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This is an Accepted Manuscript of an article published by Taylor & Francis in
Journal of Marketing for Higher Education on 26/05/2015, available online:

<http://doi.org/10.1080/08841241.2015.1042098>

International Student Satisfaction and Behavioural Intentions: The case of universities in Victoria, Australia

Abstract

International students make a vital contribution to the Australian economy. Due to their importance, a number of studies have been undertaken to examine the living experiences, attitudes and behaviours of international students in Australia. However, very few studies have examined international students' overall satisfaction with their university experience. The primary objective of this paper is to measure the influence of six individual university service factors on international students' satisfaction, and its subsequent impact on behavioural intentions. The results from the SEM analysis revealed that overall student satisfaction is influenced by the level of satisfaction with academic services, courses offered, access and augmented services. In contrast, administrative services and physical evidence were found to have a non-significant impact on overall satisfaction. Analysis also revealed a strong relationship between overall satisfaction and behavioural intentions.

Keywords: International Students, University service dimensions, Student satisfaction

Introduction

The international student market plays a very important role in generating revenue for the Australian higher education sector (Arambewela, Hall, & Zuhair, 2005). Due to the significant monetary value associated with student fees and living expenses, the international student sector has evolved into one of Australia's largest service-export industries (Department of Foreign Affairs and Trade, 2009). In recognition of this, Australian universities have adopted a variety of strategies designed to attract and retain international students via the provision of high quality services (Department of Education Employment and Workplace Relations, 2009a). For this reason, converting international students into satisfied 'customers' must serve as a primary goal of higher education (Petruzzellis, D'Uggento, & Romanazzi, 2006). It is therefore crucial for universities to develop a thorough understanding as to which of their services have the greatest impact on student satisfaction (Yeo, 2008).

In order to achieve this purpose, a number of studies have been undertaken to gain insight into the attitudes and behaviour of international students in an Australian context. However surprisingly few of these have focused specifically on international student satisfaction (Arambewela & Hall, 2009). This study seeks to address this research gap. Moreover, this study not only focuses on the antecedents of satisfaction, but also its outcomes. This approach is important because the positive contribution made by international students is not only dependent on their satisfaction, but their willingness to re-enrol with and recommend their institution to others (Qin & Prybutok, 2009). This study therefore differentiates itself from many of its predecessors via its focus on satisfaction outcomes.

Literature Review

The International Student Market in Australia

In Australia, the economic contribution from international students provides benefits at both a national level and a university level. At a national level, it is estimated that international students contribute more than \$11 billion in export earnings to the Australian economy (Australian Bureau of Statistics, 2007), while at the university level, international student fees serve as a major revenue source (Deumert, Marginson, Nyland, Ramia, & Sawir, 2005). Moreover, they also make a vital economic contribution to local businesses via their spending on food, accommodation, travel and entertainment (Yao & Bai, 2008) which in turn serves as an important stimulus for employment. Thus, there is a driving need to develop a thorough understanding of the international student market in order to maximise the benefits it offers.

Service Satisfaction

In order to succeed in such a competitive market, universities must make international student satisfaction a key priority (Brochado, 2009). However, despite its importance, there is a lack of consensus as to how student satisfaction should be defined (Navarro, Iglesias, & Torres, 2005; Yeo, 2008) and therefore measured. This study adopts the transaction-specific and overall satisfaction approach to satisfaction (Jones & Suh, 2000; Olsen & Johnson, 2003; Shankar, Smith, & Rangaswamy, 2003).

Transaction-specific satisfaction refers to a customer's post-choice evaluation of a service based on its specific service attributes (Shankar, et al., 2003). In contrast, *overall satisfaction* refers to a customer's overall satisfaction with an organisation based on the sum of their experiences with that organisation (Jones & Suh, 2000). Under this approach, student satisfaction is regarded as a cognitive attitude and emotional feeling that results from a student's overall evaluation of their experience with the education service they received (Elliot & Healy, 2001). Overall satisfaction differs from transaction-specific satisfaction in that a student may have a dissatisfying experience with the latter (e.g. waiting in long queues to enrol) and yet still be satisfied with their overall service experience due to satisfying encounters with other service elements. The advantage in measuring overall satisfaction is that it then offers the ability to predict student intentions and behaviour (Olsen & Johnson, 2003).

