parents and international students

themselves are very particular with their safety when choosing the place to study. In relation to this, it is important for the Malaysian government to seriously ensure the safety are well guarded and keep the crime rate low through various crime prevention measures.

Furthermore, providing a world-class sport centre with complete sport facilities such as Olympic sized swimming pool and football field; fully equipped gymnasium centre *etc*. can be an added competitive advantage for the host country. As far as transportation is concerned, host institutions should also provide a sufficient shuttle buses that allow the international students to move around the campus and able to reach the nearby township for shopping or outdoor activities. This issue has been highlighted previously by Baharun et al. (2011) and Binsardi and Ekwulugo (2003).

5.2.2 University service

Secondly, university service is the second factor that significantly influenced the choice of the currently enrolled international students to remain in Malaysia for their advanced study and also their willingness to recommend Malaysia to their friends and relative in their home country. In this particular study, university service is measured through the effectiveness of administrative staff and support system from the international office and other departments in providing information timely and accurately to the students. Evidently, good communication skill and service quality of administrative staff are important. This can be achieved through encouraging

administrative staff to attend training in communication skills, English language or other international languages, and problem solving skills that will enable them to handle the international students from all around the world effectively. Furthermore, an effective support system should be developed to reduce the bureaucracy within and across department.

In addition, the efficiency of government departments that deal with international student should be further enhance. For example, the Malaysian authorities may further enhance the services provided by the Education Malaysia Global Service Centre (EMGS) such as the handling of visa application to Malaysian higher education institutions; renewal of student visa for the currently enrolled international students and also the management of the welfare of the international students. Since the establishment of EMGS, the efficiency of EMGS as a one-stop centre has been questioned. Many international students have complained about delayed visa renewal that may take more than few months without any valid reason. This might increase the risk of students being detained by the police for their visa expiry and without any valid proof of their students‟ status (Kulasagaran, 2014).

The need for Malaysian government to look into this matter is critical, as the delay caused by EMGS may result in the currently enrolled international students to switch to another country for their advanced study. Coordination among universities and government agencies needs to be further enhanced for the effective management of the international students matters. A smart collaboration including information sharing between the government agencis such as EMGS and the immigration department, and the higher education institutions should be remodeled as to enhance

the efficiency in managing the admission procedure regarding student visa applications or visa renewal (Ministry of Education Malaysia, 2015b). Pertaining to this issue, the Malaysian education blueprint (higher education) has also highlighted the initiatives that the government considers to further improve such as ensuring visa duration matches the study duration for postgraduate students and giving a special endorsement on visa renewal for high achievers.

5.2.3 Academic Quality

Academic quality is found to be relevant only for those undergraduate who will wish to continue for their master program, and not relevant for postgraduate respoendents. Academic quality is always an important indicator for the reputation of universities at the global stage (Migin et al., 2015; Nachatar Singh et al., 2014b). This research measured academic quality through four indicators related to the faculty members in particular whether they are highly qualified in their field, well prepared in delivering their lectures, able to publish their research work in internationally well-known journals and fluent in English language. Although the Malaysian government shows great effort in enhancing the quality and quantity of research produced by Malaysian higher education institutions, the output shown in the world QS ranking is not encouraging. As Table 1.4 shows, very few universities in Malaysia excel in academics – for example, only Universiti Malaya was ranked in top 200 universities in the world, while only four other universities were ranked at the 200-400 places from 2011 to 2015. This achievement is well below the target of having at least one university in the top 50 and three in the top 100 by 2020 (Ministry of Education, 2007). Indeed, reputation achievement (60% of the total marks), as the QS world

university ranking methodology indicators emphasizes, is the main requirement for getting higher ranking. Several steps may help the universities in Malaysia to improve their reputation achievement. One particular step is to encourage academics staff to involve in research in their field, publish in renowned journals and present their research outcome at high impact conferences. Moreover, providing sufficient financial support for the capacity building is important, followed by retaining the best local and international scholars at the universities for collaboration to conduct good quality research. However, this effort requires the policy amendments from the Malaysian government especially in terms of immigration procedure reforms to allow international scholars to obtain a working permit easily (Ministry of Education Malaysia, 2015a)

Furthermore, it is important for Malaysian government to attract more foreign branch campuses to provide high quality education in the country. United Arab Emirates (UAE) is a good example where UAE housed 37 foreign branch campuses from Australia, Canada, France, India, Ireland, Lebanon, Pakistan, Russia, Switzerland, United Kingdom and United State of America up until 2012, and UAE became a reputable "human capital" training ground in the world (Fox & Al Shamisi, 2014). Having more reputable foreign branch campuses will not just enhance the attraction of new enrollment or retain the currently enrolled international students but also enhance the quality of faculty members in the local institutions through collaboration with the faculty members from the foreign branches (Fox & Al Shamisi, 2014). Moreover, the implementation of Malaysia"s global outreach programmes which emphasize the collaboration between the local and international experts is an

encouraging step to enhance Malaysia academic quality (Ministry of Education Malaysia, 2015a).

In the Tenth Malaysia Plan (2011-2015), Malaysian government had allocated one billion ringgit Malaysia for five types of research grants. For example, the Fundamental Research Grant Scheme (FRGS) is applicable for all researchers from public institutions, private institutions and foreign branch campuses to conduct research and publication at the international level. The allocation for FRGS was RM 340 million, 19 percent increment compared to the allocation from the Ninth Malaysia Plan (Malaysia National Audit Department, 2014). Furthermore, under the 2014 Budget, the Malaysian government had added an extra allocation of RM 600 million to enhance the number of publication for research universities (Ministry of Finance Malaysia, 2013). The initiative taken by the Malaysian government is to enhance the production of research by the higher education institutions. However, according to Malaysia National Audit Department (2014), the amount of research completed was below the targeted rate; only 61.1% of the research grants approved were completed at the end of the Ninth Malaysia Plan. Similarly, only 19 percent out of the 517 research project that approved under the Tenth Malaysia Plan were completed. Moreover, the research output on training and producing the postgraduate students was only 62.1 percent from the initial target. Therefore, the Malaysian government may need to strictly monitor the progress of the research to be completed on time and further enhance the quality of the research output.

Malaysian government may introduce several steps to stimulate the achievement of the universities. The establishment of a Malaysian Citation Centre to

assist local researcher to publish articles in internationally renowned journals is a progressive step taken by the government and should be continued (Ministry of Finance Malaysia, 2013). Furthermore, the Malaysian government may encourage the establishment of global research laboratories with the collaboration between the higher education institutions and the industrial sectors. This effort can enhance the domestic capability in conducting high impact research projects and ensure the applicability of the research outcomes within the industry and furthermore will enable Malaysia to position herself as a global knowledge and innovation contributor (Ministry of Education Malaysia, 2015b).

Furthermore, offering quality and industry relevant programmes is significantly important in both retaining the currently enrolled international students for their advanced study and their willingness to recommend Malaysia. Hence, Malaysian government should ensure that the programmes offered by the public and private higher education institutions are relevant to international practices (Ministry of Education Malaysia, 2015b). Moreover, universities should be encouraged to use English language as the medium in teaching and communications, which is vital for transforming Malaysia from a student hub to a knowledge and innovation hub. One of the attractions for the major higher education exporters such as Britain, USA and other European countries is they use English language as their main medium of communications (Wu, 2014).

5.2.4 Other important factors

This section presents the other two explanatory variables that are found to be significant in influencing the willingness of the currently enrolled international students to recommend Malaysia to their friends and relatives in their country of origin. Moreover, this section also presents the possible future research dimensions for the two control variables (home country and university categories) that were employed in this research.

Social

Social factor is one of the four factors under the consumption motives, which significantly influenced the willingness of currently enrolled international students to recommend Malaysia. In this particular study, social factor is measured by Malaysia‟s peacefulness, no occurance of racial discrimination, how easy it is for the international students to adapt to the Malaysian lifestyle and friendliness that is offered by Malaysians as well as the ability of Malaysians to communicate in the English language.

Malaysia consists of Malays, Chinese, Indians and the indigenous groups of Sabah and Sarawak. The different culture can be an additional advantage in retaining the currently enrolled international students in Malaysia for their advanced study. As stated in figure 1.6, the majority of the international students in Malaysia are from the Middle East, Africa nation, China, South East Asia and India subcontinent. Islam is the official religion in Malaysia hence students from the Middle East, African

nation and South East Asia (Indonesia and Southern Thailand) who are Muslim can easily adapt to living in this country. Moreover, the Malaysian Chinese and Malaysian Indians who have retained most of the Chinese and Indian tradition and culture are able to let the students from China and India adapt to living in this country. Hence, the Malaysian government should continue to develop its multiracial lifestyle and culture, and also to minimize racial discrimination in the country as part of Malaysia‟s strength in developing as an education hub. Meanwhile, the safety and peacefulness of Malaysia has, always been an important indicator which is a concern of the currently enrolled international students as well as their parents. Hence, it is important for the police and armed forces to ensure the country is free from terrorism threats as well as crime. Moreover, demonstrations by local citizens such as the yellow shirt, red shirt and purple shirt rallies may pose an insecure environment to students especially when the rally turns violent.

Education Cost

Education cost is the factor that is categorized under the investment motive. This study finds the cost of tuition and living significantly and positively influenced the willingness of the currently enrolled international students to recommend Malaysia to friends and relatives. In this particular study, the education cost is measured by the charges on tuition fees and the living cost (transportation, accommodation, food, study equipment as well as other utility charges such as phone bill, *etc*).

This study finds little evidence of low tuition fees enhancing the competitiveness of Malaysia in attracting international students through word of

mouth. The result may imply that quality of higher education in terms of academic services and facilities provided as well as the international reputation achieved by the higher education institutions is of more importance in encouraging the willingness of the currently enrolled international students to recommend Malaysia to their friends and relatives. For example, the U.S., the UK and Australia are popular destinations for higher education for international students. The annual fees (tuition fees and living cost) for studying in art and business degree courses in US public and private institutions are USD 25,000 and USD 35,000 respectively, in UK public institutions are USD 26,500 and in Australian public institutions are USD 17,000 as compare to studying in Malaysian private institutions which costs USD 9,000 per annum (Study Malaysia Guide, n.d.). However, USA, UK and Australia still remain the most favourable higher education destinations for international students. Hence, the cost of higher education may not be a primary factor that international students consider when choosing a university in a host nation.

Home country

Majority of the currently enrolled international students in Malaysia are from East Asia, Middle East, African Nation, South East Asia and Indian Subcontinent. Compared to students from African Nation, those students from South East Asia had a lower tendency to remain in Malaysia to further their study, while the students from the other three regions showed no significant difference from African Nation‟s students. A possible reason is most of the students from South East Asia region prefer studying in western host countries than to furthering their advanced study in

the same region after completing their current level of study in Malaysia (a South East Asian country) (Chow, 2011).

