

The importance of institutional image to student satisfaction and loyalty within higher education

Robert M. Brown · Timothy William Mazzarol

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Abstract This paper outlines the findings of a study employing a partial least squares (PLS) structural equation methodology to test a customer satisfaction model of the drivers of student satisfaction and loyalty in higher education settings. Drawing upon a moderately large sample of students enrolled in four ‘types’ of Australian universities, the findings suggest that student loyalty is predicted by student satisfaction, which is in turn predicted by the perceived image of the host university. While the perceived quality of “humanware” (e.g., people and process) and “hardware” (e.g., infrastructure and tangible service elements) has an impact on perceived value, this was found to be weak and indeterminate. Of most importance was the impact of the institution’s institutional image, which strongly predicted perceived value, and to a lesser extent student satisfaction. The findings have implications for newer, less prestigious universities seeking to compete in a more deregulated, market driven environment.

Keywords Higher education · Services marketing · Image · Partial least squares

The need for research into educational marketing

Throughout the 1980s and 1990s there was also a growth of the tenet that high-quality services produce measurable benefits in terms of profit, cost savings, and market share (Parasuraman et al. 1991, p. 335). Not surprisingly, universities that were now faced with increasingly competitive and commercial environments, turned to the strategy of addressing the quality of service delivery and related factors as a way of obtaining a competitive advantage in this increasingly challenging environment (Poole et al. 2000, p. 18). However, there would appear to have been relatively little formal research undertaken which focuses on the drivers of customer satisfaction amongst tertiary students, and whether the provision of high-quality services is likely to produce a tangible benefit in

R. M. Brown · T. W. Mazzarol (✉)
University of Western Australia, Crawley, WA, Australia
e-mail: tim.mazzarol@uwa.edu.au

terms of customer satisfaction and customer loyalty to institutions that are devoting considerable resources to this cause (Mazzarol and Soutar 1999, p. 287).

Beyond economic magnitude, however, the University sector represents an interesting milieu for a research study grounded in the discipline of services marketing. For example, in 2004–2005, the Australian Federal Government's direct contribution to the sector's revenue was down to 41% of the total; the remainder was largely contributed by student fees and charges of various kinds (Nelson 2005). In an environment which now acknowledges higher education as a major service good, and students as customers and clients (Australian Senate 2001; Meek and Wood 1998; Moodie 2001), a study of the factors which drive customer satisfaction and student loyalty would seem to have value.

Because the nature of western economies is changing from a basis of mass production and consumption of commodities towards the production of increasingly differentiated goods and services, it has seemed sensible to develop new customer-based measures—often in the form of Customer Satisfaction Indices (CSI)—for evaluating and enhancing the performance of firms/industries/economic sectors/national economies in delivering goods and services to the customers who consume them (Fornell et al. 1996, p. 7). Considerable efforts are expended within Australian universities on improving service delivery to their students as a means of enhancing performance. However, there is little apparent research evidence supporting the focus that is placed on improving customer satisfaction as a way of providing universities with a competitive advantage within the Australian higher education marketplace. This research project aimed to provide a clearer guide as to what are the strongest drivers of student satisfaction within a University setting, and whether a focus on elements such as the improvement of image, the provision of improved 'hardware' and 'human' customer services and so on is justified by the likelihood of increased customer loyalty. All of this led to the development of the following research question:

- *Given an increasingly market-oriented higher education environment, will a model developed from the study of services marketing show itself to be applicable to universities operating in the sector?*

The commercialisation of Australian universities

By any measure, the Australian higher education system comprises a significant portion of the service sector within the Australian economy. For example, in 2004–2005, Australian university operating grants totalled some AUD\$6.75 billion, growing to AUD\$7.8 billion in 2005–2006. The total sector revenue in 2003 was AUD\$11.9 billion (Nelson 2005, p. 38–39). In 2004, a total of 944,977 students attended Australian higher education providers, comprised of 716,422 domestic and 228,555 overseas students. Australia has 37 public and two private universities, one branch college of an international university and four self-accrediting higher education providers. Australia's universities generally offer a comprehensive range of undergraduate and postgraduate degrees with around 10,000–20,000 students enrolled. A further 100 higher education colleges exist that offer specialist courses (AEI-NOOSR 2006).

