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Marketing of postgraduate education in Taiwan: issues for foreign universities

ABSTRACT

Purpose - This paper seeks to investigate the factors which influence Taiwanese students’ destination choice for their overseas postgraduate studies. Constructs elicited from the literature were perceptions of overall education quality, available information, country characteristics and accrual of potential benefits.

Findings - Findings revealed that the perceptions of overall education quality in host country influences the choice of the destination country. Path analysis has shown the catalytic need for intermediation by potential benefits accrued. Postgraduate Taiwanese students having a better appreciation of western acculturation and potential migration and job prospects together with the constructs of quality of information and country characteristics have better perceptions of overall education quality of destination country.

Research limitations/implications - Universities targeting Taiwanese postgraduate students need to highlight aspects of potential benefits in their marketing literature and promotional materials. The results of this study will certainly benefit overseas educational institutions and their marketing departments.

Originality/value – This is one of the very few studies which uses partial least squares to address a complex situation associated with the hierarchy of determinants in the selection of a foreign university.

Keywords - Postgraduate education, destination choice, quality, potential benefits, partial least squares.

Paper type – Research paper
INTRODUCTION

Provision of educational services is a major industry for countries such as Australia, Canada, UK and USA (Larsen, Martin and Morris 2002). The largest component of international trade in educational service is accounted for by students traveling abroad to study. As with goods, an international trade in services is restricted by barriers to trade, mainly in the form of government restrictions. In the area of education, these restrictions can take several forms including quotas, immigration restrictions or language requirements (Lawley 1993). Smart and Ang (1995) suggest that in Taiwan, despite the rapid expansion in the higher education sector, the number of graduates who wish to further their education far exceeds the number of postgraduate places available in local universities. A study done by the New Zealand Trade Development Centre in Taipei (2004) indicates that postgraduate programs conducted in Taiwan are generally perceived to be of relatively low value and quality. Hence many students, who obtain their undergraduate degrees locally, seek to undertake their postgraduate studies overseas, so as to differentiate themselves in the job market.

According to Mazzarol, Soutar and Seng (2003), there were more than 1.3 million foreign students studying at the higher educational level in fifty host countries. Mazzarol and Soutar (2001) suggest that the five main countries most preferred by Taiwanese students are the UK, New Zealand, Australia, USA and Canada. However, the reasons for selection of a particular overseas country by Taiwanese students are not clear as yet, especially in the light of recent educational policies and changing economic conditions in
Taiwan (Ministry of Education 2003). The findings of this study will benefit several stakeholders, especially the overseas universities targeting international students.

**LITERATURE REVIEW**

Internationalisation and globalisation became key themes in the 1990s, both in higher education policy debates and in research on higher education (Enders 2004). Currently, there are a wide range of collaborative activities taking place across borders of countries in various sectors including education. Not only are exchanges of students and faculty becoming increasingly common, but also universities are striving to respond to the heavy demand of a rapidly globalising economy. The huge potential in the overseas market for a wide range of training and education services has become increasingly recognised by governments as well as education institutions in many developed countries during the last decade (Bennell and Pearce 2001). As the English language is accepted globally, education institutions in English-speaking countries do seem to have a stronger comparative advantage in exploring and expanding the rapidly growing trade in educational services (Agarwal and Winkler 1985). There is a high demand for English language education in the Asia-Pacific region, both by developed economies of countries such as South Korea, Taiwan and Singapore and also by emerging economies such as Malaysia, China and Thailand (Marginson 2003).

Taiwan’s total population was 23.071 as of July 2011 (The World Factbook). During the past decade, education has been strongly emphasised in Taiwan with special attention being paid to the development of higher education (Ministry of Education 2003). Smart
and Ang (1995) note that despite the rapid expansion in the higher education sector, the number of graduates who wish to further their education far exceeds the available postgraduate places at local universities. Mazzarol, Kemp and Savery (1996) conclude that the majority of both undergraduate students (90%) and postgraduate students (92%) in Taiwan agreed that an overseas education is superior to a domestic one. These writers also note that the number of Taiwanese students traveling abroad to study is projected to increase from 65,000 in 1992 to 87,000 in 2010 and 108,000 by 2025.