Moreover, Chow (2011) also reported that students from Thailand and Vietnam are keen to study in a Western country such as the United States of America and Australia due to reasons of better academic quality, culture exploration and improving foreign language. Hence, universities can introduce various initiatives that can help to promote sense of belonging among students by encouraging interactions between international students and the local students. For example, cultural activities can be a platform that will allow the international students from the Southeast Asia to interact with the local students (Wu, 2014). This could "harmonise" the relationship between the international and local students; particularly it could allow them to share and assist each other in their academic life or carry out activities together (Shahijan, Rezaei, & Amin, 2015). Meeting and socializing with new friends from various backgrounds and nations would be an exciting experience for the international students and will enable them to understand more about Malaysia and hence would encourage them to stay on for their higher level of studies.

Furthermore, as mention earlier, besides of the increase in the quality of higher education services, bringing in more reputable foreign branch campuses to operate in Malaysia may also help able to retain the currently enrolled international students from South East Asia to continue their advanced study in Malaysia. Since foreign branch campuses are required to provide their education quality similar to the quality provided at the main campus, hence, students are able to gain the education

service and learn the foreign language from western country such as USA, UK, Australia, German and etc. in Malaysia.

5.3 Limitations of study

The present research is subject to few possible limitations. Firstly, due to time and financial constraints, the data was only collected from four universities that represent each of the four categories of universities. The initial sample aimed to include five categories: research university (Universiti Malaya), comprehensive university (International Islamic University Malaysia), focus university (Universiti Utara Malaysia), private university (Multimedia University) and foreign branch university (The University of Nottingham Malaysia Campus). However, only four universities have given the permission for the data collection, while one university, the University of Nottingham Malaysia Campus, had made the requirement that the questionnaires should be screened by the research ethics committee which will take three months. Therefore, due to time constraints, the researcher decided to proceed without the foreign branch university category.

. Secondly, three factors were excluded from the study due to the complication [29] in measurement: (i) signaling motive (was integrated into the investment motive), (ii) the opportunity cost (the forgone income) incurred by the international students[30], and (iii) the expected return after the study.

[29] it is complicated to disentangle the signaling motive from the investment motive for the educational choice due to the fact that both motives are based on cost-benefit comparison

[30] Theoretically, Indirect cost is important but will be more measurement bias for us to collect the information because heterogeneity of various labour market and abilities. Previous study such as Tannen (1978) used secondary data.

5.4 Recommendations for Future Research

Few recommendations for furture research are worth mentioned. Firstly it is important to consider the inclusion of the foreign university branch campuses in the sample, as the educational choice motive that influence the currently enrolled international students‟ decision in foreign branch campuses may differ from that of local universities. This will contribute to a better insight towards government‟s policy implications.

Secondly is to consider the three factors (signaling motive, the opportunity cost incurred by the international students, and the expected returns) that are excluded in this research. Through the signaling motive, one may be able to measure to what extent the degree awarded by the host institution served as a screening device to the employer can influence the currently enrolled international students‟ choice. Furthermore, taking into account the opportunity cost or the expected return as one of the determinants may help to explain how these factors can influence the cost - benefit analysis of the currently enrolled international students when considering their choice of destination for their advanced study.

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APPENDICES

Appendix 1: The list of Malaysian Public University

1. UM	Universiti Malaya
2. USM	Universiti Sains Malaysia
3. UKM	Universiti Kebangsaan Malaysia
4. UPM	Universiti Putra Malaysia
5. UTM	Universiti Teknologi Malaysia
6. UIAM	Universiti Islam Antarabangsa Malaysia
7. UUM	Universiti Utara Malaysia
8. UNIMAS	Universiti Malaysia Sarawak
9. UMS	Universiti Malaysia Sabah
10. UPSI	Universiti Pendidikan Sultan Idris
11. UiTM	Universiti Teknologi MARA
12. UDM	Universiti Darul Iman Malaysia
13. USIM	Universiti Sains Islam Malaysia
14. UMT	Universiti Malaysia Terengganu
15. UTHM	Universiti Teknologi Tun Hussein Onn Malaysia
16. UTeM	Universiti Teknikal Malaysia Melaka
17. UMP	Universiti Malaysia Pahang
18. UniMAP	Universiti Malaysia Perlis
19. UMK	Universiti Malaysia Kelantan
20. UPNM	Universiti Pertahanan Nasional Malaysia

Appendix 2: List of countries by region

Asia	Africa	Europe	Americas	Australasia
East Asia				
China	Algeria	Aland Island	Antigua & Barbuda	Austrialia
Hong Kong	Angola	Albania	Argentina	Fiji
Macau	Benin	Austria	Bahamas	New Zealand
Taiwan	Botswana	Azerbajian	Belize	Papua New Guinea
Japan	Burkina Faso	Belarus	Bolivia	Samoa
South Korea	Burundi	Belgium	Brazil	
North Korea	Cameroon	Bosnia & Herzegovina	Canada	
Mongolia	Central African Republic	British Indian Ocean Territory	Chile	
	Chad	Chechnya	Colombia	
South East Asia	Comoros	Croatia	Costa Rica	
Brunei Darussalam	Congo	Czech Republic	Dominican Republic	
Cambodia	Ivory Coast	Denmark	Guatemala	
Indonesia	Djibouti	England	Guyana	
Laos	Egypt	Finland	Haiti	
Myanmar	Equatorial Guinea	France	Jamaica	
Philippines	Eritrea	Germany	Maxico	
Singapore	Ethiopia	Greece	Panama	
Thailand	Gabon	Hungary	Peru	
Timor Leste	Gambia	Iceland	Saint Vincent	

Appendix 2: List of countries by region (Contiune)

Vietnam	Ghana	Ireland	Trindad & Tobago	
	Guinea	Italy	USA	
Middle East	Kenya	Kosovo	Uruguay	
Afghanistan	Lesotho	Lithuania	Venezuela	
Asia	**Africa**	**Europe**	**Americas**	**Australasia**
Bahrain	Liberia	Macedonia		
Cyprus	Libya	Malta		
Georgia	Madagascar	Maldova		
Iran	Malawi	Netheland		
Iraq	Mali	Norway		
Jordan	Mauritania	Poland		
Kazakhstan	Mauritius	Portugal		
Kuwait	Morocco	Romania		
Kyrgyzstan	Mozambique	Russian Federation		
Lebanon	Namibia	Serbia		
Oman	Niger	Slovakia		
Palestinian	Nigeria	Slovenia		
Qatar	Rwanda	Spain		
Saudi Arabia	Senegal	Sweden		
Syria	Seychelles	Switzeland		
Tajikistan	Sierra Leone	Ukraine		
Turkey	Somalia	United Kingdom		
Turkmenistan	South Africa	Yugoslavia		
United Arab Emirates	Sudan			

Appendix 2: List of countries by region (Contiune)

Uzbekistan	Swaziland			
Yeman	Tanzania			
	Togo			
Indian Subcontinent	Tunisia			
Bangladesh	Uganda			
Bhutan	Western Sahara			
India	Zaire			
Asia	**Africa**	**Europe**	**Americas**	**Australasia**
Maldives	Zambia			
Nepal	Zimbabwe			
Pakistan				
Sri Lanka				

Appendix 3: The enrolment of higher education institution international students by levels of study, 2010

	PhD	Master	Bachelors	Diploma	Others*	Total	%
Public:							
Research University:							
UM	966	1,437	743		62	3,208	**22.4**
USM	1,287	748	439			2,474	**17.2**
UKM	1,195	1,138	513		1	2,847	**19.8**
UPM	1,478	1,250	101			2,829	**19.7**
UTM	946	1,302	747			2,995	**20.9**
Total						14,353	**100**
Comprehensive University:							
UiTM	74	145	193	15		427	**7.3**
UIAM	586	1,168	1,907	1	1,278	4.940	**84.5**
UMS	33	27	338			398	**6.8**
UNIMAS	46	17	16			79	**1.4**
Total						5,844	**100**
Focus University:							
UUM	627	618	1,673			2,918	**72.6**
UPSI	50	12	18			80	**2**
UTHM	30	86	163	1		280	**7**
UTeM	5	44	43			92	**2.3**
UniMAP	44	30	109			183	**4.6**
UMT	34	19	65			118	**2.9**
UMP	52	39	64			155	**3.9**
USIM	91	52	32			175	**4.3**
UniSZA	4	3	4			11	**0.3**
UMK		2	2			4	**0.1**
UPNM		1				1	
Total						4,017	**100**

Appendix 3: The enrolment of higher education institution international students by levels of study, 2010 (Contiune)

Private:							
Private University:							
Asia Pacific UCTI		102	2,036		2,746	4,884	**16.1**
MMU	172	885	2,663	92	660	4,472	**14.8**
LUCT	5	198	2,422	285	571	3,481	**11.5**
UCSI U	20	75	1,751	159	632	2,637	**8.7**
INTI		114	1,293	357	688	2,452	**8**
SUNWAY U		39	1,257	162	641	2,099	**6.9**
TAYLOR'S		72	1,138	323	155	1,688	**5.6**
MEDIU		410	1,038			1,448	**4.8**
KLIUC	1	112	912		237	1,262	**4.1**
HELP U		154	854	37	190	1,235	**4.1**
UNITEN	24	119	422		363	928	**3.0**
KUIN	4	42	682	27	1	756	**2.5**
IUCTT	21	107	594	17	1	740	**2.4**
UTP	60	30	439		163	682	**2.2**
Nilai UC			293	193	100	587	**1.9**
INCEIF	24	456				480	**1.6**
UNISEL	20	11	330	38	58	457	**1.5**
Total						30,288	**100**
Foreign branch:							
UNIM	43	283	919		56	1,301	**38.0**
MUSM	173	30	1,011		1	1,215	**35.5**
SWINBURNE	2	6	591	66	244	909	**26.5**
Total						3,425	**100**
Others	108	568	7,704		20,612	28,992	

*Others are Postgraduate Diploma, Advanced Diploma, Certificate and Professional
Sources: (Ministry of Education, 2011b)

Appendix 4: The list of Malaysian private universities

Private University:

1. HELP	HELP University
2. MEDIU	Al-Madinah International University
3. UniKL	Kuala Lumpur University
4. INCEIF	International Centre for Education in Islamic Finance
5. INTI	INTI International University
6. MUST	Malaysia University of Science and Technology
7. MSU	Management and Science University
8. MMU	Multimedia University
9. QUIP	Premier International University Perak
10. Sunway (SYUC)	Sunway University
11. Taylor	Taylor‟s University
12. AIU	AlBukhary International University
13. UNISEL	Selangor Industrial University
14. IMU	International Medical University
15. LUCT	Limkokwing University of Creative Technology
16. UTP	PETRONAS University of Technology
17. UNITEN	University Tenaga Nasional
18. OUM	Open University Malaysia
19. WOU	Wawasan Open University
20. UNITAR	University Tun Abdul Razak
21. UTAR	University Tunku Abdul Rahman
22. UCSI	UCSI University

