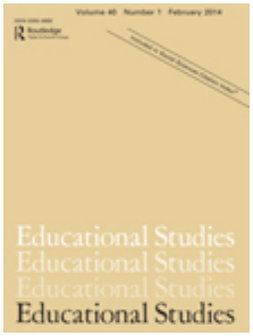

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Destination choice of cross-border Chinese students: an importance-performance analysis

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Higher education institutions are competing with one another to recruit students. As a major developing country with emphasis on human capital development, China has the largest group of tertiary students studying locally and aboard, including cross-border students in the Greater China region. This paper examines the destination choice of cross-border Chinese students. The empirical findings reveal that the most important attributes are programme reputation, recognition of university qualifications, availability of course information, safety and cost of living in the host cities. Importance-performance analysis was applied to the survey data. Results show that students are satisfied with the safety aspect, but not with the cost of living. Regression analysis indicates that student satisfaction was significantly affected by the perceived value of the programme, followed by accessibility. These findings can help improve the quality of education services of higher education administration by addressing the perceptions and concerns of cross-border Chinese students.

Keywords: destination choice; importance-performance analysis; cross-border Chinese students

Introduction

Higher education institutions play a key role in national economic development. As centres for teaching, research and development, higher education institutions help create human capital, which is the most important asset of a nation. These places generate knowledge. This knowledge and associated technologies are then transferred to society.

The higher education sector has expanded substantially in the past decades. This expansion started in developed countries (Deer 2002; Dobson 2001; Ehrenberg 2001) and later in several developing countries (Flere and Lavric 2005; Qian and Smyth 2008; Wong and Jamil 2006). Higher education institutions started recruiting non-local students to foster cultural exchange (Altbach and Knight 2007; Twigg 2005) and to generate revenues to supplement budget cuts imposed by the governments (Altbach and Knight 2007; Harris 1995; Jones 2002). Pan (2010) indicates that students studying higher education away from home can help them maintain their status and upward mobility among middle-class Asian individuals and families. Students will also have more opportunities to experience different culture or sub-culture in a new environment. According to UNESCO (2012), students studying

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in higher education abroad reached 3.6 million in 2010, which was equivalent to a fourfold increase from 0.9 million in 1985.

Students from the Greater China region, which include mainland China, Hong Kong, Macao and Taiwan, recently form the largest single non-local ethnical group of international students in various countries around the world (UNESCO 2012). Besides, higher education institutions in Macao, Hong Kong, mainland China and Taiwan are competing with each other to recruit talent cross-border Chinese students. Understanding how Chinese students perceive higher education institutions, their programmes, locations and other environmental and social factors is crucial. This study (i) identifies the important attributes that influence cross-border Chinese student's choice of destination and programmes; (ii) applies importance-performance analysis to assess service performance in higher education from the students' perspective and (iii) understands the effect of attribute-level satisfaction on overall student satisfaction.

The remainder of the paper is structured as follows. The next section presents the important attributes that influence a student's choice of higher education institution, especially Chinese students who decide to study away from home. This paper then describes the methodology and the questionnaire used in the study. The empirical results and discussion are also presented. Finally, a conclusion, which includes a summary of the findings and the limitations of the study, is provided.

Cross-border Chinese students and their choice of destination

Western students have long been enticed to pursue higher education outside their own state, county and country. By contrast, Chinese students, especially those from mainland China, were reluctant or could not afford to study abroad or away from their homes until the former leader of the People's Republic of China, Deng Xiaoping, declared the need to send more students abroad in 1978 as a means to fulfil the targets of China's reform and opening-up (Zweig, Chen, and Rosen 2004). Thus, the number of non-local Chinese students has increased significantly in various parts of the world including many Asian economies. The latest report from UNESCO (2012) indicates that the number of Chinese students from mainland China studying abroad was 562,889, which is equivalent to 15.6% of the world total. Hong Kong and Macao also sent 32,842 and 1733 students abroad, respectively (UNESCO 2012). Taiwan sent over 32,000 students to study abroad (TMOE 2013). The USA, the UK, Australia and Japan are the most popular study destinations for Chinese students (TMOE 2013; UNESCO 2012).

Hong Kong, Macao, mainland China, Taiwan and many other Asian nations compete with one another to attract non-local higher education students (e.g. Bodycott and Lai 2012; Yang and Chau 2012). Macao and Hong Kong were two of the top 10 destinations for mainland Chinese students studying away from home (UNESCO 2012). Around 15,700 non-local Chinese students, mostly from mainland China and about half of them are undergraduate students, were enrolled in higher education in 2010 in Macao and Hong Kong (Macao Tertiary Education Services Office 2010; University Grants Committee 2010). Taiwan has about 4000 students from Macao and 3000 students from Hong Kong (TMOE 2013). This number is expected to increase as the tension across the Taiwan Strait eases. There are 11,000 Hong Kong students and 2000 Macao students studying in higher education institutions in mainland China (Hong Kong Government 2012; Macao Education and

Youth Affairs Bureau 2012). Most of them, about 6700 Hong Kong and Macao students, have studied in Shanghai and Guangzhou.