Compared with other OECD countries Australian governments (Federal and State) spend broadly equivalent proportions of GDP on education, but the private sector is a more important source of funding (approximately 24.5%) than is the case for most countries (with the exceptions of Korea, Japan and the United States). Australia also has a higher rate of school and university graduations than the OECD average (O'Reilly 2002). In general

Australia has a small, but high quality education sector and since the mid-1980s the country has become a major participant in the global trade in education services (Mazzarol and Soutar 2001).

Although Australia's university sector experienced a number of reforms since 1945 (DEET 1993), the pace of change began to increase during the 1980s in concert with the deregulation of many areas across the Australian economy. During the 1960s and 1970s the Australian higher education system consisted of a two-tiered structure comprising universities and other degree issuing institutions that included Colleges of Advanced Education (CAE) and Institutes of Technology. These latter institutions were primarily distinguished from universities by their applied approach and relatively low level of research activity. However, faced with increasing demand for university places the Federal Government undertook a reform process in the period 1987–1989 that saw the Australian higher education system significantly transformed (Poole et al. 2000). The dual system was abandoned and the CAE and Institutes of Technology became universities. At the same time the Australian education sector began to open up to full-fee paying international students (and, more recently, full fee-paying local students), and the requirement for institutions to generate alternative sources of funding, have been among the forces which have led to a far greater level of competition within a sector that traditionally operated along more collegial lines (Marginson 1997). In short, these institutions have become 'enterprise universities' (Marginson and Considine 2000).

During the 1990s Australia emerged as one of the top five suppliers of education services in the world. In 2002 there were over 253,780 international students enrolled within its institutions, contributing around \$5.2 billion to the Australian economy (AEI 2003). By 2006 this trade in international education services ranked as the nation's third fastest growing export industry after coal and metals ores (IDP 2006). The majority of these students were sourced from countries in the South East Asian region, particularly China, Singapore, Hong Kong, Malaysia and Indonesia where geographic proximity and unmet demand at the local level served to boost the trade (TIAC 2000).

Developing the research model

A research model was developed that was most closely based upon the ECSI, or European Customer Satisfaction Index (Cassel and Eklof 2001; European Organisation for Quality 2001; Kristensen et al. 2000; Martensen, Gronholdt and Kristensen 2000), but that was also strongly influenced by work from Cronin, Brady and Hult (2000) and Teas (1994). Figure 1 shows the base model that postulated the relationships between the constructs.

As illustrated by Fig. 1, the research model suggests that student-customer loyalty to a university is determined by the overall level of satisfaction the student-customer or has with the institution, which is itself influenced by the perception of value held by the student-customer of the overall educational service experience provided by the institution. Other potentially important influencing variables are the image of the institution and the perceived quality of the 'software' or 'humanware' and the perceived quality of the 'hardware'. The perceived quality of "humanware" (i.e., service quality associated with people and process) and "hardware" (i.e., service quality associated with infrastructure and tangible service elements) is a separation that stems from the ECSI model. Drawing a comparison with the better-known SERVQUAL instrument (Parasuraman, Zeithaml and Berry 1988), the hardware construct was shown to align very closely with what SERVQUAL refers to as the 'Tangibles' dimension of service quality; and the "humanware"