Services, such as education, have several characteristics which have made them very different from goods. These include intangibility, inseparability, perishability and variability (Bateson 1989; Palmer 1998). However, intangibility is a major distinguishing feature of services that applies particularly to education, where the specific nature of the service offering is difficult to define (Mazzarol and Soutar 1999). Kinnel (1989) suggests that the following five variables are applicable to the marketing of educational services: product design (education programs), pricing, distribution (availability and accessibility), communication and finally the environmental structure which reflects the situation in a target market. Mazzarol and Soutar (1999) outline a model which they believe is vital to the maintenance and establishment of competitive advantages in international education service enterprises. Their model consists of five elements which include industry structure, foreign market structure, external marketing strategy, foreign market entry strategy and internal marketing strategy.

From the consumer’s viewpoint, the decision to purchase an international university education belongs to the high involvement category. This is due to its high cost, high personal relevance, variety of different alternatives available, and time taken to make the
decision (Davies and Ellison 1997). A basic decision model pertaining to consumer purchases of high involvement products or services such as university education follows the sequence of problem recognition, information search, alternative evaluation and choice (Engel, Blackwell and Miniard 1990). Additionally, difficulty of gaining admission in local universities in many African and Asian countries has been the key driver for students to seek higher education overseas. Mazzarol and Soutar (2002) suggest that colonial or historical links between home countries and host countries play a critical role in students’ decision process for their overseas study destination. Some other factors which could influence students’ decision include the geographical proximity between host and home countries (Lawley 1998) and the availability of specific technology or science programs and commonality of language (Mazzarol and Soutar 2002). On the other hand, the quality image of tertiary education in home and host countries, the GNP growth rate in the host country and relative wealth of the host country compared to the home country all have some impact on the students’ decision making process (Ledwith and Seymour 2001).

Kemp, Madden and Simpson (1998) focus their research on the destination choice model for international students. Their model includes four variables which are: perception of overall education quality, quality of information available, country specific factors and student characteristics. These four variables were quantified as the utility function to estimate the coefficient of the study destination model. They found that the likelihood of studying in the USA relative to other English speaking countries was enhanced by the educational reputation of US institutions, the relative ease of obtaining US program information and the presence of relatives or friends in the US. Studies by Bao (1997) and
Lawley (1998) reveal that the quality of information, country factors and expected benefits all play a role in the perception of overall education quality, which in turn leads to the students’ ultimate decision of pursuing higher education in a particular destination.

As a result of gaps in extant literature, the research objectives of this study are to:

a) Evaluate determinants which influence Taiwanese students’ perceptions of overall quality of overseas postgraduate education;

b) The impact of country specific characteristics and quality of information on Taiwanese students’ perceptions of potential benefits and overall quality of overseas postgraduate education;

c) Provide implication of the findings to various stakeholders.

CONCEPTUAL MODEL AND HYPOTHESIS DEVELOPMENT

From the literature review, we identified four constructs, namely: quality of available information, overseas country characteristics, potential benefits and perceptions of overall education quality. Following from Lawley (1998), we posited that the first three constructs would directly affect the perceptions of overall education quality, which in turn will influence Taiwanese students’ final intention of choosing a particular overseas destination for their postgraduate studies.

Again, from relevant literature we identified three factors associated with each of the four constructs, details of which are shown in Table 1.
<table>
<thead>
<tr>
<th>Construct</th>
<th>Associated Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Quality of available information</td>
<td>• Recommendation from others</td>
</tr>
<tr>
<td></td>
<td>• Presence of relatives and friends</td>
</tr>
<tr>
<td></td>
<td>• Own knowledge of destination country</td>
</tr>
<tr>
<td>2. Overseas country characteristics</td>
<td>• Tuition and living costs</td>
</tr>
<tr>
<td></td>
<td>• Safety and discrimination</td>
</tr>
<tr>
<td></td>
<td>• Country specifics</td>
</tr>
<tr>
<td>3. Potential benefits</td>
<td>• Level of difficulty of entry to courses</td>
</tr>
<tr>
<td></td>
<td>• Expected future benefits</td>
</tr>
<tr>
<td></td>
<td>• Individual influences</td>
</tr>
<tr>
<td>4. Perceptions of overall education quality</td>
<td>• Overall standard of education</td>
</tr>
<tr>
<td></td>
<td>• Recognition of qualification</td>
</tr>
<tr>
<td></td>
<td>• Level of technology</td>
</tr>
</tbody>
</table>

Table 1: Dominant constructs and associated factors affecting Taiwanese students’ choice of an overseas university

The twelve factors were operationalised by forty items or attributes which were adapted from validated scales used by previous studies. Figures 1 and 2 depict the three constructs, i.e. quality of available information, overseas country characteristics and potential benefits which directly and indirectly influence perceptions of overall education quality, which in turn influences students’ choice of a particular destination.
Figure 1: Constructs which have a direct influence on students’ perceptions of overall education quality

Figure 2: Direct and indirect relationship between the three constructs and students’ perceptions of overall education quality
The background for the hypotheses developed as part of this study is discussed below, and these are embodied in Figures 1 and 2. These hypotheses belong to three all-encompassing groups, which are potential benefits, information quality and country characteristics.