Private University College:

1. AUCMS	Allianze University College of Medical Sciences
2. AP-UCTI	Asia Pacific University College of Technology and Innovation
3. IUCN	International University College of Nursing
4. KDU UC	KDU University College
5. CUCMS	Cyberjaya University College of Medical Science
6. Berjaya	Berjaya University College of Hospitality
7. KUIS	Selangor International Islamic University College
8. Linton	Linton University College
9. Nilai	Nilai University College

Appendix 4: The list of Malaysian private universities (Contiune)

10.	SEGI	SEGI University College
11.	UCSA	Shahputra University College
12.	IUCTT	International University College of Technology Twintech
13.	KLMUC	Kuala Lumpur Metropolitan University College
14.	KUIN	INSAHNIAH University College
Branch Campus of Foreign University:		
1.	MUSM	Monash University Malaysia
2.	NUMed	Newcastle University Medicine Malaysia
3.	Swinburne	Swinburne University if Technology (Sarawak Campus)
4.	UNIM	University of Nottingham in Malaysia

Source: Ministry of Education (2011)

Appendix 5: Survey Instrument

Respondent ID	

Dear Students

These questionnaires are constructed and distributed for the purpose of obtaining information related to the study on "Identifying the factors of intended choice for further degree among the international students in Malaysia". This study is a partial fulfillment towards my PhD in Economics.

In order to be able to successfully complete this study, I do require supports from all of you to fully participate in the study by providing the required information. I solemnly promise that all the information given will be treated as **strictly private** and **confidential.**

Thanks you for your cooperation

Yours sincerely,

Foo Chaun Chew
PhD candidate
Department of Economics, finance and banking
University Utara Malaysia
Email: s93671@studentmail.uum.edu.my

Section A : Demograpic and education background

Please **CIRCLE OR WRITE DOWN** your answers for the following questions:-

1. Gender

   a. Male
   b. Female

2. Age: _____years old

3. Home country, please specify: _____

4. How many years you have been in Malaysia? (_____Years _____month)

5. What is your current semester? _____

6. What level of study are you taking now?

   a. Diploma (**Please proceed to question 8**)
   b. Bachelor (**Please proceed to question 8**)
   c. Master degree

7. If your level of education now is Master degree, which University did you obtain your Bachelor degree?
   Please specify: _____

8. For your current level of study, what is your field of study?
   Please specify: _____

9. How do you finance your education here in Malaysia?

   a. Self-support
   b. Scholarship (from Malaysia)
   c. Scholarship (other than Malaysia)
   d. Loan
   e. Parents‟ support
   f. Others, please specify: _____

10. Do you work part time currently?

    a. Yes
    b. No

11. Your current CGPA* result:_____

*(**CGPA:** the Cumulative Grade Point Average obtained for all the semesters)

12. How much money (USD) do you/your parents spend on your education and living here in Malaysia per year?

a. Below 5,000
b. 5001-10,000
c. 10,001-15,000
d. Above 15,000

13. Who has recommended Malaysia to you?
(**You are allow to "tick" more than one answer**)

Family member ☐

Friends ☐

Education agents ☐

Teachers/Lecturers in my home country ☐

Non of the above, please specify: _____

Section B: Intention to further study

This section is to investigate your intention to further study and your choice of higher education destination for your higher level of study.

14. Do you have the intention to further your study after finishing your current level of study?

a. Yes (**Please continue the following question**)
b. No (**Please proceed to section C**)

15. Would you like to continue your Bachelor/Master/PhD in Malaysia?

a. Yes (**Please continue at question 16**)
b. May be Yes and may be No (**Please proceed to section C**)
c. No **(Please go to question 18)**

16. In which university in Malaysia you plan to continue Bachelor/Master/PhD?
Please specify: _____

17. In which field of study you plan to register for Bachelor/Master/PhD?
Please specify: _____

(**Please proceed to section C**)

18. In which country do you plan to continue Bachelor/Master/PhD?
    Please specify: _____
19. In which field of study you plan to register for Bachelor/Master/PhD in the above mention country?
    Please specify: _____
    (**Please proceed to section C**)

Section C: Self-perception

To what extent you have possessed the following soft skills before you study in Malaysia? Please **circle** the suitable answer according to the following scale:

Very Low 1 2 3 4 5 6 7 **Very High**

Criteria							
20. Interpesonal communication skills	1	2	3	4	5	6	7
21. Creative and Critical thinking skills	1	2	3	4	5	6	7
22. Problem solving skills	1	2	3	4	5	6	7
23. Analysis skills	1	2	3	4	5	6	7
24. English language skills	1	2	3	4	5	6	7
25. Team work	1	2	3	4	5	6	7
26. Adoption and practicing on positive value	1	2	3	4	5	6	7
27. General knowledge exposure	1	2	3	4	5	6	7
28. Job interview skills	1	2	3	4	5	6	7
29. Resume writing skills	1	2	3	4	5	6	7
30. Job searching	1	2	3	4	5	6	7
31. Good image outlook	1	2	3	4	5	6	7
32. Personal confident	1	2	3	4	5	6	7
33. ICT skills	1	2	3	4	5	6	7
34. Emotional, intellectual and spiritual quotient skills	1	2	3	4	5	6	7
35. Etiquette skills	1	2	3	4	5	6	7
36. Entrepreneurship skills	1	2	3	4	5	6	7
37. Consultation skills	1	2	3	4	5	6	7
38. Leadership skills	1	2	3	4	5	6	7

Section D: Perception about Malaysia and willingness to recommend Malaysia

Below are the various factors that may influence one‟s choice on higher education destination. Please **circle** the suitable answer based on your perception regarding Malaysia according to the following scale:

Strongly disagree 1 2 3 4 5 6 7 **Strongly agree**

39. The tuition fees that charged by Malaysia higher education institutions are reasonable.	1	2	3	4	5	6	7
40. The price of food and groceries sold in Malaysia are reasonable.	1	2	3	4	5	6	7
41. The books and study equipments sold in Malaysia are reasonable.	1	2	3	4	5	6	7
42. The accommodation fees charged is reasonable.	1	2	3	4	5	6	7
43. The public transportation charged in Malaysia is reasonable.	1	2	3	4	5	6	7
44. The other utility expenditure such as electric bill, phone bill & etc in Malaysia is reasonable.	1	2	3	4	5	6	7
45. I can easily get a job with Malaysian degree in my home country and other countries.	1	2	3	4	5	6	7
46. With Malaysian degree I am able to get a life time income which is higher than if I have a degree from university in my home country.	1	2	3	4	5	6	7
47. Malaysian universities are highly rank among all the International Universities.	1	2	3	4	5	6	7
48. The degree that I obtained from Malaysian university is recognized in my home country.	1	2	3	4	5	6	7
49. I am proud of my current university in Malaysia.	1	2	3	4	5	6	7
50. Malaysian university lecturers are highly qualified in their field.	1	2	3	4	5	6	7
51. Lecturers in Malaysia are internationally known in term of their publications	1	2	3	4	5	6	7
52. Malaysian university lecturers are always well-prepared when they give lectures.	1	2	3	4	5	6	7
53. Malaysian university lecturers are fluent in English language.	1	2	3	4	5	6	7

Strongly disagree 1 2 3 4 5 6 7 **Strongly agree**

54. Malaysian university lecturers practice student centered learning approach.	1	2	3	4	5	6	7
55. Malaysians are very friendly and helpful.	1	2	3	4	5	6	7
56. Malaysia is a very peaceful and safe country.	1	2	3	4	5	6	7
57. I believe there is no racial discrimination in Malaysia.	1	2	3	4	5	6	7
58. Malaysians can speak fairly good English.	1	2	3	4	5	6	7
59. I am able to adapt to the Malaysian lifestyle.	1	2	3	4	5	6	7
60. I am able to adapt to the weather in Malaysia.	1	2	3	4	5	6	7
61. I am satisfied with my current university.	1	2	3	4	5	6	7
62. I am satisfied with the security provided by my current university.	1	2	3	4	5	6	7
63. My current university has a comfortable study environment	1	2	3	4	5	6	7
64. I have family members/friends from my home country who are currently studying in Malaysia.	1	2	3	4	5	6	7
65. The immigration process is simple and efficient.	1	2	3	4	5	6	7
66. The application process to study in Malaysian university is simple and efficient.	1	2	3	4	5	6	7
67. I am allowed to take up part time job while studying in Malaysia.	1	2	3	4	5	6	7
68. I am encouraged to apply the permanent residential status after my graduation.	1	2	3	4	5	6	7
69. The facilities provided in the lecture hall are in good quality.	1	2	3	4	5	6	7
70. The facilities in library such as books, other material and information that I need to complete my assignments are enough.	1	2	3	4	5	6	7
71. The computer labs in my university are very up-to-date and equipped with high-technology instruments.	1	2	3	4	5	6	7

Strongly disagree 1 2 3 4 5 6 7 **Strongly agree**

72. The facilities provided in the students hostel are in good quality.	1	2	3	4	5	6	7
73. The facilities provided in the cafeteria are clean and in good quality.	1	2	3	4	5	6	7
74. The administrative staff from international office/departments is helpful and friendly.	1	2	3	4	5	6	7
75. The information that provided by the international office/department is timely and accurate	1	2	3	4	5	6	7
76. The administrative staff from other departments is helpful and friendly.	1	2	3	4	5	6	7
77. The information that provided by other departments is timely and accurate.	1	2	3	4	5	6	7
78. Malaysian institutions had involved a lot of the well known education expo/fair in my home country.	1	2	3	4	5	6	7
79. The information provided by *Education Malaysia* (a government agency) regarding Malaysia is informative and accurate.	1	2	3	4	5	6	7
80. The information provided by internet regarding Malaysia is informative and accurate	1	2	3	4	5	6	7
81. The information provided by print media (newspaper, magazine & etc) regarding Malaysia is informative and accurate.	1	2	3	4	5	6	7
82. The information provided by other media regarding Malaysia is informative and accurate.	1	2	3	4	5	6	7
83. Overall, I am happy to study in Malaysia	1	2	3	4	5	6	7

84. I am required to seat for certain English test (TOEFL, IELTS & etc) before enter to Malaysian University.

a. Yes
b. No

85. Please indicate your level of satisfaction towards each of the following factors.

Very unsatisfied	1	2	3	4	5	6	7	**Very satisfied**
Cost					☐			
Reputation					☐			
Social					☐			
Regulation					☐			
Service					☐			
Promotion/Advertising					☐			

86. I would recommend Malaysia to my family member/relative/friends in my home country to study in Malaysia.

a. Yes (**Please answer question 87)**
b. No (**Please answer question 88)**

87. Kindly state at least **ONE** reason why you will recommend Malaysia

Reason 1: _____

Reason 2: _____

88. Kindly state at least **ONE** reason why you will not recommend Malaysia

Reason 1: _____

Reason 2: _____

89. Please state if there are any other factors that influenced you to choose Malaysia besides the six factors stated above.