The increase of cross-border Chinese higher education students prompts the question on how these students evaluate academic institutions, the programmes offered, their locations and related social and environmental factors. Existing studies that investigate destination choice of cross-border Chinese students are limited.

Destination choice

Students and their families always seek for the "best" from a wide range of higher education programmes and institutions. However, obtaining such necessary information was limited in the past. This information was provided by consulates or non-governmental organisations. Students were required to attend education expositions and exhibitions and to rely on word-of-mouth recommendations from other sources.

The university rankings and so-called "university league tables" were established and publicised (Bowen 2000; Downing 2011) and sometimes disseminated through the Internet (Cremonini, Westerheijden, and Enders 2008) to address the limited information provided to "student-consumers". However, the degree to which league tables assist students in making informed choices remains disputable (Cremonini, Westerheijden, and Enders 2008) and whether rankings for universities to be objective and fair remains debatable (Downing 2011). Students often decide based on their socio-economic and cultural background. Their optimal selection may less likely be influenced by global rankings.

Past studies (Caruana and Spurling 2007; Hemsley-Brown 1999; Joseph and Joseph 1998; Lawley and Blight 1997; Moogan 2011) demonstrated that programme reputation and qualifications are the two important attributes for students when deciding on academic destination and programme choice. Lawley and Blight (1997) mentioned other considerations, which include the following:

(1) Administrative characteristics, which include ease of obtaining course information, options for living requirements, and obtaining and renewing student visas from the country of origin to the host country.
(2) Country characteristics, which include distance from home, climate, level of personal safety, lifestyle, likelihood of experiencing discrimination, potential for emigration, potential to work in host country after graduation, presence of non-local students (including those coming from the same country of origin) and the opinion of family, friends and agents.
(3) Cost characteristics, which include cost of living (comparative cost), the potential to work part-time legally and time required to complete the programme.

Several studies have adopted a similar approach in examining the attributes that influence student selection of higher education institutions (Bodycott and Lai 2012; Joseph and Joseph 1998; Mazzarol and Soutar 2002; Wilkins, Balakrishnan, and Huisman 2012). Some studies (Bodycott and Lai 2012; Lawley and Blight 1997) delved significantly on students from Hong Kong.

Notably, China experienced various structural changes over the past two decades, which may significantly influence the decision of Chinese students to study abroad and in other areas of the Greater China region. These changes include events such

as the continuing reform and opening-up of China, the return of Hong Kong and Macao to Chinese sovereignty, the eventual easing of tensions across the Taiwan Strait and the East Asian economic crisis, and the present world financial crisis. Previous statistics (UNESCO 2012) show that the number of students from mainland China has already exceeded those of Hong Kong, Taiwan and Macao by a great margin. The background characteristics of students, such as their gender and social class, may be inferred from an education standpoint. Parents or their occupation may significantly affect their choice (Bodycott and Lai 2012; Forbes-Mewett and Nyland 2008). Hence, the following hypotheses are developed:

Hypothesis 1a: The background of students such as gender affects their destination choices in terms of importance ratings.
Hypothesis 1b: The background of students such as social class affects their destination choices in terms of importance ratings.

Students can evaluate performance criteria and the overall satisfaction of their chosen programmes because they have studied in the programmes for some time. Therefore, the following hypothesis is proposed:

Hypothesis 2: The attribute-level satisfaction, in terms of factors, is positively related to overall student satisfaction.

Methodology

Target population and sample

The target population of this study was limited to cross-border Chinese students who were registered as full-time students in higher education institutions in the Greater China region. Students in Macao comprise about 7000, 4000 in Hong Kong, 7000 in Taiwan and nearly 7000 in Shanghai and Guangzhou, respectively.

Chairpersons of non-local Chinese students associations in Macao, Hong Kong, Taipei, Shanghai and Guangzhou were contacted, which include Mainland Chinese Students Associations in Macao and Hong Kong, the Hong Kong-Macao Students Associations in Taiwan, and the Hong Kong, Macao and Taiwan Students Associations in mainland China. These cities have large populations of non-local Chinese students (see previous section) in 2010. Many of them agreed to distribute copies of the questionnaire to their members who are non-local Chinese students. A package containing a cover letter that contains the purpose of the survey, instructions and 100 printed copies of the questionnaire were then sent to each of the six students associations by post, which were followed by an e-mail with identical attachments. Another 200 printed copies of the questionnaires were distributed on the campuses of Macao higher education institutions targeting non-local Chinese students, and the completed questionnaires were collected personally by researcher assistants.