The Determinants of Student Satisfaction in a University Context

A wide variety of university attributes have been found to influence student satisfaction (Arambewela & Hall, 2009; DeShields, Kara, & Kaynak, 2005; Gruber, Fuß, Voss, & Gläser-Zikuda, 2010; Navarro, et al., 2005). Although the influence of these attributes has been well researched, the unique combination of attributes utilised in this study has not yet been investigated in the context of international students studying at Australian universities.

Before identifying the various attributes that influence student satisfaction, it is first necessary to identify the criteria against which the attributes were selected for inclusion. Given that a university can essentially be regarded as a service-provider, it naturally stands that in order to be included, attributes must be consistent in nature with a defining characteristic of a service: intangibility. One view holds that a university essentially comprises intangible characteristics thereby qualifying as a pure service provider (Brochado, 2009; Petruzzellis et al., 2006). This view regards higher education as intangible because students cannot 'see' or 'touch' the service they receive. Moreover, service elements are also typically intangible as they revolve around interaction with humans.

However, there is an alternative view that holds that while the service provided by a university is essentially intangible, it also includes tangible elements (Oldfield & Baron, 2000). The tangible

elements of a service comprise those aspects that are associated with the physical environment where the service is produced and consumed. Focusing on the contribution such elements make to student satisfaction is important because the intangible elements of a service can be difficult for students to evaluate relative to their tangible counterparts (Mavondo & Zaman, 2000). Thus, the need to include tangible attributes as potential determinants of student satisfaction has often been overlooked. Such an oversight has potentially serious ramifications because students spend a significant proportion of their service experience utilising the tangible elements of a university (e.g. libraries, laboratories, lecture theatres, canteens etc.) and so they are likely to serve as key influences of satisfaction (Oldfield & Baron, 2000). As such, the list of attributes included in this study includes both intangible and tangible elements, the first of which is academic services.

Academic Services

This factor refers to the academic service provided by a university, and as such it typically refers to such attributes as teaching methods, learning materials, and lecturers' interaction with students (Telford & Masson, 2005). The important contribution academic service makes to student satisfaction has been confirmed by several studies (Abdullah, 2006; Arambewela, et al., 2005; Gamage, Suwanabroma, Ueyama, Hada, & Sekikawa, 2008; Gruber, et al., 2010; Navarro, et al., 2005). A key reason for this is the importance students assign to the academic aspects of their service experience, and the resulting impact that academic attributes have on the image and reputation of a university (Gamage, et al., 2008; Mavondo & Zaman, 2000). This therefore leads to the following hypothesis:

H1: The greater the level of satisfaction with academic services, the greater the overall satisfaction with a university.

Access

Access refers to the extent to which the services provided by a university are conveniently available to students in terms of time and/or place (Arambewela, et al., 2005; Telford & Masson, 2005). It therefore includes such attributes as the operating hours of a university library (Arambewela, et al., 2005; Petruzzellis, et al., 2006) and ease of access to university buildings and facilities (Sahney & Karunes, 2004). Access should have a potentially significant influence over satisfaction (Telford & Masson, 2005) because it directly or indirectly influences the criteria

by which a service is typically evaluated by its users (e.g. responsiveness, timeliness etc.). In fact one study found that of the various service elements tested, it was access that had the greatest impact on student satisfaction with a university (i.e. Abdullah, 2006). This therefore leads to the following hypothesis:

H2: The greater the level of satisfaction with access, the greater the overall satisfaction with a university.

Administrative Services

Administrative service is defined as the service provided by non-academic staff to students (Abdullah, 2006) and includes such attributes as the operating hours of student administrators (Sahney & Karunes, 2004), the speed and precision with which they respond to student matters (Gamage, et al., 2008), and their attitude towards students (Abdullah, 2006; Price, Matzdorf, Smith, & Agahi, 2003). Previous studies have empirically demonstrated that administrative services exert a significant influence over student satisfaction (Gamage, et al., 2008; Mavondo & Zaman, 2000), therefore leading to the following hypothesis:

H3: The greater the level of satisfaction with administrative service, the greater the overall satisfaction with a university.