_____
_____

THANK YOU FOR YOUR CO-OPERATION

Appendix 6: Definition and measurement of variables

Variables	Definition	Measurement Units
1. Gender	Gender	0=Female, 1=Male
2. Age	Age	Years
3. Home Country	Home country for currently enrolled international student in Malaysia	1=East Asia, 2=South East Asia, 3=African Nation, 4=Middle East, 5=India Subcontinent, 6=North America, 7=South America, 8=Europe
4. Years in Malaysia	Years in Malaysia	Months
5. Current semester	Semester	Semester
6. Level of study	Current level of study	1=Diploma, 2=Bachelor degree, 3=Master degree
7. Obtain Bachelor degree	Where did those currently enrolled international student who is doing master program obtain their bachelor degree	0=non-Malaysian University, 1=Malaysian University
8. Field of study	Field of study	1=Education, Religious, Arts & Philosophy, 2=Social Sciences, Business & Law, 3=Information Technology & Communication 4=Engineering, Manufacturing,Architecture & construction, 5=Health sciences & Medicine, 6=Argriculture studies, 7=Others
9. Financing Education	How did currently enrolled international student finance their education in Malaysia	1=Self / Family support, 2=Scholarship (from Malaysia), 3=Scholarship (other than Malaysia), 4=Loan, 5=Others
10. Part time job	Part time job	1=Yes, 0=No
11. CGPA	Cumulative Grade Point Average	Point
12. Expenses	Expenditure for education in USD ($)	1=Below $ 5000, 2= $5001-10,000, 3=$10,001-15,000, Above $15,000
13. University category	University category	1=Focus university, 2=Comprehensive university, 3=Research university, 4=Local private university
14. Intention to further study	Intention to further study	1=Yes, 0=No
15. Further study in Malaysia	Choose Malaysia as advanced study destination	1=Yes, 2=Uncertain, 3=No

Appendix 6: Definition and measurement of variables (Continue)

Variables	Definition	Measurement Units
16. University environment	Social factor	Likert scale 1-7
17. University services	Service factor	Likert scale 1-7
18. Academic quality	Reputation factor	Likert scale 1-7
19. Education cost	Cost factor	Likert scale 1-7
20. Information guidance	Promotion factor	Likert scale 1-7
21. Social	Social factor	Likert scale 1-7
22. Regulation	Regulation factor	Likert scale 1-7

Appendix 7

Logit Model 1: Choice to Remain in Malaysia for Advanced Study

(a) Logistic Regression

Logistic regression — Number of obs = 700; Wald chi2(30) = 97.20; Prob > chi2 = 0.0000; Log pseudolikelihood = -373.42646; Pseudo R2 = 0.1335

DYESB15	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
FAC1_Unienvi	.5235473	.1104784	4.74	0.000	.3070135	.7400811
FAC2_Uniserv	.2730017	.0915238	2.98	0.003	.0936184	.4523851
FAC3_Acaqu~y	.2727436	.100496	2.71	0.007	.0757749	.4697122
FAC4_Educost	.0622445	.1009543	0.62	0.538	-.1356224	.2601114
FAC5_Infog~e	.2282168	.0944213	2.42	0.016	.0431546	.4132791
FAC6_Soc	.0198541	.0967318	0.21	0.837	-.1697367	.209445
FAC7_Regu	.1209442	.1023607	1.18	0.237	-.079679	.3215675
DMale_Gender	-.0707493	.213877	-0.33	0.741	-.4899404	.3484419
Age	.0926262	.0347695	2.66	0.008	.0244793	.1607731
DA3_EastAsia	-.4978205	.3611242	-1.38	0.168	-1.205611	.20997
DA3_SEAsia	-1.081815	.3053931	-3.54	0.000	-1.680374	-.483255
DA3_MidEast	-.1584562	.2597182	-0.61	0.542	-.6674945	.3505822
DA3_IndiaSub	-.229263	.3465391	-0.66	0.508	-.9084672	.4499412
Years	-.0085503	.0056377	-1.52	0.129	-.0195999	.0024994
DMaster_1	-.2463316	.2653116	-0.93	0.353	-.7663328	.2736695
Dfieldstud~2	-.8660001	.3318448	-2.61	0.009	-1.516404	-.2155963
Dfieldstud~3	-.7449143	.3907249	-1.91	0.057	-1.510721	.0208925
Dfieldstud~4	-.843005	.3978555	-2.12	0.034	-1.622787	-.0632226
Dfieldstud~5	-.7102926	.9248887	-0.77	0.443	-2.523041	1.102456
Dfinanceed~1	-.6717979	.5524061	-1.22	0.224	-1.754494	.4108981
Dfinanceed~3	-.5051923	.5857252	-0.86	0.388	-1.653193	.6428081
Dfinanceed~4	-1.480521	.9213101	-1.61	0.108	-3.286256	.3252133
DYES_PTJobs	.3287278	.2667785	1.23	0.218	-.1941485	.851604
CGPA	.1338319	.2547438	0.53	0.599	-.3654567	.6331206
DExpenses_1	-.4770241	.2787176	-1.71	0.087	-1.023301	.0692524
DExpenses_2	-.2002692	.2742445	-0.73	0.465	-.7377786	.3372402
DExpenses_3	.0509114	.2399687	0.21	0.832	-.4194185	.5212414
DUni_Focus	.2480686	.3212438	0.77	0.440	-.3815577	.8776949
DUni_Compr~e	-.4878344	.3148996	-1.55	0.121	-1.105026	.1293574
DUni_Private	.548315	.331919	1.65	0.099	-.1022343	1.198864
_cons	-1.317407	1.404986	-0.94	0.348	-4.07113	1.436316

(b) Marginal Effect

```
. mfx

Marginal effects after logit
      y  = Pr(DYESB15) (predict)
         =  .27354538
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
FAC1_U~i	.1040384	.02153	4.83	0.000	.061833	.146244	-.013157
FAC2_U~v	.0542504	.01798	3.02	0.003	.019017	.089484	-.028574
FAC3_A~y	.0541991	.01987	2.73	0.006	.015263	.093135	-.028222
FAC4_E~t	.0123691	.02004	0.62	0.537	-.026911	.05165	.009852
FAC5_I~e	.0453509	.01862	2.44	0.015	.008852	.08185	-.028831
FAC6_Soc	.0039454	.0192	0.21	0.837	-.033693	.041584	-.039023
FAC7_R~u	.0240338	.02029	1.18	0.236	-.015727	.063795	-.027196
DMale_~r*	-.0141241	.04292	-0.33	0.742	-.098238	.06999	.645714
Age	.0184065	.00694	2.65	0.008	.004803	.032011	24.9957
DA3_Ea~a*	-.08983	.05854	-1.53	0.125	-.204568	.024908	.108571
DA3_SE~a*	-.1871173	.04558	-4.10	0.000	-.276462	-.097773	.25
DA3_Mi~t*	-.0309949	.05002	-0.62	0.536	-.129041	.067051	.285714
DA3_In~b*	-.0436476	.06319	-0.69	0.490	-.167498	.080203	.105714
Years	-.0016991	.00112	-1.52	0.128	-.00389	.000491	43.37
DMaste~1*	-.0482776	.05128	-0.94	0.346	-.148788	.052233	.381429
Dfield~2*	-.1748753	.06729	-2.60	0.009	-.306759	-.042992	.56
Dfield~3*	-.1304381	.05923	-2.20	0.028	-.246523	-.014353	.164286
Dfield~4*	-.145638	.05831	-2.50	0.013	-.259925	-.031351	.174286
Dfield~5*	-.1178502	.12301	-0.96	0.338	-.358947	.123246	.01
Dfinan~1*	-.0338783	.05597	-0.61	0.545	-.143587	.07583	.815714
Dfinan~2*	.1101339	.13742	0.80	0.423	-.159207	.379475	.03
Dfinan~4*	-.1514697	.09227	-1.64	0.101	-.332318	.029378	.025714
DYES_P~s*	.0685435	.05819	1.18	0.239	-.045514	.182601	.151429
CGPA	.0265949	.05062	0.53	0.599	-.07261	.125799	3.16199
DExpen~1*	-.0881531	.04758	-1.85	0.064	-.181415	.005109	.188571
DExpen~2*	-.0388802	.05186	-0.75	0.453	-.140521	.062761	.251429
DExpen~3*	.0101766	.04823	0.21	0.833	-.084345	.104698	.242857
DUni_F~s*	.0506852	.06733	0.75	0.452	-.081275	.182646	.24
DUni_C~e*	-.0932298	.05758	-1.62	0.105	-.206075	.019615	.335714
DUni_P~e*	.1152574	.07295	1.58	0.114	-.027725	.25824	.244286

(*) dy/dx is for discrete change of dummy variable from 0 to 1

```
. vif
```

Variable	VIF	1/VIF
Dfieldstud~2	3.78	0.264442
DUni_Compr~e	2.99	0.334087
Dfieldstud~4	2.98	0.336102
Dfieldstud~3	2.89	0.346231
DUni_Focus	2.68	0.372661
DUni_Private	2.66	0.376028
DA3_SEAsia	2.13	0.469624
DMaster_1	2.05	0.488254
Age	1.95	0.513818
DA3_MidEast	1.87	0.534355
DA3_EastAsia	1.81	0.553946
DExpenses_2	1.69	0.592916
DExpenses_1	1.52	0.657937
Dfinanceed~1	1.49	0.670904
DA3_IndiaSub	1.46	0.684365
DExpenses_3	1.44	0.695950
CGPA	1.37	0.729987
Years	1.37	0.732089
FAC1_Unienvi	1.33	0.749484
Dfinanceed~4	1.31	0.765108
Dfinanceed~2	1.29	0.776136
DMale_Gender	1.21	0.829048
FAC7_Regu	1.19	0.840797
Dfieldstud~5	1.19	0.842524
DYES_PTJobs	1.17	0.854161
FAC2_Uniserv	1.12	0.891353
FAC3_Acaqu~y	1.10	0.909129
FAC6_Soc	1.09	0.915992
FAC4_Educost	1.07	0.930691
FAC5_Infog~e	1.05	0.948115
Mean VIF	1.74	


```
. imtest
```

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	432.90	418	0.2973
Skewness	206.99	30	0.0000
Kurtosis	57.01	1	0.0000
Total	696.90	449	0.0000