Questionnaire design

The questionnaire was composed of two parts. The first part asked respondents to indicate the degree of importance of attributes that influenced their choices on a five-point Likert scale, wherein 1 indicates “very unimportant” and 5 indicates “very important”. Items were adapted from Lawley and Blight (1997). The respondents

were also asked to indicate the degree of satisfaction of attributes on a five-point Likert scale, wherein 1 indicates "very dissatisfied" and 5 indicates "very satisfied" because the respondents already spent time in their chosen institutions. Overall satisfaction was measured using three statements obtained from Gremler and Gwinner (2000). Each statement was measured on a seven-point Likert scale, wherein 1 indicates "very strongly disagree" and 7 indicates "very strongly agree". Respondents were asked to provide information about their gender, age group, year of study, major field of study, their home country/city, where do they study, occupation of their parents and education of their parents in the second part.

The questionnaire was originally written in English, which was translated into Chinese by a bilingual researcher who is an expert in translation and understands the educational settings in the Chinese context. The Chinese version was translated back to English by another researcher to ensure accuracy of the initial translation.

A pilot test was performed by asking two faculty members who were also non-local Chinese students who studied in the UK and 20 cross-border Chinese students studying at a Macao higher education institution to fill in the draft questionnaire.

Table 1. Ranking of importance among attributes using mean scores.

Attributes	Sub-group			Group total
	Male Mean	Female Mean	*p*-value	Mean
Reputation of the programme offered by the institution	4.11	4.39	0.001**	4.26
Recognition of the qualification offered by the institution	4.08	4.32	0.012*	4.21
Safe place to study	4.02	4.26	0.019*	4.14
Being able to get information on programme	3.98	4.20	0.012*	4.09
Cost of living (comparative cost)	3.92	4.05	0.196	3.98
Likelihood of experiencing discrimination in the chosen place	3.82	4.05	0.025*	3.94
Being able to work part time (legally work part time)	3.60	3.88	0.023*	3.74
The way of life in the chosen place	3.58	3.83	0.022*	3.71
Time to complete the programme	3.53	3.84	0.011*	3.69
Being able to get information on living in the chosen place	3.65	3.68	0.712	3.67
Being able to get a student visa (first time or renewal)	3.47	3.84	0.004**	3.66
Opinion of family on where to study	3.45	3.73	0.011*	3.60
Potential to work there after graduation	3.47	3.64	0.186	3.56
Climate	3.35	3.63	0.016*	3.49
Presence of other non-local students	3.27	3.38	0.381	3.32
Presence of non-local students coming from your place	3.16	3.42	0.052	3.29
Potential to immigrate	3.16	3.37	0.103	3.27
Opinion of friends on where to study	3.20	3.28	0.465	3.24
Geographic closeness to your home town	2.95	3.24	0.034*	3.10
Opinion of agents	2.75	2.57	0.174	2.66

*Represents significant difference between male (N = 158) and female (N = 168) respondents at the 5% level.

**Represents significant difference between male (N = 158) and female (N = 168) respondents at the 1% level.

The faculty members and students offered comments on whether the items succinctly reflected their consideration in choosing the destination for higher education. Some items were eliminated or modified based on their comments. This procedure ensured that the content validity of the questionnaire was adequate (Churchill 1979). Table 1 shows the importance-performance items of the questionnaire.

Data analysis

The attributes were ranked by mean scores based on the degree of importance perceived by the respondents. The effects of demographic variables on attributes were then tested by a series of independent samples *t*-tests.

Importance-performance analysis (Lai and To 2010; Martilla and James 1977) was then employed to measure the extent of student satisfaction with the experience in their institutions and host cities. Importance-performance analysis is a simple approach that presents the mean importance and performance of each attribute on a two-dimensional grid. Attributes fall into the following quadrants when the x-axis and y-axis are divided by the grand mean of importance scores and the grand mean of performance scores: Quadrant I – Concentrate here, wherein attributes were rated above average for importance but below average for satisfaction; Quadrant II – Keep up the good work, wherein attributes were rated above average for importance and satisfaction; Quadrant III – Low priority, wherein attributes were rated below average for importance and for satisfaction and Quadrant IV – Possible overkill, wherein attributes were rated below average for importance and above average on satisfaction. Joseph and Joseph (1998) and Ford, Joseph, and Joseph (1999) argued that the importance-performance paradigm is the most appropriate approach of measuring service quality in education from the perspective of students-as-consumers. However, exiting literature on the application of importance-performance analysis to higher education management (Joseph and Joseph 1998; O'Neil and Palmer 2004) is limited. Only the attributes with significantly higher or lower means than the grand means were considered the salient. Only these attributes were shown in the importance-performance grid (Yavas and Shemwell 2001).