Augmented Services

Augmented services serve as potential determinants of student satisfaction but do not fall within the scope of a university's core business. As such, they comprise the range of food on offer in University cafeterias, the price of that food and the public transport services available to students (Price, et al., 2003). Given that such services are regarded as having a salient influence over the success and competitiveness of a university, they are also likely to impact upon student satisfaction (Telford & Masson, 2005). This therefore leads to the following hypothesis:

H4: The greater the level of satisfaction with augmented services, the greater the overall satisfaction with a university.

Physical Evidence

Physical evidence refers to those tangible elements of university service that can be 'seen' and 'touched' by students (Saginova & Belyansky, 2008). It therefore includes such physical

elements as the aesthetic design of university buildings (Abdullah, 2006; Gamage et al., 2008) and the extent to which university buildings and grounds are clean (Gamage, et al., 2008). Physical evidence is a potentially important attribute because as the one tangible element of an otherwise intangible offering, it is likely to shape student attitudes towards their university (Gamage, et al., 2008). It has also been empirically identified as an important determinant of student satisfaction (Arambewela & Hall, 2009; Gamage, et al., 2008), particularly in light of the notion that its tangible nature makes it easier for students to evaluate their service experience (Mavondo & Zaman, 2000). This therefore leads to the following hypothesis:

H5: The greater the level of satisfaction with physical evidence, the greater the overall satisfaction with a university.

Courses Offered

As the name suggests, *courses offered* refers to the courses and degrees offered by a university. Given that students typically compare the courses offered by a university against their desired graduate outcomes (e.g. employment in their desired field) it is no surprise that the perceived relevance of these courses exert a major influence over student satisfaction (Mavondo & Zaman, 2000). For this reason, many universities offer a comprehensive list of courses that are not only interesting but are also directly relevant to the current employment market (Abdullah, 2006; Joseph, Yakhou, & Stone, 2005). Other elements that fall within the theme of *courses offered* include courses with specialisation (Joseph et al., 2005) and courses offering employable skills. With each of these attributes having been found to affect student satisfaction (Arambewela, et al., 2005; Gamage, et al., 2008; Telford & Masson, 2005), it naturally leads to the following hypothesis:

H6: The greater the level of satisfaction with courses offered, the greater the overall satisfaction with a university.

Behavioural Intention

Behavioural intentions have been defined as an individual's conscious decision to exert effort to carry out a particular behaviour (Hsu, Huang, & Swanson, 2010). The importance of gaining insight into students behavioural intentions lies in their direct link to retaining and attracting prospective students (Navarro, et al., 2005). In the specific case of a university, key behavioral

outcomes of satisfaction would be expected to include positive word of mouth (Alves & Raposo, 2007; Arambewela, et al., 2005), the intention to re-enrol (Alves & Raposo, 2007; Arambewela, et al., 2005) and willingness to recommend their university to others (Mavondo, Tsarenko, & Gabbott, 2004).

Empirical studies have identified a positive link between overall satisfaction and behavioural intentions across a variety of service industries (Ibrahim & Najjar, 2008; Szymanski & Henard, 2001). This positive relationship also exists between overall satisfaction and the individual measures of behavioral intention. For example, overall satisfaction has been found to be positively correlated with re-patronage intention (Molinari, Abratt & Dion, 2008). Similarly, studies have identified a strong correlation between overall satisfaction and positive word of mouth behaviour (Makarem, Mudambi, & Podoshen, 2009). There is also empirical support for the notion that as overall customer satisfaction increases, so too does customers' willingness to recommend the service provider to others (Namkung & Jang, 2007). This therefore leads to the following hypothesis:

H7: The greater the level of overall satisfaction with their university, the greater the level of behavioural intention.

Figure 1 visually depicts the relationship between the variables of interest to this study. As per this conceptual framework, it is proposed that the six individual service constructs – academic services, access, administrative services, augmented services, physical evidence and courses offered – influence international students overall satisfaction with their university, which then in turn, determines their behavioural intentions towards it.