Ricardo’s theory of comparative advantage provides one of the earliest rationales for development of international trade (Rugman, Lecraw and Booth 1985). This theory demonstrates how trade between two countries can be mutually beneficial whenever they have a different mix of resources and skills by allowing each country to specialise in what they do best. It is equally important to comprehend the benefits accrued from infrastructure and educational support to international students in terms of their adjustment to the host environment. The lack of facilities is a common problem identified in many universities. There have been cases where academic staff are not trained in teaching techniques for international students and this results in poor student feedback (Harman, 2003). In terms of quality, universities in Taiwan are of a high standard and the country continues to invest heavily in its education system (Mazzarol, Kemp and Savery 1996). The following two hypotheses are posited in relation to overall potential benefits for students:

\[ H_1: \text{Potential benefits directly and positively affects perceptions of overall quality.} \]

\[ H_8: \text{Mediated potential benefits positively affects perceptions of overall quality.} \]

In terms of non-controlled information sources, parents, secondary school teachers, and counselors have been found to be influential in college selection (Choy & Ottinger,
The findings of Willis and Kennedy (2004) and Bers (2005) illustrate the important role of parents in students’ decision making. Students in Taiwan heavily depend on information received from others (Mazzarol 1996) and on their own knowledge of the destination country (Lawley 1997). The quality of information about admission requirements, expected future benefits, and personal influences all affect perceptions of Taiwanese students seeking overseas postgraduate education (Marginson 2003; AEI 2002).

The next three hypotheses seek to investigate the impact that information quality has on potential benefits and perceptions of overall quality.

H$_2$: Quality of available information directly and positively affects perceptions of overall quality.

H$_6$: Quality of available information positively affects potential benefits

H$_7$: Mediated quality of available information positively affects perceptions of overall quality

College rankings, are also important as they are one of the most simple tools for the public to use to measure the quality of education offered by an institution (Warwick & Mansfield, 2003). As Knight (1994) points out the pre-existing perceptions of quality of a destination country become important, as it receives more students in view of its educational excellence. The next three hypotheses seek to measure the influence of overseas country characteristics for Taiwanese students looking for postgraduate education.
H₃: Overseas country characteristics directly and positively affect perceptions of overall quality.

H₄: Country characteristics positively affect perceptions of overall quality

H₅: Mediated country characteristics positively affect potential benefits

**RESEARCH DESIGN**

The data required for this research was collected by means of a consumer-type survey. A questionnaire was developed with forty items adapted from previously validated scales. Respondents were required to indicate the importance rating for each of the forty items using a 7 point likert-type scale, anchored at 1 (most important) and 7 (least important). The survey instrument was pre-tested using a focus group comprising of eight Taiwanese undergraduate students and necessary changes were made accordingly to the wordings of some of the forty items. It was also translated into Chinese in order that respondents were able to comprehend it. The back translation technique was later adopted to analyse the data. A non-probabilistic sampling procedure, i.e. convenience sampling was adopted owing to the unavailability of a satisfactory sampling frame. Final year undergraduate students from four universities in Taiwan were targeted. There was upfront a screening question which eliminated students who were not knowledgeable about overseas postgraduate education from continuing the survey. A total of 312 survey questionnaires were administered by trained interviewers during a two week period and 301 completed questionnaires were collected. Of this number, 5 questionnaires were rejected because of errors in the interpretation of questions by respondents. Hence, 296 usable questionnaires
were included in the analysis. The demographic characteristic of the sample was 49% female and 51% male.

Exploratory factor analysis was conducted for each of the constructs in order to check for their validity. In each case the KMO statistic was verified to ensure that there was sufficient correlation between the items to justify an exploratory factor analysis (KMO>0.80). Scree plots of eigenvalues were used to determine the number of underlying factors (Catell 1966). Principal axis factoring was used to extract the factors and a promax rotation was conducted in order to allow correlations between the factors. The pattern matrix was then used to identify relevant items. Items with weak loadings were removed, as were items loading strongly on more than one factor (Hair et al 1998).