Exploratory factor analysis was then applied to discover the number and nature of factors viewed by students as important when choosing a destination for higher education. Regression analysis was employed to assess the effect of attribute-level satisfaction, in the form of factors, in overall student satisfaction.

Results and analysis

A total of 361 out of the 800 copies of the questionnaire distributed to non-local Chinese associations were completed and returned on September 2010. However, only three of the questionnaires were completed by respondents who studied in Hong Kong higher education institutions. Another 32 samples contained missing values. A total of 326 usable responses, which is equivalent to 41% response rate, were obtained by discarding these 35 questionnaires.

Demographic profile of respondents

The numbers of male and female respondents were almost equal (158 males and 168 females). About 96% of the respondents were aged between 18 and 23. Junior

students comprised 57% (Years 1 and 2) and senior students (Years 3 and 4) comprised 43%.

Majority of the respondents (72%; 205) were students from mainland China. About 25.9% (76 students) were Macao citizens, 1.2% (4 students) were from Hong Kong and 0.9% (3 students) were from Taiwan. Most of the respondents (65%) studied in Macao, which was followed by Taipei (15%), Shanghai (10%) and Guangzhou (10%). About 51% of the respondents studied business and finance, 12% studied science and engineering, 14% studied humanities and social sciences and 23% studied other subjects. These findings are similar to that of Lai et al. (2012).

High school was the educational level of the parents of 55% of the respondents. Approximately, 45% indicated that the education level of their parents was bachelor's or graduate degree. About 50% of the respondents indicated that their fathers and/or mothers were either (i) managers or professionals or (ii) businessmen or business-women. Half of the respondents were from the upper social class. Another half of the respondents were from less better-off families. However, the Chinese has a strong Confucian heritage and believes that studying is the "only" way to climb up the social ladder. Thus, Chinese parents try their best to provide resources to support their sons and daughters to enable them to receive higher education. Table 2 shows the demographic profile of respondents.

Identifying the top 5 and bottom 5 important attributes

Table 1 illustrates the mean ratings of importance perceived by respondents. The group responses show that students view "reputation of the programme" as the most influential attribute when choosing an institution. This confirms the findings of a previous study in New Zealand and in the USA (Ford, Joseph, and Joseph 1999). Some Scottish surveys (Briggs 2006; Gibbons-Wood and Lange 1998) and studies conducted in the international branch campuses in the United Arab Emirates of the UK and Australian universities (Wilkins, Balakrishnan, and Huisman 2012) also had the same finding. This attribute was closely followed by "recognition of the qualification", "safe place to study", "being able to get information on programme" and "cost of living" (comparative cost). These findings are consistent with Szekeres (2010) who identified the recognition of the qualification by future employers to be an important selection factor and Maringe and Carter (2007) that a safe place to study was one of the key considerations for international students. It was particularly true for New Zealand that attracted many more Chinese students right after 9/11 in the USA (Malcolm, Ling, and Sherry 2004; NZMBIE 2010).

The least important attributes were "opinion of agents", followed by "geographic closeness to your home town", "opinions of friends on where to study", "potential to immigrate" and "presence of non-local students from your place". As Macao and Hong Kong are special administrative regions of the People's Republic of China and there are direct flights between Macao/Hong Kong, Taiwan and mainland China, it is not unexpected that cross-border Chinese students did not play too much attention to the attributes such as "geographic closeness to your home town" and "potential to immigrate".

Table 2. Demographic profile of respondents.

Demographic	Number of respondents (*n*)	Percent
Gender		
Male	158	48.5
Female	168	51.5
Age		
<18	1	0.3
18–20	147	45.4
21–23	166	96.3
24–26	10	3.1
27 or above	2	0.6
Year of study		
Year 1	73	22.4
Year 2	113	34.7
Year 3	64	19.6
Year 4	76	23.3
Field of study		
Business and Finance	167	51.2
Science and Engineering	40	12.3
Humanities & Social Sciences	45	13.8
Others	74	22.7
Study in		
Macao SAR	214	65.6
Guangzhou	32	9.8
Shanghai	32	9.8
Taipei	48	14.8
Home city/country		
Macao SAR	84	25.8
Hong Kong SAR	4	1.2
Mainland China	235	72.1
Taiwan	3	0.9
Social		
Occupation of fathers/mothers		
Businessman	74	22.7
Professional/manager	89	27.3
Clerical worker	54	16.6
Blue collar worker	58	17.8
Others	51	15.6
Educational level of fathers/mothers		
Primary school or below	26	8.0
Secondary	81	24.8
Diploma	73	22.4
Bachelor	115	35.3
Masters or above	31	9.5

Gender differences

Table 1 shows the gender differences. Independent samples *t*-tests were conducted for between-group comparisons. Significant differences were found at the 0.01 level between male and female students based on the importance ratings of "reputation of the programme" and "being able to get a student visa (first time or renewal)".Another nine attributes with significant differences at the 0.05 level were found between two groups of students.