```
. estat clas

Logistic model for DYESB15
```

Classified	True D	True ~D	Total
+	69	42	111
-	145	444	589
Total	214	486	700

```
Classified + if predicted Pr(D) >= .5
True D defined as DYESB15 != 0
```

Sensitivity	Pr(+| D)	32.24%
Specificity	Pr(-|~D)	91.36%
Positive predictive value	Pr(D| +)	62.16%
Negative predictive value	Pr(~D| -)	75.38%
False + rate for true ~D	Pr(+|~D)	8.64%
False - rate for true D	Pr(-| D)	67.76%
False + rate for classified +	Pr(~D| +)	37.84%
False - rate for classified -	Pr(D| -)	24.62%
Correctly classified		73.29%

```
. linktest

Iteration 0:   log likelihood = -430.93998
Iteration 1:   log likelihood = -374.84188
Iteration 2:   log likelihood = -373.39476
Iteration 3:   log likelihood = -373.38118
Iteration 4:   log likelihood = -373.38118

Logistic regression                             Number of obs   =        700
                                                LR chi2(2)      =     115.12
                                                Prob > chi2     =     0.0000
Log likelihood = -373.38118                     Pseudo R2       =     0.1336
```

DYESB15	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
_hat	1.036316	.1618945	6.40	0.000	.7190085	1.353623
_hatsq	.0260376	.0866141	0.30	0.764	-.143723	.1957981
_cons	-.0062115	.1185094	-0.05	0.958	-.2384856	.2260627

Appendix 8:

Multinomial Logistic Regression (Further analysis 1): Choice to Remain in Malaysia for Advanced Study

```
Multinomial logistic regression                 Number of obs   =        753
                                                Wald chi2(21)   =     107.92
                                                Prob > chi2     =     0.0000
Log pseudolikelihood = -954.10411               Pseudo R2       =     0.0601
```

DB14B15	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
YesNo	(base outcome)					
YesYes						
FAC1_Unienvi	.362549	.1174131	3.09	0.002	.1324236	.5926743
FAC2_Uniserv	.5243607	.1209307	4.34	0.000	.287341	.7613805
FAC3_Acaqu~y	.4339349	.1270009	3.42	0.001	.1850177	.6828521
FAC4_Educost	.2154517	.1328784	1.62	0.105	-.0449853	.4758887
FAC5_Infog~e	.2165917	.1346766	1.61	0.108	-.0473696	.480553
FAC6_Soc	.178442	.1168839	1.53	0.127	-.0506462	.4075302
FAC7_Regu	.2799652	.1245016	2.25	0.025	.0359466	.5239838
_cons	.899678	.1306506	6.89	0.000	.6436076	1.155748
YesUncerta~y						
FAC1_Unienvi	.140045	.1168442	1.20	0.231	-.0889656	.3690555
FAC2_Uniserv	.2241937	.1288916	1.74	0.082	-.0284291	.4768166
FAC3_Acaqu~y	.3495537	.1324666	2.64	0.008	.089924	.6091833
FAC4_Educost	.1778502	.1318879	1.35	0.177	-.0806454	.4363458
FAC5_Infog~e	.0193539	.1353591	0.14	0.886	-.245945	.2846529
FAC6_Soc	.1837665	.1197056	1.54	0.125	-.0508521	.4183851
FAC7_Regu	.37644	.1263132	2.98	0.003	.1288707	.6240093
_cons	.7147137	.1327415	5.38	0.000	.4545452	.9748823
No						
FAC1_Unienvi	-.4602707	.1284708	-3.58	0.000	-.7120688	-.2084725
FAC2_Uniserv	.1778767	.1286814	1.38	0.167	-.0743342	.4300876
FAC3_Acaqu~y	.1801229	.1298155	1.39	0.165	-.0743108	.4345566
FAC4_Educost	.1980033	.1304586	1.52	0.129	-.0576909	.4536975
FAC5_Infog~e	.1090565	.1348745	0.81	0.419	-.1552928	.3734057
FAC6_Soc	.2809343	.1266814	2.22	0.027	.0326432	.5292253
FAC7_Regu	.491512	.1336268	3.68	0.000	.2296083	.7534158
_cons	.6842941	.1363719	5.02	0.000	.41701	.9515782

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Multinomial logistic regression

Number of obs	700
Wald chi2(90)	1346.63
Prob > chi2	0.0000
Pseudo R2	0.1475

Log pseudolikelihood = -808.68156

DB14B15	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
YesNo	(base outcome)					
YesYes						
FAC1_Unienvi	.4177599	.146365	2.85	0.004	.1308898	.7046299
FAC2_Uniserv	.4378379	.1239398	3.53	0.000	.1949203	.6807555
FAC3_Acaqu~y	.4038567	.1412935	2.86	0.004	.1269266	.6807869
FAC4_Educost	.1935958	.1464304	1.32	0.186	-.0934026	.4805942
FAC5_Infog~e	.2345809	.1440691	1.63	0.103	-.0477893	.516951
FAC6_Soc	.2517745	.1322894	1.90	0.057	-.0075079	.5110568
FAC7_Regu	.3650071	.1504831	2.43	0.015	.0700656	.6599487
DMale_Gender	.0722874	.2952933	0.24	0.807	-.5064769	.6510517
Age	.0474696	.0516304	0.92	0.358	-.0537243	.1486634
DA3_EastAsia	-.287843	.5520284	-0.52	0.602	-1.369799	.7941127
DA3_SEAsia	-1.109008	.454894	-2.44	0.015	-2.000584	-.2174327
DA3_MidEast	-.3872986	.378765	-1.02	0.307	-1.129664	.3550672
DA3_IndiaSub	-.3587172	.491775	-0.73	0.466	-1.322578	.6051441
Years	.0035966	.0086526	0.42	0.678	-.0133623	.0205554
DMaster_1	.144393	.4022472	0.36	0.720	-.6439971	.932783
Dfieldstud~2	-.7940962	.4465194	-1.78	0.075	-1.669258	.0810658
Dfieldstud~3	-1.00407	.5163868	-1.94	0.052	-2.01617	.0080294
Dfieldstud~4	-.6145534	.5327656	-1.15	0.249	-1.658755	.4296479
Dfieldstud~5	13.29458	.8067877	16.48	0.000	11.7133	14.87585
Dfinanceed~1	-.502659	.4268071	-1.18	0.239	-1.339185	.3338675
Dfinanceed~2	-.168473	.816231	-0.21	0.836	-1.768256	1.43131
Dfinanceed~4	.1404284	1.281454	0.11	0.913	-2.371176	2.652032
DYES_PTJobs	-.0015593	.3591126	-0.00	0.997	-.7054072	.7022885
CGPA	.1139632	.3772027	0.30	0.763	-.6253406	.853267
DExpenses_1	.2253804	.4017483	0.56	0.575	-.5620317	1.012793
DExpenses_2	.7381932	.4395615	1.68	0.093	-.1233315	1.599718
DExpenses_3	.1941064	.3325889	0.58	0.559	-.4577558	.8459686
DUni_Focus	.9734899	.4903887	1.99	0.047	.0123456	1.934634
DUni_Compr~e	-.2394358	.4387437	-0.55	0.585	-1.099358	.6204861
DUni_Private	.8902221	.4696272	1.90	0.058	-.0302303	1.810674
_cons	-.0320961	1.862098	-0.02	0.986	-3.681741	3.617549
YesUncerta~y						
FAC1_Unienvi	.0602714	.1499466	0.40	0.688	-.2336185	.3541613
FAC2_Uniserv	.3068189	.1399488	2.19	0.028	.0325242	.5811135
FAC3_Acaqu~y	.3123062	.1469801	2.12	0.034	.0242305	.6003818
FAC4_Educost	.1520903	.1464584	1.04	0.299	-.134963	.4391436
FAC5_Infog~e	-.0543295	.1423981	-0.38	0.703	-.3334247	.2247658
FAC6_Soc	.27227	.1321209	2.06	0.039	.0133177	.5312223
FAC7_Regu	.2670422	.1491925	1.79	0.073	-.0253697	.5594541
DMale_Gender	.3528686	.2979271	1.18	0.236	-.2310578	.936795
Age	-.0678178	.0623151	-1.09	0.276	-.1899533	.0543176
DA3_EastAsia	-.1706339	.6296989	-0.27	0.786	-1.404821	1.063553
DA3_SEAsia	.0543919	.4461615	0.12	0.903	-.8200687	.9288524
DA3_MidEast	-.0749376	.4111831	-0.18	0.855	-.8808417	.7309664
DA3_IndiaSub	-.5580599	.5247294	-1.06	0.288	-1.586511	.4703908
Years	.0028109	.0088436	0.32	0.751	-.0145222	.0201439
DMaster_1	.0313923	.4190503	0.07	0.940	-.7899311	.8527157
Dfieldstud~2	.2199096	.4749674	0.46	0.643	-.7110094	1.150829
Dfieldstud~3	-.1189998	.5522907	-0.22	0.829	-1.20147	.96347
Dfieldstud~4	.1540212	.5757979	0.27	0.789	-.9745219	1.282564
Dfieldstud~5	13.76733	1.1247	12.24	0.000	11.56295	15.9717
Dfinanceed~1	-.4927493	.4513195	-1.09	0.275	-1.377319	.3918205
Dfinanceed~2	-.4465502	.8419131	-0.53	0.596	-2.09667	1.203569
Dfinanceed~4	.4844346	1.28617	0.38	0.706	-2.036413	3.005282
DYES_PTJobs	-.5680013	.3758662	-1.51	0.131	-1.304686	.168683
CGPA	.1431812	.3834494	0.37	0.709	-.6083657	.8947282
DExpenses_1	.9179137	.4251144	2.16	0.031	.0847049	1.751123
DExpenses_2	1.440792	.4297918	3.35	0.001	.5984153	2.283168
DExpenses_3	.2305551	.3608856	0.64	0.523	-.4767677	.9378779
DUni_Focus	.8471101	.550441	1.54	0.124	-.2317345	1.925955
DUni_Compr~e	.8435384	.490611	1.72	0.086	-.1180415	1.805118
DUni_Private	.7217968	.5264386	1.37	0.170	-.3100038	1.753597
_cons	.7715898	2.127947	0.36	0.717	-3.399109	4.942288
No						
FAC1_Unienvi	-.3937605	.1620636	-2.43	0.015	-.7113994	-.0761217
FAC2_Uniserv	.1479528	.1341532	1.10	0.270	-.1149826	.4108881
FAC3_Acaqu~y	.0565673	.1474703	0.38	0.701	-.2324693	.3456038
FAC4_Educost	.1641124	.1418788	1.16	0.247	-.113965	.4421898
FAC5_Infog~e	.083985	.138831	0.60	0.545	-.1881188	.3560889
FAC6_Soc	.3561145	.1433098	2.48	0.013	.0752326	.6369965
FAC7_Regu	.420671	.1525018	2.76	0.006	.1217729	.719569
DMale_Gender	.0418682	.2966493	0.14	0.888	-.5395537	.6232901
Age	-.0426823	.0638724	-0.67	0.504	-.1678698	.0825053
DA3_EastAsia	.4891881	.5650129	0.87	0.387	-.6182168	1.596593
DA3_SEAsia	-.1706766	.4659646	-0.37	0.714	-1.083951	.7425973
DA3_MidEast	-.5428563	.415803	-1.31	0.192	-1.357815	.2721025
DA3_IndiaSub	.0930103	.4937436	0.19	0.851	-.8747093	1.06073
Years	.0248064	.0088485	2.80	0.005	.0074636	.0421492
DMaster_1	.8589812	.4177117	2.06	0.040	.0402812	1.677681
Dfieldstud~2	-.0011994	.5185159	-0.00	0.998	-1.017472	1.015073
Dfieldstud~3	-.5349944	.590072	-0.91	0.365	-1.691514	.6215256
Dfieldstud~4	.4078364	.588981	0.69	0.489	-.7465452	1.562218
Dfieldstud~5	14.88886	1.06525	13.98	0.000	12.80101	16.97671
Dfinanceed~1	-.4397478	.452495	-0.97	0.331	-1.326622	.4471262
Dfinanceed~2	-1.805654	.9682459	-1.86	0.062	-3.703381	.0920732
Dfinanceed~4	1.451927	1.19702	1.21	0.225	-.8941894	3.798043
DYES_PTJobs	-.2924356	.3858425	-0.76	0.449	-1.048673	.4638017
CGPA	-.1515182	.38756	-0.39	0.696	-.9111218	.6080854
DExpenses_1	.8517635	.4046584	2.10	0.035	.0586477	1.644879
DExpenses_2	.825294	.4463948	1.85	0.064	-.0496236	1.700212
DExpenses_3	.217867	.3576926	0.61	0.542	-.4831977	.9189316
DUni_Focus	1.096079	.5288885	2.07	0.038	.0594764	2.132681
DUni_Compr~e	-.1524561	.4630712	-0.33	0.742	-1.060059	.7551469
DUni_Private	.2605224	.4861217	0.54	0.592	-.6922586	1.213303
_cons	.6349668	2.18987	0.29	0.772	-3.6571	4.927034

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```
. mfx

Marginal effects after mlogit
      y  = Pr(DB14B15==YesNo) (predict)
         =  .12692575
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
FAC1_U~i	-.0052784	.01401	-0.38	0.706	-.032742	.022185	-.013157
FAC2_U~v	-.0337482	.0125	-2.70	0.007	-.058239	-.009257	-.028574
FAC3_A~y	-.0294164	.01392	-2.11	0.035	-.0567	-.002133	-.028222
FAC4_E~t	-.0189349	.01417	-1.34	0.181	-.046699	.008829	.009852
FAC5_I~e	-.0103578	.01396	-0.74	0.458	-.037709	.016994	-.028831
FAC6_Soc	-.0322557	.0126	-2.56	0.010	-.056959	-.007552	-.039023
FAC7_R~u	-.0388449	.01432	-2.71	0.007	-.066916	-.010774	-.027196
DMale_~r*	-.0170307	.02938	-0.58	0.562	-.074623	.040561	.645714
Age	.0020213	.00567	0.36	0.721	-.009092	.013135	24.9957
DA3_Ea~a*	-.0044531	.05453	-0.08	0.935	-.111323	.102417	.108571
DA3_SE~a*	.0440843	.05016	0.88	0.379	-.054233	.142402	.25
DA3_Mi~t*	.0380233	.04282	0.89	0.375	-.045899	.121946	.285714
DA3_In~b*	.0301701	.05535	0.55	0.586	-.078312	.138652	.105714
Years	-.0011053	.00085	-1.30	0.194	-.002773	.000563	43.37
DMaste~1*	-.0370149	.03754	-0.99	0.324	-.110584	.036555	.381429
Dfield~2*	.024737	.04374	0.57	0.572	-.060996	.11047	.56
Dfield~3*	.0658311	.06689	0.98	0.325	-.065271	.196933	.164286
Dfield~4*	-.0015593	.05342	-0.03	0.977	-.106266	.103148	.174286
Dfield~5*	-.1431989	.0164	-8.73	0.000	-.175341	-.111056	.01
Dfinan~1*	.04757	.03458	1.38	0.169	-.020214	.115354	.815714
Dfinan~2*	.0781293	.11762	0.66	0.507	-.152401	.308659	.03
Dfinan~4*	-.0674434	.06679	-1.01	0.313	-.198343	.063456	.025714
DYES_P~s*	.0304687	.03949	0.77	0.440	-.046931	.107869	.151429
CGPA	-.0044818	.03752	-0.12	0.905	-.078022	.069058	3.16199
DExpen~1*	-.0638998	.02877	-2.22	0.026	-.120279	-.007521	.188571
DExpen~2*	-.0939917	.03023	-3.11	0.002	-.153233	-.03475	.251429
DExpen~3*	-.0227131	.03067	-0.74	0.459	-.082833	.037407	.242857
DUni_F~s*	-.090196	.03516	-2.57	0.010	-.159102	-.021291	.24
DUni_C~e*	-.0194843	.04167	-0.47	0.640	-.101155	.062186	.335714
DUni_P~e*	-.064064	.03682	-1.74	0.082	-.136226	.008098	.244286

(*) dy/dx is for discrete change of dummy variable from 0 to 1