Figure 1: Conceptual framework

Methodology

Sample and data collection

The population of interest for this study was defined as all fulltime international undergraduate and postgraduate students that are currently enrolled, and have been enrolled for at least one year, with a university from the Australian state of Victoria. This criterion was utilised to ensure all respondents had sufficient experience with the attitude object – their university. The selection of this group of students is also related to the notion that customer experience is vital for satisfaction assessment (Mavondo, et al., 2004; Mavondo & Zaman, 2000). Based on this definition, it is estimated that the total population for this study was approximately 60,000 students (Australian Education International, 2011). Universities from Victoria were selected as the sampling frame due to the fact that they account for around two thirds of all international student enrolments in Australia (Australian Education International, 2011). Of the seven universities that were approached, four agreed to participate in the study and therefore served as its sampling frame.

Each of the four participating universities was asked to randomly sample 300 international students that met the inclusion guidelines (e.g. they must be currently enrolled, and have been enrolled for at least one year). Of the resulting 1200 online survey links that were emailed out to students, 363 complete and useable responses were received, resulting in a response rate of 30.3%.

Subsequent analysis of the sample profile revealed a gender split of 43.5% male and 56.5% female. When this is compared to the population's gender split of 51% male and 49% female (Australian Education International, 2011), it becomes clear that males are slightly under-represented in this study. In terms of nationality, the three countries that account for the greatest sample representation are Malaysia (accounting for 26.4% of all respondents), China (12.9%) and India (11.6%). This finding suggests that in this regard, the sample provides a good representation of the international student population given that these same three countries serve as Victoria's three largest international student markets (Australian Education International, 2011).

Measures

For all eight constructs of interest - academic services, access, administrative services, augmented services, physical evidence, courses offered, overall satisfaction and behavioural intentions - seven-point rating scales were employed. The scale items used to operationalise each of the eight constructs were adapted from previous studies (Table 1). Whereas the first seven variables were anchored by 1 = very dissatisfied and 7 = very satisfied, behavioural intentions were anchored by 1 = strongly disagree and 7 = strongly agree.

Table 1: Measurement Items for the 8 constructs

Construct	Source	Items Used in This Study
Academic Services	Adapted from Gamage et al., (2008), Abdullah (2006)	The teaching methods used in the classroom
		The learning materials used in the classroom
		The assistance from lecturers to solve students' study problems
		The lecturers' interaction with students
Access	Adapted from Leblanc and Nguyen (1997), Abdullah (2006)	The accessibility to campus buildings and facilities
		Library operating hours
		The various clubs and societies for students
Administrative Services	Adapted from Leblanc and Nguyen (1997), Petruzzellis, D'Uggento & Romanazzi, (2006)	Administrative staff solve students' complaints
		The operating hours of the administration office
		The administrative staff's attitude when dealing with students
		The way administrative staff treat students from different religions and races
Augmented Services	Adapted from Joseph et al.(2005)	Transport services
		The range of foods in the university café
		The food prices at the café
Physical Evidence	Adapted from Leblanc and Nguyen (1997)	The university location
		The design of university buildings
		The university environment
Courses Offered	Adapted from Gruber et al.,(2010)	The subjects offered in the courses
		The course specializations in the degree programs offered by the university
		The relevance of the courses to future jobs
Overall satisfaction	Huddleston, Whipple, Mattick, & Lee (2009)	How would you rate your overall university experience?
		Based on all your experiences with this university, to what extent are you satisfied?
		In general, how satisfied are you with your university?
Behavioural intentions	Landhari (2009)	I say positive things about my university to others
		I would recommend my university to others
		I would re-enrol in this university in the future

Results and analysis

Reliability

Reliability analysis was performed using Cronbach's alpha. With subsequent coefficients of 0.88 (academic service), 0.72 (access), 0.85 (administrative services), 0.88 (augmented services), 0.76 (physical Evidence), 0.81 (courses offered), 0.96 (overall satisfaction) and 0.90 (behavioural intention), the scale can be regarded as reliable (Hair, Babin, Anderson, & Black, 2010).

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was used to determine whether the measurement model possesses good fit. The resulting analysis confirmed that model fit was acceptable: $X^2 = 533.31$, ($p=0.000$); GFI=0.868; AGFI= 0.815; CFI=0.928; NFI= 0.904; RMSEA=0.084 (see Table 2), thereby demonstrating that analysis could proceed to the structural model (Hair, et al., 2010).