The mean scores of the importance for each attribute as perceived by female respondents were generally higher than the perception of male respondents, except for "opinion of agents". This finding supports Hypothesis 1a.

Social class differences

Independent samples *t*-tests were conducted between social categories, that is, parents who were well educated versus parents who were not well educated; managers, professionals and businessmen parents versus parents who hold blue collars, clerical and other jobs. Table 3 shows the attributes with significant differences at the 0.05 level. This result indicates that students from the middle or low social class rate "cost of living (comparative cost)" as more important than that of the upper social class students. By contrast, students from the upper social class rate "potential to immigrate" as more important than that of the middle and low class students. The importance ratings of the students form middle and low social classes on "presence of non-local students coming from your place", "geographic closeness to your home town" and "likelihood of experiencing discrimination in the chosen place" were significantly higher than that of students from the upper social class. This finding

Table 3. Mean scores of importance of attributes that have significant differences.

	Education level of their parents		
	Higher school or below	Bachelor's or higher degree	
Attributes	Mean ($N = 180$)	Mean ($N = 146$)	*p*-value
Cost of living (comparative cost)	4.12	3.82	0.030*
Presence of non-local students coming from your place	3.44	3.10	0.010**
Potential to immigrate	3.14	3.42	0.028*
	Occupation of their parents		
	Blue collars, clerical workers and others	Managers, professionals & businessmen	
Attributes	Mean ($N = 163$)	Mean ($N = 163$)	*p*-value
Cost of living (comparative cost)	4.10	3.87	0.024*
Likelihood ofexperiencing discrimination	4.04	3.83	0.049*
Presence of non-local students coming from your place	3.47	3.12	0.008**
Opinion of friends on where to study	3.37	3.11	0.024*
Geographic closeness to your home town	3.26	2.94	0.024*
Potential to immigrate	3.14	3.39	0.050*

*Represents significant at the 5% level.
**Represents significant at the 1% level.

implies that these students require more emotional support in their chosen place. These results indicate that the social class of students is related to their destination choices in terms of importance ratings, which supports Hypothesis 1b.

Importance-performance analysis

Table 4 presents the mean importance and performance ratings of the 20 attributes. The mean importance ratings and the mean performance ratings of the attributes were compared with the grand means in Table 4 to determine the important attributes. The attributes with significantly higher and lower means than the grand means were considered salient. The rest were considered non-salient attributes (Yavas and Shemwell 2001). The analysis generated eight important attributes, namely, (1) "safe place to study"; (2) "cost of living (comparative cost)"; (3) "likelihood of experiencing discrimination in the chosen place"; (4) "climate"; (5) "presence of non-local students coming from your place"; (6) "presence of other non-local students"; (7) "potential to immigrate"; (8) and "opinion of agents". The first and third attributes were located in Quadrant I – Keep up the good work. The second attribute, "cost of living (comparative cost)" was located in Quadrant II – Concentrate here. The next three attributes were located in Quadrant III – Possible overkill. The last two attributes were located in Quadrant IV – Low priority, as shown in Figure 1.

Table 4. Mean importance and performance ratings of attributes ($N = 326$).

Attribute	Mean importance	Mean performance
1. Reputation of the programme offered by the institution	4.26*	3.32
2. Recognition of the qualification offered by the institution	4.21*	3.38
3. Safe place to study	4.14*	3.71*
4. Being able to get information on programme	4.09*	3.34
5. Cost of living (comparative cost)	3.98*	3.16*
6. Likelihood of experiencing discrimination in the chosen place	3.94*	3.60*
7. Being able to work part time (legally work part time)	3.74	2.82*
8. The way of life in the chosen place	3.71	3.55*
9. Time to complete the programme	3.69	3.48*
10. Being able to get information on living in the chosen place	3.67	3.45*
11. Being able to get a student visa (first time or renewal)	3.66	3.23*
12. Opinion of family on where to study	3.60	3.54*
13. Potential to work there after graduation	3.56	2.85*
14. Climate	3.49*	3.45*
15. Presence of other non-local students	3.32*	3.51*
16. Presence of non-local students coming from your place	3.29*	3.60*
17. Potential to immigrate	3.27*	2.81*
18. Opinion of friends on where to study	3.24*	3.42
19. Geographic closeness to your home town	3.10*	3.42
20. Opinion of agents	2.66*	3.08*
Grand mean	3.63	3.34

*Represents significant difference between the mean score and the grand mean score at the 5% level.