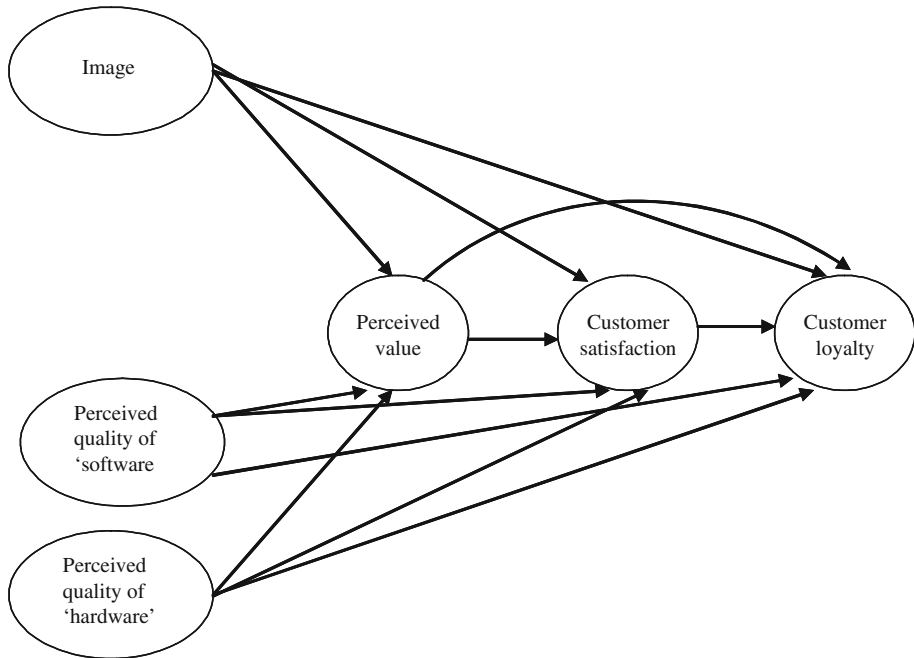


Fig. 1 Model for testing drivers of student satisfaction and loyalty in an Australian higher education setting. Based upon: Cronin et al. (2000, p. 207); Kristensen et al. (2000, p. 1010)

encompassed the other four SERVQUAL service quality dimensions (e.g., empathy, assurance, responsiveness and reliability). Although this was the base model for investigation, there was good evidence in the literature that many of these constructs are actually multi-dimensional (Buttle 1996). In practice, scales drawn from the literature were used as the basis for the constructs, and the development of a more elaborate research model based upon a multi-dimensional version of the above conceptual framework was planned.

Methodology

A survey instrument using scales drawn from the literature was trialled and then administered to a random selection of onshore undergraduate students attending four different 'types' of university within a single Australian city. The typology used in the study was based on that of Marginson and Considine (2000) and identified universities as:

1. *Sandstones*—the older more prestigious research intensive institutions that pre-dated the 1980s reforms and which were mostly established prior to the Second World War;
2. *Gumtrees*—those institutions created during the post-war era that were established in the main period of publicly-funded University expansion (e.g., during the 1970s);
3. *UniTechs*—the Universities of Technology that were formerly the Institutes of Technology created during the 1960s as applied research and technology centres; and
4. *New Universities*—institutions that achieved university status as a result of the 1980s reforms to the dual system and which were previously Colleges of Advanced Education (CAE), (similar to Community Colleges in the United States).

A sample of students was selected from one institution in each of these four categories. The demographic elements associated with each institutional sample were checked to ensure that the selection of responding students was a reasonably close match to the student population as a whole (e.g., undergraduate, postgraduate and by gender and faculty). The questionnaire was developed into a small booklet and was piloted prior to the administration of the full survey with a dozen students who also participated in a focus group after completing the questionnaire to provide feedback on its readability and efficacy. Following this the questionnaire was redesigned and administered to a larger group of 40 students in a second pilot test procedure used to validate the questionnaire. The final survey involved the questionnaire being collected via two methods. In the first the questionnaire was distributed to students during classes along with a return addressed envelope and an incentive offer to help boost response rates. In the second it was mailed to students. Response rates for the first collection method were 47% and for the second method 21%. All students participated on an anonymous, confidential basis. After data cleansing procedures, a total of 373 useable student responses were obtained representing the four institutional types.

A Principal Components Analysis (PCA) of the various constructs was undertaken, and produced the levels of dimensionality illustrated in Table 1. These dimensions were derived from the total data set (373 cases), and were then checked for consistency and robustness across subsets comprising the institutional sub-populations. Each of the dimensions used in the model's constructs were developed using Principal Component Analysis procedures with VARIMAX rotation and the selection of factor loadings where the eigenvalues for each factor were greater than one. The Kaiser–Meyer–Olkin measure of sampling adequacy (Kaiser 1974) was employed to test the suitability of the data for factoring prior to each Principal Components Analysis. Once each factor was identified the reliability of the scales used to measure each dimension was assessed using Cronbach's