```
. vif
```

Variable	VIF	1/VIF
Dfieldstud~2	3.78	0.264442
DUni_Compr~e	2.99	0.334087
Dfieldstud~4	2.98	0.336102
Dfieldstud~3	2.89	0.346231
DUni_Focus	2.68	0.372661
DUni_Private	2.66	0.376028
DA3_SEAsia	2.13	0.469624
DMaster_1	2.05	0.488254
Age	1.95	0.513818
DA3_MidEast	1.87	0.534355
DA3_EastAsia	1.81	0.553946
DExpenses_2	1.69	0.592916
DExpenses_1	1.52	0.657937
Dfinanceed~1	1.49	0.670904
DA3_IndiaSub	1.46	0.684365
DExpenses_3	1.44	0.695950
CGPA	1.37	0.729987
Years	1.37	0.732089
FAC1_Unienvi	1.33	0.749484
Dfinanceed~4	1.31	0.765108
Dfinanceed~2	1.29	0.776136
DMale_Gender	1.21	0.829048
FAC7_Regu	1.19	0.840797
Dfieldstud~5	1.19	0.842524
DYES_PTJobs	1.17	0.854161
FAC2_Uniserv	1.12	0.891353
FAC3_Acaqu~y	1.10	0.909129
FAC6_Soc	1.09	0.915992
FAC4_Educost	1.07	0.930691
FAC5_Infog~e	1.05	0.948115
Mean VIF	1.74	

```
.

. imtest

Cameron & Trivedi's decomposition of IM-test
```

Source	chi2	df	p
Heteroskedasticity	439.60	418	0.2243
Skewness	84.43	30	0.0000
Kurtosis	40.12	1	0.0000
Total	564.16	449	0.0002

```
. tab pred_choice  DB14B15
```

pred_choice	DB14B15				
	YesNo	YesYes	YesUncert	No	Total
1	20	7	16	11	54
2	31	127	47	42	247
3	33	67	90	53	243
Total	84	201	153	106	544

```
. linktest
```

Source	SS	df	MS		
Model	105.565384	2	52.7826921	Number of obs	= 700
Residual	645.204616	697	.925688114	F(2, 697)	= 57.02
				Prob > F	= 0.0000
Total	750.77	699	1.07406295	R-squared	= 0.1406
				Adj R-squared	= 0.1381
				Root MSE	= .96213

DB14B15	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
_hat	.2674273	.5350091	0.50	0.617	-.7829953	1.31785
_hatsq	.2151554	.1546635	1.39	0.165	-.0885068	.5188177
_cons	.5914529	.4549328	1.30	0.194	-.30175	1.484656

Appendix 9

Logit Model (Further Analysis 2): Choice to Remain in Malaysia for Advanced Study

```
Logistic regression                                     Number of obs   =        350
                                                        Wald chi2(7)    =      45.49
                                                        Prob > chi2     =     0.0000
Log pseudolikelihood = -196.85199                       Pseudo R2       =     0.1028
```

DYESB15	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
FAC1_Unienvi	.2935212	.1214423	2.42	0.016	.0554988	.5315437
FAC2_Uniserv	.5597938	.1182922	4.73	0.000	.3279452	.7916423
FAC3_Acaqu~y	.4367661	.1271214	3.44	0.001	.1876127	.6859195
FAC4_Educost	.1930206	.1173209	1.65	0.100	-.0369242	.4229654
FAC5_Infog~e	.194995	.1227175	1.59	0.112	-.0455269	.4355169
FAC6_Soc	.2185877	.1215087	1.80	0.072	-.019565	.4567403
FAC7_Regu	.2428154	.1177463	2.06	0.039	.0120369	.4735939
_cons	.8424218	.1281951	6.57	0.000	.591164	1.09368