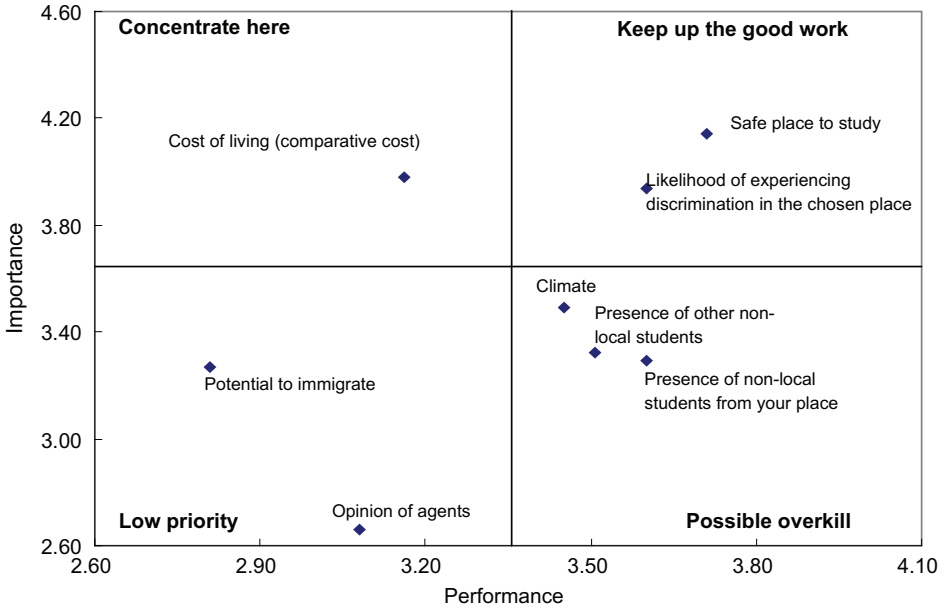

Figure 1. Importance-performance diagram (only salient attributes are shown).

Exploratory factor analysis and regression analysis

Exploratory factor analysis was applied to the responses regarding importance. The first stage of the analysis determined the strength of the relationships among the 20 attributes using the correlation coefficients for each pair of variables. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.848 and the Bartlett's test of sphericity was highly significant at a p-value less than 0.001, which indicate that a factor analysis was an appropriate approach. Data were then analysed by principal components analysis using direct oblimin oblique rotation. Four items were eliminated because of low factor loadings (<0.50) and strong cross-loadings. Table 5 shows the pattern matrix for the rotated factors. The identified factors are: a perceived value factor in column 1 (26.4% explained variance); a factor on the potential to have emotional support in column 2 (14.5% explained variance); the accessibility of the present and future factors in Column 3 (11.3% explained variance); and a perceived norm factor in Column 4 (7% explained variance). The Cronbach's alpha coefficients ranged from 0.63 to 0.79, which indicate moderate to high internal reliability. The average summed scores of factors that use the importance and performance ratings were then computed. Table 6 shows the average summed scores and the grand means of the 16 items. Figure 2 shows the corresponding importance-performance grid. The first factor, i.e. perceived value, was located in Quadrant I – Keep up the good work. The other two factors, potential to have emotional support and perceived norm, were located in Quadrant III – Possible overkill. The accessibility factor was located in Quadrant IV – Low priority.

Regression analysis was employed to assess whether attribute-level performance, i.e. satisfaction in the form of factors, affected overall student satisfaction. The regression model produced an r value of 0.618 and an r^2 value of 0.381. This result indicates that the perceived performance ratings of the four factors explained 38% of

Table 5. Pattern matrix obtained from the factor analysis of attributes based on importance ratings ($N = 326$).

	Component			
	1	2	3	4
Perceived value				
Reputation of the programme offered by the institution	0.82			
Recognition of the qualification offered by the institution	0.75			
Safe place to study	0.72			
Being able to get information on programme	0.68			
Cost of living (comparative cost)	0.56			
Potential to have emotional support				
Presence of non-local students coming from your place		0.88		
Presence of other non-local students		0.85		
Geographic closeness to your home town		0.62		
Accessibility				
Potential to immigrate			−0.84	
Potential to work there after graduation			−0.82	
Being able to get a student visa (first time or renewal)			−0.65	
Being able to get information on living in the chosen place			−0.61	
Being able to work part time (legally work part time)			−0.55	
Perceived norm				
Opinion of friends on where to study				0.76
Opinion of family on where to study				0.74
Opinion of agents				0.58
Variance explained (percentage)	26.4	14.5	11.3	7.0
Cumulative variance explained (percentage)	26.4	40.9	52.2	59.2
Cronbach alpha	0.78	0.79	0.76	0.63

Table 6. The average summed scores of factors using the importance and performance ratings of attributes ($N = 326$).