Table 1 Summary of dimensions and indicators for nominated constructs

Dimensions	Indicators
Construct: Image	
Study environment (Image_En)	10 indicators (formative)
Practicality (Image_Pr)	3 indicators (formative)
Conservativeness (Image_Co)	3 indicators (formative)
Construct: Humanware quality	
Reliability/Responsiveness (SerQu_RR)	11 indicators (Reflective)
Assurance/Empathy (SerQu_AE)	12 indicators (Reflective)
Construct: Hardware quality	
Tangibles (SerQu-T)	7 indicators (Reflective)
Construct: Percieved value	
Emotional (Value_EmP)	5 indicators (reflective)
Social (Value_So)	4 indicators (reflective)
Price/Value (Value_PV)	4 indicators (reflective)
Quality/Performance (Value_QP)	4 indicators (reflective)
Construct: Customer satisfaction	
Evaluative (Satis_Ev)	3 indicators (reflective)
Emotional (Satis_Em)	3 indicators (reflective)
Construct: Perceived value	
Customer Loyalty (Loyalty)	5 indicators (reflective)

Alpha test (Cronbach, 1951). In summary, the Principal Components Analyses for the six constructs in the basic model demonstrated the following broadly consistent patterns across the dataset as a whole, as well as a number of subsets drawn from the different categorisations of Australian universities.

The IMAGE dimension

The items used to develop the IMAGE dimension were drawn from an unpublished research study (Turner 1999). They were categorised into three components, which were named “Study Environment” (ten items), “Practicality” (three items) and “Conservativeness” (three items). The first measured such things as whether the institution was viewed as friendly, supportive, innovative, student focused and offering a good range of courses. The second measured how practically focused the courses were, whether entry was flexible (e.g., enrolments mid-year), and how “job oriented” the study programs were. The third dimension of “Conservativeness” was a measure of whether the institution was long-established, or perceived as traditional or prestigious. However, the strength of these categorisations was somewhat variable across different subsets of data, although these components were seen to be appropriate as a starting point to continue into the next stage of analysis.

Measures of service quality—humanware and hardware

The measurement of service quality was evaluated using a combination of the SERVQUAL (22 item) scale (Parasuraman et al. 1988; Parasuraman et al. 1991), items from a service quality measure used within university settings (Hennig-Thurau et al. 2001), and the ECSI scale (Martensen et al. 2000). The service quality items (supplemented by items more specifically related to a university environment) followed a pattern which paralleled closely the well-known SERVQUAL scale (Parasuraman et al. 1988). However, whereas the published scale posits five dimensions (tangibles, assurance, empathy, reliability, responsiveness), in the case of universities a pattern of three components was found to be statistically robust across all samples. These were formed by pairings of four of the original scale dimensions combined into two components; the remaining component matched one of the original scale dimensions. This was not a particularly surprising finding, since the literature has many examples of SERVQUAL resolving into different numbers of dimensions in different contexts (Buttle 1996). Accordingly, it was decided to represent the “Humanware” construct in the model by the components *Reliability/Responsiveness* (11) and *Assurance/Empathy* (12), while the Hardware component seemed well represented by the SERVQUAL *Tangibles* (7) construct.

The VALUE dimension

The use of a VALUE measure was considered appropriate because value is different to service quality and consumer satisfaction exerts a stronger influence on purchase intentions than service quality (Cronin and Taylor 1992, 1994). The nineteen-item PERVAL scale (Sweeney and Soutar 2001), while initially developed in a retail setting, was selected as it seemed well-suited to a service-related context in a university environment. While two of the items associated with perceived quality did not seem to translate to the new environment, the remaining 17 items resolved cleanly into four components mirroring the

dimensions occurring in the original study: *Emotional* (5); *Social* (4); *Price/Value* (4); and *Quality/Performance* (4). These were retained for future analysis.

Measuring customer satisfaction

The original set of eight items in this scale (Brady, Cronin and Brand 2002; Cronin et al. 2000) contained two negatively-worded (and negatively connotative) items that proved problematic in terms of resolving the scale into the hypothesised two dimensions. By removing these items, the scale resolved into two three-item components (*Evaluative* and *Emotional*) that corresponded to the two dimensions hypothesised as delineating Customer Satisfaction. The evaluative dimension examined such issues as whether the student considered the institution “a wise choice”, “the right thing to do” or “what they needed”. The emotional dimension included items that measured interest, enjoyment and surprise.