```
Logistic regression                                     Number of obs   =        316
                                                        Wald chi2(29)   =      63.42
                                                        Prob > chi2     =     0.0002
Log pseudolikelihood = -166.23675                       Pseudo R2       =     0.1808
```

DYESB15	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
FAC1_Unienvi	.3136764	.1585322	1.98	0.048	.0029591	.6243937
FAC2_Uniserv	.5413929	.1427789	3.79	0.000	.2615515	.8212344
FAC3_Acaqu~y	.4714204	.1577255	2.99	0.003	.1622841	.7805567
FAC4_Educost	.1619166	.1475452	1.10	0.272	-.1272666	.4510998
FAC5_Infog~e	.1983838	.1432341	1.39	0.166	-.0823498	.4791174
FAC6_Soc	.2592166	.1566452	1.65	0.098	-.0478022	.5662355
FAC7_Regu	.2994015	.1497959	2.00	0.046	.0058069	.5929961
DMale_Gender	.0494973	.3246745	0.15	0.879	-.5868529	.6858476
Age	.0682791	.0719446	0.95	0.343	-.0727298	.2092879
DA3_EastAsia	-.0936787	.6868239	-0.14	0.892	-1.439829	1.252471
DA3_SEAsia	-1.390849	.5826826	-2.39	0.017	-2.532886	-.2488125
DA3_MidEast	-.2985932	.4263849	-0.70	0.484	-1.134292	.5371059
DA3_IndiaSub	-.3487811	.5319877	-0.66	0.512	-1.391458	.6938956
Years	.0091576	.0098044	0.93	0.350	-.0100587	.028374
DMaster_1	-.1173647	.504546	-0.23	0.816	-1.106257	.8715273
Dfieldstud~2	-1.179914	.4950229	-2.38	0.017	-2.150141	-.2096869
Dfieldstud~3	-1.818288	.6562835	-2.77	0.006	-3.10458	-.5319965
Dfieldstud~4	-1.159719	.6159838	-1.88	0.060	-2.367025	.0475873
Dfieldstud~5	(omitted)					
Dfinanceed~1	-.6201045	.4610297	-1.35	0.179	-1.523706	.2834972
Dfinanceed~2	-.150722	.7832266	-0.19	0.847	-1.685818	1.384374
Dfinanceed~4	-.0117882	1.05614	-0.01	0.991	-2.081785	2.058208
DYES_PTJobs	.4089778	.4527524	0.90	0.366	-.4784006	1.296356
CGPA	-.1699658	.4017005	-0.42	0.672	-.9572843	.6173526
DExpenses_1	-.1120834	.5030607	-0.22	0.824	-1.098064	.8738976
DExpenses_2	.7953516	.4370716	1.82	0.069	-.061293	1.651996
DExpenses_3	-.1507252	.3770675	-0.40	0.689	-.8897638	.5883135
DUni_Focus	1.486487	.5685502	2.61	0.009	.3721488	2.600825
DUni_Compr~e	.0436692	.472031	0.09	0.926	-.8814946	.9688329
DUni_Private	.924433	.4967557	1.86	0.063	-.0491902	1.898056
_cons	.6091331	2.609645	0.23	0.815	-4.505677	5.723943

```
. mfx

Marginal effects after logit
      y  = Pr(DYESB15) (predict)
         =  .70075355
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
FAC1_U~i	.0657773	.03334	1.97	0.048	.000433	.131121	.204066
FAC2_U~v	.113529	.02968	3.83	0.000	.055356	.171702	.023351
FAC3_A~y	.0988559	.03258	3.03	0.002	.03501	.162702	-.03657
FAC4_E~t	.0339536	.03112	1.09	0.275	-.027036	.094943	-.006569
FAC5_I~e	.0416007	.02964	1.40	0.161	-.016502	.099703	.019891
FAC6_Soc	.0543572	.03277	1.66	0.097	-.009867	.118582	-.097472
FAC7_R~u	.0627839	.03129	2.01	0.045	.001464	.124104	-.161013
DMale_~r*	.0104118	.06857	0.15	0.879	-.123987	.14481	.658228
Age	.014318	.01502	0.95	0.340	-.015121	.043757	25.6519
DA3_Ea~a*	-.01994	.14825	-0.13	0.893	-.310505	.270625	.091772
DA3_SE~a*	-.3228648	.1351	-2.39	0.017	-.587656	-.058074	.174051
DA3_Mi~t*	-.0638536	.09235	-0.69	0.489	-.244856	.117149	.322785
DA3_In~b*	-.0768646	.12209	-0.63	0.529	-.316152	.162423	.10443
Years	.0019203	.00205	0.94	0.349	-.002099	.005939	40.9525
DMaste~1*	-.024688	.10631	-0.23	0.816	-.233054	.183678	.43038
Dfield~2*	-.2392297	.09579	-2.50	0.013	-.426974	-.051486	.541139
Dfield~3*	-.419098	.14226	-2.95	0.003	-.697931	-.140265	.183544
Dfield~4*	-.2684393	.14766	-1.82	0.069	-.557839	.02096	.167722
Dfinan~1*	-.1186146	.07885	-1.50	0.133	-.273165	.035936	.825949
Dfinan~2*	-.0324657	.17281	-0.19	0.851	-.371171	.30624	.03481
Dfinan~4*	-.0024777	.22248	-0.01	0.991	-.438538	.433583	.009494
DYES_P~s*	.0807941	.08354	0.97	0.333	-.082948	.244536	.167722
CGPA	-.0356415	.08428	-0.42	0.672	-.200829	.129546	3.19282
DExpen~1*	-.0238538	.10854	-0.22	0.826	-.236581	.188873	.161392
DExpen~2*	.1490644	.07228	2.06	0.039	.007389	.290739	.196203
DExpen~3*	-.032047	.08094	-0.40	0.692	-.190684	.12659	.262658
DUni_F~s*	.2577647	.0761	3.39	0.001	.108612	.406918	.240506
DUni_C~e*	.0091276	.09831	0.09	0.926	-.183562	.201818	.316456
DUni_P~e*	.1726987	.08088	2.14	0.033	.014176	.331221	.234177

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. vif

Variable	VIF	1/VIF
Dfieldstud~2	3.62	0.276428
Dfieldstud~3	3.26	0.306789
Dfieldstud~4	2.94	0.339873
DUni_Compr~e	2.83	0.353931
DMaster_1	2.68	0.373248
DUni_Focus	2.62	0.382224
DUni_Private	2.47	0.404950
Age	2.18	0.459223
DA3_SEAsia	2.11	0.473279
DA3_MidEast	1.92	0.521274
DA3_EastAsia	1.85	0.539502
DExpenses_1	1.61	0.621266
Years	1.52	0.656170
Dfinanceed~2	1.50	0.666314
CGPA	1.50	0.667145
DExpenses_2	1.45	0.689055
DA3_IndiaSub	1.44	0.693213
FAC1_Unienvi	1.44	0.694831
Dfinanceed~1	1.43	0.697900
DExpenses_3	1.43	0.698476
DYES_PTJobs	1.38	0.725766
FAC7_Regu	1.27	0.788541
DMale_Gender	1.24	0.808895
FAC2_Uniserv	1.22	0.818427
Dfieldstud~5	1.19	0.839153
FAC6_Soc	1.19	0.842439
Dfinanceed~4	1.16	0.861709
FAC4_Educost	1.11	0.904175
FAC3_Acaqu~y	1.10	0.907010
FAC5_Infog~e	1.09	0.920798
Mean VIF	1.79	

. imtest

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	319.00	317	0.4579
Skewness	75.89	30	0.0000
Kurtosis	31.53	1	0.0000
Total	426.43	348	0.0026

```
. estat clas

Logistic model for DYESB15

              -------- True --------
Classified |         D            ~D  |      Total
-----------+--------------------------+-----------
     +     |       180            52  |        232
     -     |        28            56  |         84
-----------+--------------------------+-----------
   Total   |       208           108  |        316

Classified + if predicted Pr(D) >= .5
True D defined as DYESB15 != 0
--------------------------------------------------
Sensitivity                     Pr( +| D)   86.54%
Specificity                     Pr( -|~D)   51.85%
Positive predictive value       Pr( D| +)   77.59%
Negative predictive value       Pr(~D| -)   66.67%
--------------------------------------------------
False + rate for true ~D        Pr( +|~D)   48.15%
False - rate for true D         Pr( -| D)   13.46%
False + rate for classified +   Pr(~D| +)   22.41%
False - rate for classified -   Pr( D| -)   33.33%
--------------------------------------------------
Correctly classified                        74.68%
--------------------------------------------------
```

```
. linktest

Iteration 0:   log likelihood = -202.93645
Iteration 1:   log likelihood = -166.23449
Iteration 2:   log likelihood = -165.69343
Iteration 3:   log likelihood = -165.69075
Iteration 4:   log likelihood = -165.69075

Logistic regression                               Number of obs   =        316
                                                  LR chi2(2)      =      74.49
                                                  Prob > chi2     =     0.0000
Log likelihood = -165.69075                       Pseudo R2       =     0.1835

------------------------------------------------------------------------------
     DYESB15 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        _hat |   1.132945   .1973054     5.74   0.000     .7462341    1.519657
      _hatsq |  -.0995212   .0932506    -1.07   0.286     -.282289    .0832467
       _cons |   .0512045   .1612495     0.32   0.751    -.2648387    .3672477
------------------------------------------------------------------------------
```

Appendix 10

Logit model 2: Choice to recommend Malaysia to friends and family

```
Logistic regression                                     Number of obs   =        753
                                                        Wald chi2(7)    =      78.91
                                                        Prob > chi2     =     0.0000
Log pseudolikelihood = -401.59809                       Pseudo R2       =     0.1083
```

DYES_D86	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
FAC1_Unienvi	.5708198	.0912145	6.26	0.000	.3920426	.749597
FAC2_Uniserv	.2451832	.0885619	2.77	0.006	.0716051	.4187614
FAC3_Acaqu~y	.4005809	.0937153	4.27	0.000	.2169023	.5842594
FAC4_Educost	.2359808	.091982	2.57	0.010	.0556994	.4162621
FAC5_Infog~e	.1278101	.0927397	1.38	0.168	-.0539564	.3095767
FAC6_Soc	.4802899	.0933278	5.15	0.000	.2973707	.663209
FAC7_Regu	.0795756	.0909092	0.88	0.381	-.0986031	.2577543
_cons	1.104771	.0928069	11.90	0.000	.9228724	1.286669

```
Logistic regression                                     Number of obs   =        700
                                                        Wald chi2(30)   =      96.21
                                                        Prob > chi2     =     0.0000
Log pseudolikelihood = -353.00065                       Pseudo R2       =     0.1515
```