The partial least square (PLS) technique was used to test multiple relationships between the constructs. PLS is increasingly being used to understand various organisational phenomena in the marketing literature (White et al, 2003; O’Cass & Julian, 2003). As PLS is founded on soft modeling philosophy by Falk and Miller (1992), multiple indices are used to evaluate the model as opposed to one fix index. These fit indices include: r-squared, average variance explained, averaged variance accounted for (AVA), regressions weights and loadings (O’Cass, 2000). After ensuring the reliability and validity of the scales and combining them into composite measures, PLS was used to test the hypothesized relationships. PLS is a software application used to analyse structural models involving multiple constructs and multiple indicators.
RESULTS

Exploratory factor analysis

The KMO values for each of the four constructs were in excess of 0.80, hence it was assumed that there was adequate correlation between the items to conduct exploratory factor analysis. The three constructs of country characteristics, quality of information and potential benefits all yielded three factor solutions which explained more than 70% of the variation in each case. All the original items in each of these three constructs were retained. The construct ‘perceptions of quality’ yielded a two factor solution, which explained 65% of the variation. Hence the factor associated with level of technology was removed. The Cronbach’s Alpha values for all the eleven factors that were retained were greater than 0.82. The results of the PLS analysis are shown in Figure 3.

Figure 3: Empirical results showing the direct influence of the three constructs on the students’ perceptions of overall education quality
In Figure 3, it can be seen that there is support for $H_1$, but not for $H_2$ and $H_3$. ($p$-value <0.01). The greater the potential benefit from overseas education, the better is the perception of overall quality of that education. This being the case, Taiwanese students naturally place considerable importance to the expected future benefits of an overseas postgraduate education, and they would therefore opt for programs that are deemed to be of a high caliber.

When considering $H_2$, there is a significantly direct negative relationship ($p$-value <0.01) between the ‘quality of information’ and the ‘perception of quality’. This suggests that the information received by students is inadequate for them to make a valued judgment of the quality of education or the reputation of overseas tertiary institutions.

As $H_3$ is not supported, one would need to explore the underpinnings for this lack of support for ‘overseas country characteristics’.

Table 2 depicts the loadings of the various items relating to the factors of the three valid constructs shown in Figure 3.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Significant $t$ indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Benefits</td>
<td></td>
</tr>
<tr>
<td>$D_1$</td>
<td>0.8615* (39.5323)</td>
</tr>
<tr>
<td>Quality of Information</td>
<td></td>
</tr>
<tr>
<td>$B_1$</td>
<td>-0.8582* (41.8468)</td>
</tr>
<tr>
<td>Perceptions of Quality</td>
<td></td>
</tr>
<tr>
<td>$A_1$</td>
<td>0.9143* (73.5904)</td>
</tr>
</tbody>
</table>

Table 2: Significant indicators for direct influence of antecedents on perceptions of quality of overseas education

Notes:*Significant at $p$-value<0.01; Sample size is 296; $t$-value in parentheses; For notation of variables, D1 Less Stringent Courses, D2 Better Job Prospects, D3 Migration Prospects, B1 Information from University, B2 Information from family, B3 Information from Host Government, A1 High Quality Education and A2 Highly Reputable Institutions.
Although there is no direct relationship between the constructs in H\textsubscript{2} and H\textsubscript{3}, it is possible that there may be some indirect relationship which needs to be investigated separately. For this purpose it is postulated from our findings in Figure 3 and Table 2 and also with support from the extant literature (Lawley 1998), that ‘potential benefits’ is the mediating construct in this model. Figure 4 depicts the PLS findings in relation to hypotheses H\textsubscript{4} to H\textsubscript{8} (inclusive).