The measure of loyalty

The loyalty construct was conceptualised as a one-dimensional factor encompassing several facets of the loyalty construct, including referral and repurchase intentions. It was found that the omission of one of the original six items in the scale produced a reasonably robust one-component construct across all data sets. This corresponded to the findings in the original study (Hennig-Thurau et al. 2001). It should be noted, however, that there is currently debate in the literature in terms of the dimensionality of Loyalty as a construct. While it is acknowledged that it is multi-dimensional (Ganesh et al. 2000, pp. 74–76; Rundle-Thiele 2005, p. 340; Yu and Dean 2001, pp. 238–239), the exact nature of this multi-dimensionality remains a matter of continuing investigation (Rundle-Thiele 2005, pp. 340–342). The findings of this study should perhaps therefore be taken to be pertaining to a dimension of Loyalty, rather than to the total construct. The scale included measures of the student’s willingness to recommend the course or institution to others, maintain contact with the faculty, select the institution again for future study or join the alumni.

Model elaboration and analysis

The results from these various Principal Components Analyses led to the creation of a substantially more complex ‘elaborated’ research model as a starting point for Structural Equation Modelling, which is shown in Fig. 2.

As Fig. 2 illustrates, the elaborated model contained all the chosen dimensions and their indicators with hypothetical paths connecting each dimension. A particular form of structural equation modelling (SEM) known as partial least squares (PLS) was selected for the analysis of the model. The PLS method has some advantages in specific instances over the better-known covariance-based SEM procedures. First, it has the capacity to handle both formative and reflective indicators for latent variables. Second, it makes minimal demands on measurement scales (e.g., unnecessary for interval/ratio level), and finally, it requires a smaller sample size than more common SEM techniques.

It can be used for theory confirmation, but also for suggesting where further relationships within a model might exist for later testing (Chin 1998, pp. 295–296). In the case of the current study, the use of PLS was appropriate due to the complexity of the theoretical model and the presence of both reflective and formative indicators. It is also the “analytic technique of choice” for ECSI models (Bayol et al. 2000; Westlund et al. 2001).

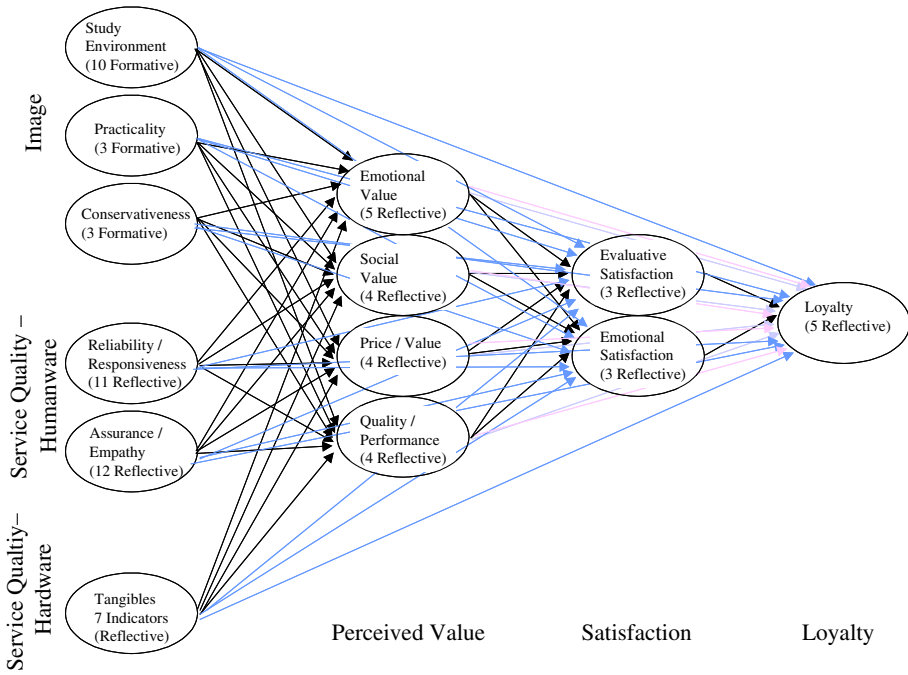


Fig. 2 ‘Elaborated’ model incorporating additional construct dimensions

A number of iterations of PLS were run to simplify the path relationships in the elaborated model on the basis of retaining only paths which held statistically significant relationships. The complex model from Fig. 2 resolved to Fig. 3. This third model explained 41 and 50%, respectively, of the variance in the *Evaluative* and *Emotional* dimensions of *Satisfaction*, and 72% of the variance in *Loyalty*.