DYES_D86	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
FAC1_Unienvi	.4799969	.110907	4.33	0.000	.2626232	.6973706
FAC2_Uniserv	.2016467	.0943242	2.14	0.033	.0167748	.3865187
FAC3_Acaqu~y	.315068	.0978174	3.22	0.001	.1233494	.5067866
FAC4_Educost	.2270069	.0979819	2.32	0.021	.0349658	.4190479
FAC5_Infog~e	.1535246	.0950215	1.62	0.106	-.032714	.3397633
FAC6_Soc	.5183826	.1057188	4.90	0.000	.3111776	.7255876
FAC7_Regu	.1575068	.1058839	1.49	0.137	-.0500219	.3650355
DMale_Gender	-.0584291	.2245284	-0.26	0.795	-.4984967	.3816386
Age	.0366993	.0335673	1.09	0.274	-.0290915	.1024901
DA3_EastAsia	-.3896663	.4202703	-0.93	0.354	-1.213381	.4340483
DA3_SEAsia	.7721858	.3401298	2.27	0.023	.1055436	1.438828
DA3_MidEast	-.1827212	.27073	-0.67	0.500	-.7133422	.3478998
DA3_IndiaSub	.115905	.345352	0.34	0.737	-.5609724	.7927824
Years	-.0021818	.0059641	-0.37	0.714	-.0138712	.0095076
DMaster_1	.1239912	.2702645	0.46	0.646	-.4057174	.6536999
Dfieldstud~2	-.0134699	.414561	-0.03	0.974	-.8259944	.7990547
Dfieldstud~3	-.3620299	.4535118	-0.80	0.425	-1.250897	.5268369
Dfieldstud~4	.0342816	.4713388	0.07	0.942	-.8895254	.9580886
Dfieldstud~5	.7307282	1.479675	0.49	0.621	-2.169381	3.630837
Dfinanceed~1	-.2070532	.32472	-0.64	0.524	-.8434926	.4293862
Dfinanceed~2	-.2489892	.6102331	-0.41	0.683	-1.445024	.9470457
Dfinanceed~4	-.370179	.6806456	-0.54	0.587	-1.70422	.9638619
DYES_PTJobs	-.2363854	.2865352	-0.82	0.409	-.7979841	.3252134
CGPA	-.092926	.2719652	-0.34	0.733	-.6259679	.4401159
DExpenses_1	-.3693493	.2685464	-1.38	0.169	-.8956905	.156992
DExpenses_2	.0459264	.2815641	0.16	0.870	-.5059291	.5977819
DExpenses_3	.1233266	.2609348	0.47	0.636	-.3880961	.6347493
DUni_Focus	-.2386557	.3746979	-0.64	0.524	-.9730502	.4957388
DUni_Compr~e	-.0294194	.3707837	-0.08	0.937	-.7561421	.6973033
DUni_Private	-.42865	.3642963	-1.18	0.239	-1.142658	.2853576
_cons	1.0177	1.408526	0.72	0.470	-1.74296	3.77836

```
. mfx

Marginal effects after logit
      y  = Pr(DYES_D86) (predict)
         =  .75837921
```

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
FAC1_U~i	.0879547	.02005	4.39	0.000	.048667	.127242	-.013157
FAC2_U~v	.0369498	.01711	2.16	0.031	.003405	.070494	-.028574
FAC3_A~y	.0577331	.01786	3.23	0.001	.022738	.092728	-.028222
FAC4_E~t	.0415968	.01792	2.32	0.020	.006478	.076716	.009852
FAC5_I~e	.0281319	.01742	1.61	0.106	-.00601	.062274	-.028831
FAC6_Soc	.0949885	.01872	5.07	0.000	.058299	.131678	-.039023
FAC7_R~u	.0288616	.01942	1.49	0.137	-.0092	.066924	-.027196
DMale_~r*	-.0106593	.04079	-0.26	0.794	-.090606	.069288	.645714
Age	.0067248	.00613	1.10	0.272	-.005283	.018732	24.9957
DA3_Ea~a*	-.076831	.08841	-0.87	0.385	-.250115	.096453	.108571
DA3_SE~a*	.1272393	.04886	2.60	0.009	.031482	.222997	.25
DA3_Mi~t*	-.0341508	.05163	-0.66	0.508	-.135342	.06704	.285714
DA3_In~b*	.020734	.06024	0.34	0.731	-.097343	.138811	.105714
Years	-.0003998	.0011	-0.36	0.715	-.002547	.001748	43.37
DMaste~1*	.022546	.04888	0.46	0.645	-.073251	.118343	.381429
Dfield~2*	-.0024672	.07589	-0.03	0.974	-.151217	.146283	.56
Dfield~3*	-.070379	.09292	-0.76	0.449	-.252508	.11175	.164286
Dfield~4*	.0062454	.08536	0.07	0.942	-.161054	.173545	.174286
Dfield~5*	.1091003	.17186	0.63	0.526	-.227747	.445948	.01
Dfinan~1*	-.0366478	.05528	-0.66	0.507	-.145004	.071708	.815714
Dfinan~2*	-.0483245	.1246	-0.39	0.698	-.292532	.195883	.03
Dfinan~4*	-.0737597	.1458	-0.51	0.613	-.359522	.212003	.025714
DYES_P~s*	-.0451271	.05692	-0.79	0.428	-.156687	.066433	.151429
CGPA	-.0170278	.0499	-0.34	0.733	-.114823	.080767	3.16199
DExpen~1*	-.0715802	.05438	-1.32	0.188	-.178157	.034996	.188571
DExpen~2*	.0083658	.05099	0.16	0.870	-.09158	.108312	.251429
DExpen~3*	.0222258	.04625	0.48	0.631	-.068415	.112867	.242857
DUni_F~s*	-.0451097	.07283	-0.62	0.536	-.187854	.097634	.24
DUni_C~e*	-.0054043	.06827	-0.08	0.937	-.139217	.128408	.335714
DUni_P~e*	-.0828345	.07368	-1.12	0.261	-.22725	.061581	.244286

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. vif

Variable	VIF	1/VIF
Dfieldstud~2	3.78	0.264442
DUni_Compr~e	2.99	0.334087
Dfieldstud~4	2.98	0.336102
Dfieldstud~3	2.89	0.346231
DUni_Focus	2.68	0.372661
DUni_Private	2.66	0.376028
DA3_SEAsia	2.13	0.469624
DMaster_1	2.05	0.488254
Age	1.95	0.513818
DA3_MidEast	1.87	0.534355
DA3_EastAsia	1.81	0.553946
DExpenses_2	1.69	0.592916
DExpenses_1	1.52	0.657937
Dfinanceed~1	1.49	0.670904
DA3_IndiaSub	1.46	0.684365
DExpenses_3	1.44	0.695950
CGPA	1.37	0.729987
Years	1.37	0.732089
FAC1_Unienvi	1.33	0.749484
Dfinanceed~4	1.31	0.765108
Dfinanceed~2	1.29	0.776136
DMale_Gender	1.21	0.829048
FAC7_Regu	1.19	0.840797
Dfieldstud~5	1.19	0.842524
DYES_PTJobs	1.17	0.854161
FAC2_Uniserv	1.12	0.891353
FAC3_Acaqu~y	1.10	0.909129
FAC6_Soc	1.09	0.915992
FAC4_Educost	1.07	0.930691
FAC5_Infog~e	1.05	0.948115
Mean VIF	1.74	

. imtest

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	483.48	418	0.0147
Skewness	208.40	30	0.0000
Kurtosis	26.08	1	0.0000
Total	717.95	449	0.0000

```
. estat clas

Logistic model for DYES_D86

                 -------- True --------
Classified |         D             ~D  |      Total
-----------+--------------------------+-----------
     +     |       465            130  |        595
     -     |        38             67  |        105
-----------+--------------------------+-----------
   Total   |       503            197  |        700

Classified + if predicted Pr(D) >= .5
True D defined as DYES_D86 != 0
--------------------------------------------------
Sensitivity                     Pr( +| D)   92.45%
Specificity                     Pr( -|~D)   34.01%
Positive predictive value       Pr( D| +)   78.15%
Negative predictive value       Pr(~D| -)   63.81%
--------------------------------------------------
False + rate for true ~D        Pr( +|~D)   65.99%
False - rate for true D         Pr( -| D)    7.55%
False + rate for classified +   Pr(~D| +)   21.85%
False - rate for classified -   Pr( D| -)   36.19%
--------------------------------------------------
Correctly classified                        76.00%
--------------------------------------------------

. linktest

Iteration 0:   log likelihood = -416.00824
Iteration 1:   log likelihood = -354.43705
Iteration 2:   log likelihood = -352.58115
Iteration 3:   log likelihood = -352.57194
Iteration 4:   log likelihood = -352.57194

Logistic regression                             Number of obs   =        700
                                                LR chi2(2)      =     126.87
                                                Prob > chi2     =     0.0000
Log likelihood = -352.57194                     Pseudo R2       =     0.1525

------------------------------------------------------------------------------
    DYES_D86 |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        _hat |   1.128395   .1762509     6.40   0.000     .7829491    1.47384
      _hatsq |    -.07642   .0826341    -0.92   0.355    -.2383799    .0855399
       _cons |   .0110743    .123972     0.09   0.929    -.2319063    .254055
------------------------------------------------------------------------------
```

Appendix 11
Logit Model: Comparison between undergraduate and postgraduate

	Overall		Undergraduate		Postgraduate	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Investment:						
Education cost	0.0622	0.538	0.1031	0.462	0.0043	0.980
Consumption:						
University environment	0.5235	**0.000*** **	0.6118	**0.000*** **	0.3910	**0.056***
University service	0.2730	**0.003*** **	0.4229	**0.001*** **	0.2836	**0.064***
Academic quality	0.2727	**0.007*** **	0.3889	**0.006*** **	0.1673	0.393
Information guidance	0.2282	**0.016** **	0.1889	0.156	0.4152	**0.013** **
Social	0.0198	0.837	-0.016	0.894	0.2297	0.234
Regulation	0.1209	0.237	0.1118	0.464	-0.0037	0.983
General Background:						
Male	-0.0707	0.741	-0.4114	0.137	0.1403	0.704
Age	0.0926	0.008	0.0914	0.254	0.0874	0.031
East Asia	-0.4978	0.168	-0.3421	0.468	-0.3410	0.655
South East Asia	-1.0818	0.000	-0.7493	0.049	-1.4931	0.022
Middle East	-0.1584	0.542	-0.0026	0.994	-0.0127	0.979
India Subcontinent	-0.2292	0.508	0.3496	0.489	-0.3055	0.598
Period spend in Malaysia	-0.0085	0.129	0.0077	0.476	-0.0087	0.344
Education Background:						
Master	-0.2463	0.353	-	-	-	-
Social Sciences	-0.8660	0.009	-0.8236	0.154	-1.4648	0.003
Information Technology & Communication	-0.7449	0.057	-0.1495	0.805	-2.7003	0.000
Engineering	-0.8430	0.034	-0.6163	0.326	-1.9594	0.002

Health sciences & Medicine	-0.7102	0.443	0.3329	0.804	-3.2799	0.003
CGPA	0.1079	0.599	0.0961	0.787	0.0919	0.847
Focus university	0.2480	0.440	0.0004	0.999	1.2451	0.036
Comprehensive university	-0.4878	0.121	-0.4808	0.338	-0.6855	0.157
Private university	0.5483	0.099	0.6470	0.201	0.9433	0.115
Financial Background:						
Part-time jobs	0.3287	0.218	0.2581	0.461	0.4413	0.360
Self/Parent support	-0.6717	0.224	0.8408	0.071	-1.4386	0.001
Scholarship (from Malaysia)	0.5051	0.388	1.0173	0.146	-1.0277	0.628
Loan	-1.4805	0.108	0.1049	0.920	-	-
Spend below $5,000	-0.4770	0.087	0.3454	0.367	-1.1914	0.010
Spend between $ 5,001 –10,000	-0.2002	0.465	-0.8940	0.812	0.1556	0.754
Spend between $10,001 –15,000	0.0509	0.832	0.4930	0.143	-0.8056	0.045
constant	-1.3174	0.348	-3.7012	0.099	-0.0702	0.974