Factor	Mean importance	Mean performance
1. Perceived value	4.14	3.38
2. Potential to have emotional support	3.24	3.51
3. Accessibility – present and future	3.58	3.03
4. Perceived norm	3.16	3.34
Grand mean (using 16 items)	3.61	3.29

variance in the overall student satisfaction. Table 7 shows the standardised coefficients of beta of the regression mode, which indicates that the significance of the factors were significant. The perceived value had the most significant impact on overall student satisfaction. The results supported Hypothesis 2, which suggests that the overall student satisfaction was weak and significantly related to attribute-level satisfaction in the form of factors.

Discussion

The recruitment of non-local and cross-border students (i) fostered cultural exchange and (ii) addressed the financial challenges faced by higher education institutions (Altbach and Knight 2007; Bodycott and Lai 2012; Harris 1995; Jones 2002).

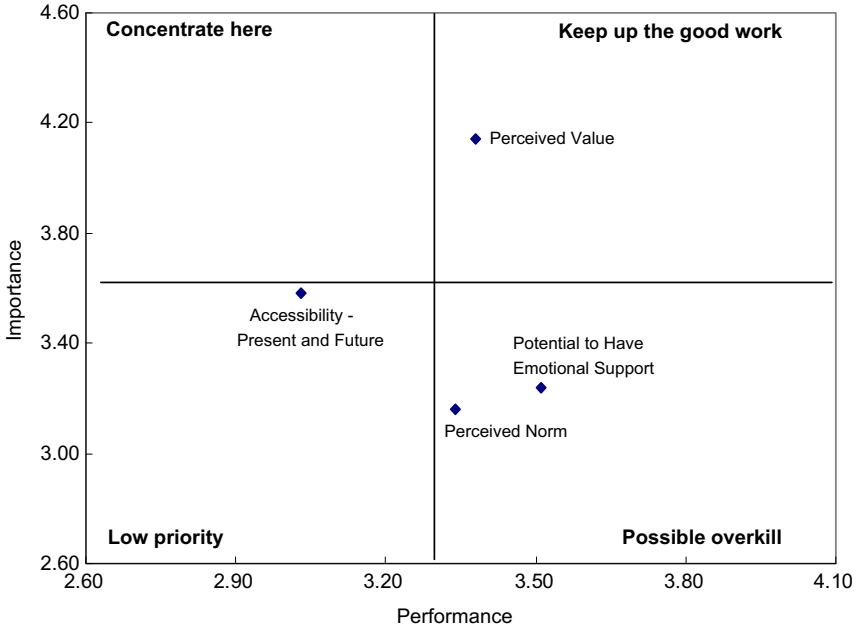

Figure 2. Importance-performance diagram (only salient factors are shown).

Table 7. Multiple regression analysis on the overall student satisfaction ($N = 326$).

Independent variables	Unstandardized coefficient	Standardised coefficient	*t*-value
Constant	0.315		0.918
Perceived value	0.985	0.511	8.535***
Potential to have emotional support	−0.242	−0.137	−2.526*
Accessibility – present and future	0.272	0.163	3.164**
Perceived norm	0.224	0.135	2.635**

Notes: Dependent variable: overall student satisfaction.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$; analysis of variance ($F(4321) = 49.5$, $p < 0.001$); $R^2 = 0.381$; adjusted $R^2 = 0.374$.

Understanding the value of various factors to Chinese students is critical for the provision of proper information and assistance because China is the biggest source of non-local students. This paper examined the attributes that influenced destination choice of cross-border Chinese students who decided to study away from home. This paper identified 20 important attributes that influenced their choice of institutions and programmes. The paper also investigated the extent their experiences enabled them to meet their expectations. The top five important attributes among the 20 attributes are: reputation of the programme, recognition of qualifications, safety aspects, availability of course information and cost of living, respectively. The least five important attributes include potential to immigrate, opinions of friends on where to study, geographical closeness to home town and opinion of agents. The results of

importance-performance analysis show the extent the experiences of the respondents enabled them to meet their expectations. These results suggest significant predictors of destination and programme choice when Chinese students choose non-local institutions and programmes.