Findings

The outcomes of this statistical modelling indicated that the use of an elaborated model was justified, in the sense that it demonstrated that inter-relationships between constructs varied substantially across the sub-dimensions. However, whatever the benefits of this analysis, it produced a model that perhaps lacked some of the conceptual clarity and elegance of that originally postulated in the theoretical model. In this light, it was interesting to examine the extent to which the findings of the elaborated model might be seen to reflect back onto the unidimensional model that was initially hypothesised. The following sub-sections provide a summary of the generalisations that were found to exist between the final model and the various ‘parent’ constructs from which it developed:

The IMAGE dimension

The *Image* dimension displayed a strong relationship across several dimensions of the *Value* construct. It also displayed a moderately strong relationship with one of the two *Satisfaction* constructs.

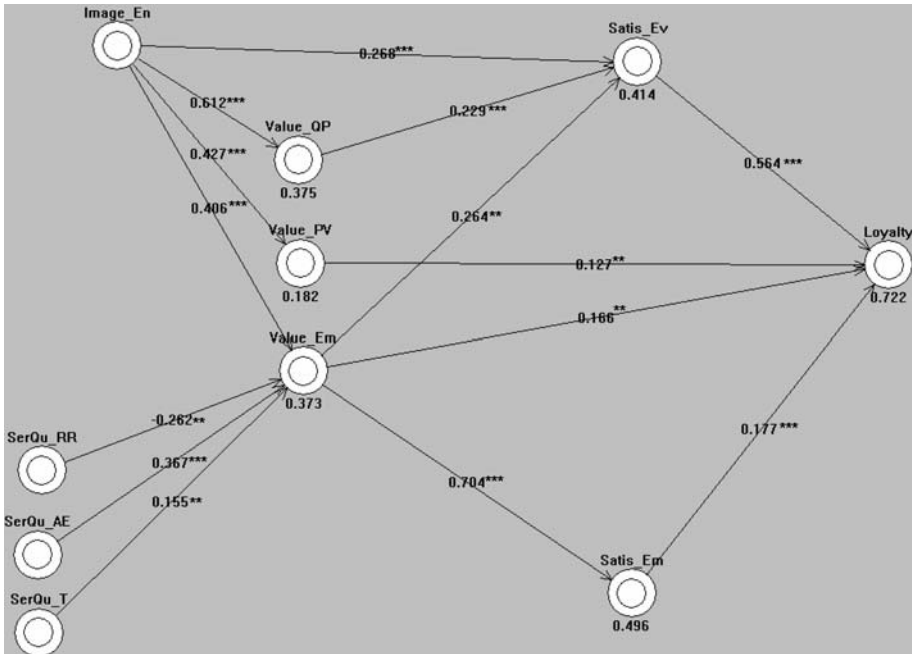


Fig. 3 Diagram of ‘Significant path’ model, with path loadings and significance levels. 2-tailed *t*-Test Statistics for *n* = 200 samples (199df): *p* < 0.05: *t*(199) > 1.97*; *p* < 0.01: *t*(199) > 2.60**; *p* < 0.001: *t*(199) > 3.33***. Refer to Table 1 for construct names and details

Service quality—humanware

The two *Service Quality: Humanware* dimensions displayed a significant path relationship with only one of the three *Value* dimensions, and even that was curious. One path was positive, the other inverse. It is, at best, a rather indeterminate relationship.

Service quality—hardware

The *Service Quality: Hardware* dimension also displayed a significant path relationship with only one of the *Value* dimensions, and it was at a relatively low level (0.155). This was not a statistically robust relationship.

Value and satisfaction

Two of the three *Value* dimensions had a significant path to one of the *Satisfaction* dimensions; one of them also had a very large path (0.704), to the other *Satisfaction* dimension. Overall, this is a strong relationship.

Value and loyalty

Two of the three *Value* dimensions also had a relationship directly to *Loyalty*, although not at a particularly strong level.