Model Analysis

SEM analysis was used to test all seven hypotheses. The resulting analysis provided support for hypotheses H1, H2, H4, H6 and H7. However two hypotheses – H3 ($p = 0.50$) and H5 ($p = 0.32$) - showed non-significant results and were therefore not supported. The regression path between overall satisfaction and behavioural intentions recorded the most significant effect ($\beta = 1.00$; $t = 18.531$; $p = 0.05$) while the respective paths between administrative services, physical evidence and overall satisfaction served as the two non-significant relationships. Table 3 provides a summary of the hypotheses analysed via SEM.

Table 2: Results of Measurement Model

Construct and Items	Factor loading	T-value	P	Cronbach Alpha
s1 ← Academic services	0.812	16.188	***	0.881
s2 ← Academic services	0.837	16.768	***	
s3 ← Academic services	0.796	15.834	***	
s4 ← Academic services	0.780	-		
s5 ← Access	0.656	10.207	***	0.723
s6 ← Access	0.862	-		
s7 ← Access	Deleted			
s8 ← Administrative services	0.858	18.427	***	0.852
s9 ← Administrative services	0.711	14.759	***	
s10 ← Administrative services	0.873	-		
s11 ← Administrative services	Deleted			
s12 ← Augmented Services	0.859	13.286	***	0.876
s13 ← Augmented Services	0.907	-		
s14 ← Augmented Services	Deleted			
s15 ← Physical Evidence	0.760	11.441	***	0.755
s16 ← Physical Evidence	0.815	-		
s17 ← Physical Evidence	Deleted			
s18 ← Courses Offered	0.855	13.982	***	0.811
s19 ← Courses Offered	0.799	-		
s20 ← Courses Offered	Deleted			
OS1 ← Overall Satisfaction	0.923	33.211	***	0.960
OS2 ← Overall Satisfaction	0.973	41.038	***	
OS3 ← Overall Satisfaction	0.937	-		
BI1 ← Behavioural Intention	0.920	19.714	***	0.895
BI2 ← Behavioural Intention	0.942	20.227	***	
BI3 ← Behavioural Intention	0.772	-		
$\chi^2 = 398.55$; $df = 161$; $\chi^2/df = 2.474$; CFI=0.958; TLI=0.946; AGFI= 0.864; RMSEA=0.064; GFI=0.905				
Note: ‘-’denotes there are no t-values because these were constrained items.				

Table 3: Summary of the Seven Hypotheses

Hypothesis	Standardised beta	<i>t</i> -values	<i>P</i>	Supported
H1	0.836	2.469	0.01	Yes
H2	2.608	2.313	0.02	Yes
H3	0.187	0.664	0.50	No
H4	2.694	3.996	0.00	Yes
H5	0.205	0.798	0.32	No
H6	0.617	2.097	0.03	Yes
H7	1.000	18.531	0.00	Yes

Additional analysis

Though not an original objective of the study, further analysis using independent sample T-tests was undertaken to determine whether attitudes were influenced by student status (e.g. undergraduate vs. post-graduate). It revealed that student status influenced satisfaction ratings for 5 of the 6 service factors (table 4). In all 5 cases, the statistically significant difference was due to post-graduate students assigning a higher satisfaction rating. One possible interpretation of this finding is that it is due to their higher satisfaction levels that such students decided to progress from under-graduate studies to post-graduate studies. Alternatively, given that satisfaction is the derivation of comparing performance with expectations, it could also be indicative of the fact that post-graduate students possess a different set of expectations. One final explanation could also be that, due to their financial importance to HEI's, they receive superior service relative to their under-graduate counterparts.