The analysis offers a number of important insights for education management administrators. For example, importance-performance analysis identified two attributes, namely, "safe place to study" and "likelihood of experiencing discrimination in the chosen place" in Quadrant II – Keep up the good work. These attributes were classified as highly important with a relatively high performance index. Education management administrators suggest that institutions should attempt to "keep up the good work" and ensure that students feel safe if and when they study in their institutions (Forbes-Mewett and Nyland 2008). Measures should also be enforced to minimise the likelihood of students being discriminated against and being stereotyped. Managers responsible for such work should be given positive reinforcements and be recognised for their achievements. A safe place to study is also one of key attributes affecting students' destination choice. Hence, the host country shall assure students and their parents about the ways that students' personal safety and security can be ensured on campuses, as many students from mainland China are the only child in their families. The marketing perspective suggests that these two attributes should be fully exploited as part of the promotion strategies of an institution.

Notably, only the "cost of living" attribute in Quadrant I – Concentrate here obtained a high importance index but with a relatively low performance index. This result suggests that students regard cost of living as extremely important, but they were not satisfied with their experiences. This finding suggests that the information being provided to students may be inadequate. The question, "What is the cost of living?" is critical to the survival of student away from home. Thus, it is crucial to provide accurate and sufficient information to potential students to give them an idea of their daily expenses apart from tuition fees, such as the range of costs for accommodation. This information is vital. Thus, institutions should direct information supply strategy to their potential students to ensure that non-local students are better informed about the cost of living in the host country/city to help them set realistic expectations. This approach helps increase the satisfaction of students with the cost of living they encounter. Institutions must be explicit in their promotion of whether they can offer scholarships or allowances to non-local students who have outstanding academic results in accordance with the number of scholarships they can offer each year.

The two attributes, "presence of other non-local students" and "presence of non-local students from the students' own country" in Quadrant IV – Possible overkill have low importance indexes, but with relatively high performance indexes. This result indicates that non-local students are satisfied with these two attributes. These findings suggest that the presence of other non-local students both from the home county of the students and from other countries has a wide impact on the experience of the respondents. Positive interaction among non-local students on campus may enrich their campus experience (Yang and Chau 2012). However, concentrating more on the attributes that cause dissatisfaction among the students is more important than those that appear of little importance and have a negligible impact on the decision-making process of students. Similarly, the two attributes "potential to immigrate" and "opinion of agents" in Quadrant III – Low priority also have low importance indexes. However, these indexes differ from the attributes in Quadrant IV

because they have low performance indexes. Importance-performance analysis does not suggest spending too much time and resources on these attributes because the attributes in these two quadrants have low importance index. If institutions focus their efforts on aspects related to these four attributes rather than on the cost of living issues in Quadrant I, this could result in an inefficient use of time and resources with little or no impact on the final results. A practical point of view suggests that cost of living is a prime factor for students' choice. Precious time could be lost in allowing competitors to lure students away from what seems to be a more viable option when seeking direction to study away from home if these research findings are ignored.

Conclusion

The insights generated from the discussions are invaluable for education management administrators in acquiring a better understanding of how cross-border Chinese students perceive higher education institutions, their programmes, their locations and other environmental and social factors. Results show that the five most important attributes are programme reputation, recognition of university qualifications, safety, availability of course information and the cost of living in the host cities. Universities in the Greater China region have improved the reputation of programmes and achieved academic and professional recognition of qualifications worldwide in recent years. Hence, the number of cross-border Chinese students increases steadily.

Importance-performance analysis was applied to the survey data. Results show that students studying in the Greater China region are satisfied with the safety aspect, but not with the cost of living in their chosen destination. Cost of living and freedom from discrimination were high-ranking factors that influence Chinese students who study in a non-local institution. This finding suggests the need for specific and meaningful information regarding the living conditions in the host cities. Students should be assured that safety systems are in place that will enable them to cope with any breath of discrimination against cross-border Chinese students to provide them with a safe environment where they could relax. These suggestions may help higher education administrators better formulate marketing strategies in light of competition and improve the quality of education services by addressing the perceptions and concerns of cross-border Chinese students.

Limitations of the study

This study has two main limitations. First, the results may not be generalisable because the target population was limited to cross-border Chinese students who study in higher education institutions in the Greater China Region. The responses of students from Taiwan and Hong Kong were low. Hence, the results may not be applied to destination choice of non-local Chinese students from and studying in Hong Kong as well as students from Taiwan. Second, the respondents were asked to indicate the importance of attributes in selecting higher education institutions. This approach might incur recall error. However, selecting a higher education institution was one of the most important things considered by students. Such recall error is unlikely to be substantial. Future research can be conducted to explore the motivation of students to study cross-border using qualitative approach.

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