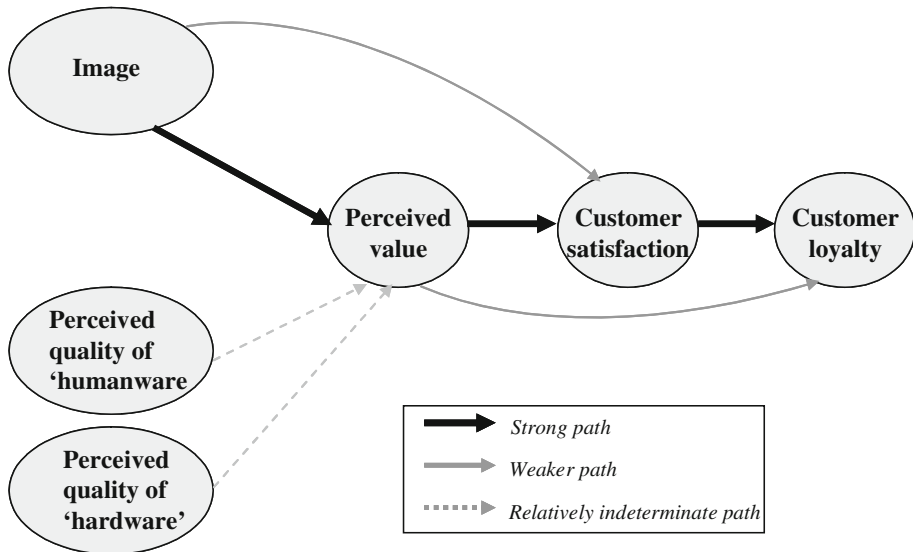


Fig. 4 Schematic outline of relationships between initial model constructs in an Australian higher education setting

Satisfaction and loyalty

Although one was stronger than the other, both *Satisfaction*, dimensions nevertheless had a strongly significant link to *Loyalty*.

Using these broad generalisations as a guide, it is possible to present these findings in a schematic model—Fig. 4—as a final comment on the original model posited in Fig. 1 shown earlier. As a broad-brush summary of the major antecedents of student satisfaction and loyalty in an Australian university setting, this may be a useful conceptual tool for university administrators. Interestingly, these findings held consistent without statistically significant difference across all universities surveyed in this study. None of the differences that might have been supposed for students attending Sandstone and New universities were seen to exist in the way in which this model played out.

Discussion of the findings

These findings provide evidence of the importance of value perception and customer satisfaction to student loyalty and in this sense they are consistent with similar findings found within the services marketing literature (Sweeney and Soutar 2001; Cronin and Taylor 1992, 1994). However, they also point to the relative importance of institutional image as key antecedent for consumer value perception, satisfaction and loyalty, while also demonstrating the relative weakness of service quality. Brand image within universities and other education institutions is likely to be just as important as for other types of service organisations. However, despite the trend towards a stronger market orientation and commercial focus within universities the process of brand building within such institutions is likely to remain challenging (Chapleo 2007).

This research study also confirms the view that the higher education sector can be considered a marketplace and university education a marketable service. The implication from this is that universities can only be successful as long as their student-customers are being offered something that they wish to buy, at a quality they feel is acceptable (Zemsky et al. 2005, p. 59). This is unsurprising given the trend in Australia since the 1980s of shifting higher education from a public good funded by the state, to a fee-for-service, user-pays system (King 2001). Although, at time of writing, the full cost of an undergraduate student's degree program was still subsidised by Federal Government grants to the universities, the steady rise of the student's own fee contribution and the emergence of a trend toward more full-fee paying places ensured that many students would view themselves as consumers. These trends in government funding also led to the call for reviews of the system out of concern that the current funding formulae were likely to cause long term harm (Jackson 2002; Tandukar 2007).

The problem for many institutions in the Australian Federal Government's policy of shifting the higher education sector towards a free-market model is that the playing field is not level. The marketplace that has been produced in this way is not truly contestable due to the positional nature of the goods on offer. In this quasi-marketplace, competition serves only to enhance the vertical differentiation among institutions, because universities start from different places in the hierarchy. It has been argued that positional value is the strongest drawcard for universities, and the greatest positional value lies in institutional prestige, which in Australia tends to be synonymous with institutional age (Marginson and Considine 2000, p. 191).

Of some importance therefore, was the finding that these relationships were consistent across all four types of university. This suggests that brand image within universities need not be determined solely by history. The "pecking order" of universities within Australia, as with many other countries, is often perceived as determined by the length of time the institution has been in existence. However, this study suggests that image may be more independent of institutional age than at first thought. The findings also suggest that institutional image is more complex than simply running along a high-low prestige continuum. Taking the findings of the investigation of the research model, the evidence from the current study is strongly suggestive that institutional image is a critically important construct for students in various types of university regardless of their age. Further, student satisfaction and loyalty is not necessarily shaped solely—or even mainly—on the basis of strongly positional elements, or strong performance in terms of service quality. Finally, both transactional, evaluative factors and emotional responses appear to strongly influence a student's perceptions of satisfaction and institutional loyalty.