**Figure 4: Empirical results for indirect impact of antecedents on Perceptions of Quality of overseas education**

The path coefficients of the conceptual model are one-tailed, and the critical ratios determined by the bootstrap method are as follows: 1.645 is significant at the .05 level,
2.326 is significant at the 0.01 level, and 3.090 is significant at the 0.001 level. The highly significant critical ratios provide full support for hypotheses H$_5$ to H$_8$ (inclusive). The non significant direct relationship of ‘overseas country characteristics’ in H$_3$ has provided support for indirect relationship through a combination of ‘quality of information’ mediated by ‘potential benefits’ of studying overseas. This suggests that mediation by futuristic opportunities precipitates a positive path coefficient towards ‘perceptions of quality’. Although there are negative significant path coefficients between ‘quality of information’ and ‘perceptions of quality’ (H$_6$) and also (H$_7$), the indirect relationships mediated by potential benefits have resulted in a positively significant coefficient of 0.359 (p<0.001). The positive path coefficient of 0.359 confirms the importance of ‘potential benefits’ as a crucial mediating construct in achieving better ‘perceptions of quality of education’. Additionally, the combined effects of the mediator ‘potential benefits’ and the two constructs, i.e. ‘quality of information’ and ‘country characteristics’ has resulted in a significantly positive $R^2$ of 0.325. Table 3 depicts the loadings of the various items relating to the four constructs shown in Figure 4.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Significant $t$ indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Benefits</td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>0.8734*</td>
</tr>
<tr>
<td>(46.1576)</td>
<td></td>
</tr>
<tr>
<td>D2</td>
<td>0.8041*</td>
</tr>
<tr>
<td>(25.9292)</td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td>0.8335*</td>
</tr>
<tr>
<td>(35.1039)</td>
<td></td>
</tr>
<tr>
<td>Quality of Information</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>-0.8636*</td>
</tr>
<tr>
<td>(49.9462)</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>-0.8694*</td>
</tr>
<tr>
<td>(33.0234)</td>
<td></td>
</tr>
<tr>
<td>B3</td>
<td>-0.8536*</td>
</tr>
<tr>
<td>(38.5223)</td>
<td></td>
</tr>
<tr>
<td>Country characteristics</td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>0.7444*</td>
</tr>
<tr>
<td>(15.3704)</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>0.8287*</td>
</tr>
<tr>
<td>(24.5275)</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>0.7441*</td>
</tr>
<tr>
<td>(16.4459)</td>
<td></td>
</tr>
<tr>
<td>Perception of Quality</td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>0.9136*</td>
</tr>
<tr>
<td>(62.1593)</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>0.9015*</td>
</tr>
<tr>
<td>(50.7821)</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Significant indicators for indirect impact of antecedents on Perceptions of Quality of overseas education
Table 3 summarises the loadings of the indicators for each factor of the constructs in relation to ‘perceptions of quality of education’. The significant loadings in order of importance for ‘potential benefits’ are: prospects of western acculturation, migration prospects and better job prospects. The significant loadings in order of magnitude for ‘quality of information’ are: information from family, information from university and information from host government. All the indicators have negative loadings and this suggests the inadequacy of information disseminated to the target audience. The significant loadings in order of magnitude for ‘country characteristics’ are safety, cost issues and geographic location. Finally, significant loadings in order of importance for ‘perceptions of quality’ are: high quality of education and highly reputable institutions. The overall significant indicators demonstrate evidence that the variables adopted in the overall model are robust.

DISCUSSION AND CONCLUSION

This study has investigated the determinants of Taiwanese students’ perceptions of overall quality of overseas education. The PLS analysis has provided evidence of the catalytic need for intermediation by potential benefits accrued in ascertaining perceptions of overall education quality. Hence the key determinant which prospective Taiwanese students perceive to be important is potential benefits, which include prospects of western acculturation, migration and job. These findings are similar to those determined by Bao (1997) and Lawley (1998). The quality of information obtained by prospective students
from their families, overseas universities and host countries was inadequate and did not
directly contribute in enhancing their perceptions of overall quality. However this
construct together with country characteristics influenced their perceptions of overall
quality when mediated by potential benefits. The findings of this study in relation to
characteristics of host country are similar to those obtained by Ledwith and Seymour
(2001) and also by Kemp, Madden and Simpson (1998). Generally these characteristics
include safety, cost and geographic location.

There are several implications which arise from this study. Firstly, overseas universities
targeting Taiwanese postgraduate students need to highlight aspects of potential benefits
in their marketing literature and promotional materials. The potential benefits relate to
acculturating students into the western lifestyle and providing them information on future
job and migration prospects. They should publicise and promulgate the successful careers
of their past graduating international students. Secondly governments of host countries
should endeavour to improve the quality of information available to overseas students.
Additionally overseas universities should improve the academic and also non-academic
experiences which their students gain, which in turn will generate positive word of mouth
promotion for their programs. With huge potential in overseas market for a wide range of
training and education services, findings from this study would contribute unequivocally
to the existing literature and forge ahead new paradigms in this area of higher education
marketing.

There are several limitations in this study which should be addressed by future research.
Country specific perceptions should be obtained from prospective Taiwanese students of
overseas destinations. Additionally a larger sample size should be targeted of prospective students from several other universities in Taiwan.

LIST OF REFERENCES