Table 4: Independent-sample T-tests for university service

Service construct	Independent variable	<u>M</u>	DF	t-score	Sig.
Academic Services	Under-graduate	5.0	361	4.2	.00
	Post-graduate	5.5			
Access	Under-graduate	4.9	361	2.1	.04
	Post-graduate	5.2			
Administrative Services	Under-graduate	5.3	361	3.8	.00
	Post-graduate	5.8			
Augmented Services	Under-graduate	4.9	361	4.0	.00
	Post-graduate	5.4			
Physical Evidence	Under-graduate	5.3	361	3.4	.001
	Post-graduate	5.7			
Courses Offered	Under-graduate	5.0	361	1.5	.14
	Post-graduate	5.2			

Discussion

A key objective of this study was to measure how the individual service elements influence international students' overall satisfaction with their university. Analysis revealed that international students' satisfaction with academic services ($H1$, $\beta = 0.83$; $p = 0.01$), access ($H2$, $\beta = 2.6$; $p = 0.02$), augmented services ($H4$, $\beta = 2.69$; $p = 0.00$) and courses offered ($H6$, $\beta = 0.61$; $p = 0.03$) exert a significant influence over overall satisfaction with a university, which then in turn, influences behavioural intention ($H2$, $\beta = 1.00$; $p = 0.00$). In contrast, satisfaction with administrative services ($H3$, $\beta = 0.18$; $p = 0.50$) and physical evidence ($H5$, $\beta = 0.21$; $p = 0.32$) share no significant relationship with overall satisfaction.

The hypotheses developed in this study were based on the model of *transaction-specific satisfaction*, *overall satisfaction* and the *consequences of satisfaction* (Jones & Suh, 2000). The findings from this study suggest that four *transaction-specific* factors of university service influence overall satisfaction with a university. The notion that academic services, courses offered, access and augmented services exert a strong influence over student satisfaction is consistent with findings stemming from previous studies (Arambewela & Hall, 2009; DeShields, et al., 2005; Gruber, et al., 2010; Navarro, et al., 2005).

Conversely, the results show administrative services and physical evidence have no influence on overall satisfaction. In the case of administrative services, its non-significant impact

could stem from the notion that relative to other elements of the service-mix, it serves as a support activity rather than a core element of the university experience. In the case of physical evidence, and in light of the debate as to whether service should be conceptualised in a way that includes tangible elements, it is interesting that it was found to have a non-significant impact on overall satisfaction. Similar to administrative services, the answer could lie in the notion that students assign greater significance to the core service offering rather than those elements that are designed to help deliver it.

The results also indicate that overall satisfaction shares a strong relationship with behavioural intentions. This is consistent with results from previous studies (Alves & Raposo, 2007; Navarro, et al., 2005). The implication here is that in order to improve overall satisfaction, university management should focus their resources on academic services, courses offered, access and augmented services. In doing so, they also enhance the prospect of students re-enrolling with the university, spreading positive word of mouth about it, and recommending the university to others.

Conclusions, limitations and future research

A key objective of the study was to measure the influence of 6 elements of university service on overall satisfaction. Analysis revealed that only four of these - *academic services, courses offered, access, and augmented services* – influence international students' overall satisfaction with their university. Given the reality of finite resources, it is recommended that universities' focus their resources on these four factors. Such strategic action is likely to result in a more direct impact on overall satisfaction, which in turn is likely to result in greater student attraction (via recommendations and positive word of mouth communications from present students) and retention (via re-enrolment).

It is important for universities to expand their role in managing international students, not only by providing good quality services but also by evaluating more closely the extent to which international students are satisfied. This study has provided an evidence-based analysis of the service elements of a university that such evaluation should be focused upon. It has also identified the service elements that should be emphasised when developing marketing messages designed to attract and retain international students.

Limitations

An over-riding goal of this study was to gain insight into the attitudes of international students and to do so utilising a sampling frame comprising seven universities. The fact that only four universities agreed to participate in the study should be taken into account when considering whether to generalize its findings. Moreover, as part of the ethics agreement with each of the four participating universities, no data was collected that would identify the specific university with which each respondent was enrolled. As such, it was not possible to determine whether satisfaction scores varied according to each specific university. Given that satisfaction is derived by comparing performance with expectations, it is very reasonable to expect that satisfaction ratings could differ by university, given that service performance is likely to differ across each of the four participating universities. This therefore serves as another limitation that should be considered when taking into account the findings of this study. As a final limitation, it should also be remembered that analysis of the sample profile revealed that male students were slightly under-represented in this study.

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