This series of findings opens a way forward in strategic marketing terms for new, less-established universities to compete with their more mature counterparts. Taking each of these points in turn, the findings suggest that education institutions seeking to enhance their market position and student loyalty might adopt several possible strategies. The first of these is the development of a clear brand position within their chosen markets. Given that institutional image is not defined merely along a high-low prestige continuum, universities could work to develop clear branding and strategic image management campaigns that go beyond basic student recruitment and begin to explore a genuine, institution-wide focus on the characteristics that can form each university's strengths and competitive advantages, bearing in mind the complexity of factors that can go towards making up an institution's image. It follows from this that there will be a need for the institution to focus on activities that support a clear mission that fulfils a perceived need within a well-conceptualised market segment. The findings of the elaborated model also suggest that these image

management campaigns and mission-dependent foci should rely not only on evaluative, transactional elements, but also on emotional factors that are so clearly important in shaping students' satisfaction and institutional loyalty. Further detail on the research unpinning this study can be found in Brown (2006).

Conclusion

The 1980s reforms of the Australian higher education sector were designed to achieve enhanced access to universities and to increase the level of competition within the sector. Subsequent reforms of the Federal Government's *Crossroads Review* of Higher Education in 2002–2003, sought to develop a more differentiated sector (Nelson 2002). At time of writing a change of national government within Australia has removed this policy direction in favour of an "education revolution". However, as noted above, the trend in higher education policy has been toward a fee-for-service, user-pays system that has encouraged greater competition among universities. Changes of national leadership seem unlikely to change the general trend towards greater competition at both the national and international levels. Although official rankings of universities are uncommon in Australia, a pecking order based primarily on research activity has emerged (Ville, Valadkhani and O'Brien 2006). This tends to favour the "Sandstone" universities within what is known as "The Group of Eight", a grouping of the older, more research intensive institutions that now use this collective title as a marketing tool.

It can be argued that some aspects of the Australian Federal Government's funding model militate against competition by creating a sector that tends to differentiate along one dimension only—prestige. This has been reflected in the past in other policy initiatives focusing on the rewarding of teaching and research performance within the university sector (DEST 2006a, 2006b), which tend to advantage the established institutions. However, university administrators from less-established institutions should not lose heart. The findings presented in this study suggest that within the current competitive market environment the development of differentiated strategic image management strategies, and the underpinning commitment to genuinely different missions that support the rhetoric, represent the most appropriate market response for institutions that do not have the advantage of the positional high ground.

Findings from the current research study suggest that universities that pursue what has been called a 'market-smart and mission-centred' approach (Zemsky et al. 2005), can be successful in developing competitive advantage against their more prestigious colleagues. This might occur through pursuing expertise in dealing with specialist student cohorts, for example students from an educationally disadvantaged or culturally and linguistically diverse (CALD) backgrounds; or pursuing excellence within specialised course niches (such as forming nationally-recognised Institutes of Advanced Study in various disciplines); or gaining regional supremacy through demonstrated commitment to a particular location; or through focussing on specialised modes of delivery, for example expertise in flexible delivery modes. Or, indeed, by being the most prestigious institution in a major city, which would remain a suitable competitive strategy for a relatively small number of institutions.

The study has some limitations. The sample was drawn from a single country and single capital city. While the final sample was a good representation of the student population found across the Australian higher education sector, and the statistical modelling was robust, future research should aim to replicate the results using other student populations in

different geographic locations and political jurisdictions. Some of the findings, such as the service quality–humanware relationship were indeterminate suggesting that the negative path coefficient for the latent variable “Reliability/Responsiveness” may indicate a suppressor relationship. As such, some care needs to be taken when working with the PLS path analysis strategy. Nevertheless, on the basis of the findings from the current research study, institutions that develop recognisable activities based around meaningful missions, develop excellence in them, and develop a clever strategic image management process around this mission that goes beyond merely student recruitment, can hope to achieve services marketing success within competitive market environments.

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