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Factors Driving Student Satisfaction and Loyalty in Australian Universities: The Importance of Institutional Image

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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.[1]

Keywords:
Services Marketing, Higher Education, Image, Partial Least Squares

INTRODUCTION

Competition has increased markedly in the Australian higher education sector in the period since major reforms were instituted by John Dawkins, the then-Australian Federal Education Minister, in 1987-89 (Poole et al. 2000:1). The transformation of Colleges of Advanced Education and Institutes of Technology into universities, the opening of the local market to full fee-paying overseas 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 & Considine 2000).

During this same period, there has been the growth of the tenet that high-quality services produce measurable benefits in terms of profit, cost savings, and market share (Parasuraman, Berry & Zeithaml 1992: 335). Not surprisingly, universities have 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: 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 terms of customer satisfaction and customer loyalty to institutions that are devoting considerable resources to this cause (Mazzarol & Soutar 1999: 287).

[1] This paper has benefited substantially from the thoughtful comments of three anonymous reviewers who responded to an earlier draft. The authors would like to sincerely thank them for their efforts, which are much appreciated.

RESEARCH ENVIRONMENT

This article outlines the findings of a research study undertaken using students drawn from a number of Australian universities. By any measure, the higher education 'industry' comprises a significant portion of the service sector within the Australian economy. In 2004/05, Australian university operating grants totalled some $6.75 billion, growing to $7.8 billion in 2005/06. The total sector revenue in 2003 was $11.9 billion (Nelson 2005: 38-9). In 2004, a total of 944,977 students attended Australian higher education providers, comprised of 716,422 domestic and 228,555 overseas students.

Beyond economic magnitude, however, the University sector represents an interesting milieu for a research study grounded in the discipline of services marketing. In 2004/05, the Commonwealth's direct contribution to the sector's revenue was down to 41 per cent of the total; the remainder was largely contributed by student fees and charges of various kinds (Nelson 2005: 15). In an environment which now acknowledges higher education as a major service good, and students as customers and clients (Australian Senate 2001; Meek & Wood 1998; Moodie 2001), a study of the factors which drive customer satisfaction and student loyalty would seem to have value.

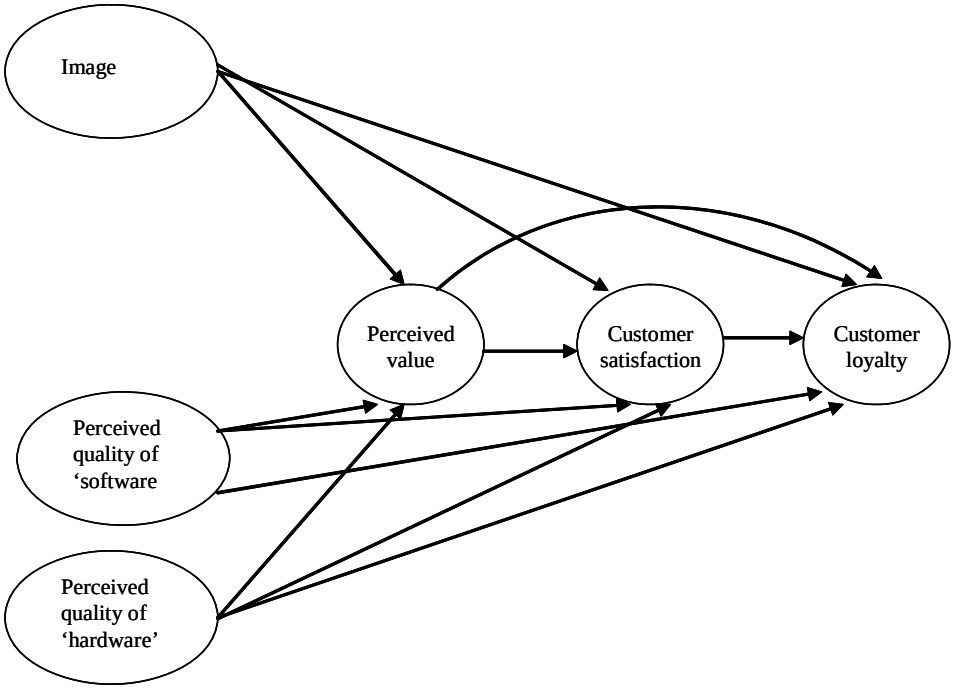
Because the nature of western economies is changing from a basis of mass production and consumption of commodities towards the production of increasingly differentiated goods and services, it has seemed sensible to develop new customer-based measures – often in the form of Customer Satisfaction Indices (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: 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 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 problem. Given the increasingly market-oriented higher education environment in Australia, will a model developed from the study of services marketing show itself to be applicable to universities operating in the Australian sector?

RESEARCH MODEL

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

Figure 1
Model for Testing Drivers of Student Satisfaction And Loyalty in an Australian Higher Education Setting



(Based upon: Cronin, Brady & Hult 2000: 207 ; Kristensen, Martensen & Gronholdt 2000: 1010)

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 & 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 encompasses the other four SERVQUAL service quality dimensions.

Although this was the base model for investigation, there is good evidence in the literature that many of these constructs are actually multi-dimensional. 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 identified universities as *Sandstones* (older, prestigious institutions); *Gumtrees* (post-war foundations established in the main period of publicly-funded University expansion); *UniTechs*, or Universities of Technology; or *New Universities*, institutions having achieved University status as a result of the post-Dawkins reforms (Marginson & Considine 2000). Demographic elements

were checked to ensure that the selection of responding students was a reasonably close match to the student population as a whole. After data cleansing procedures, a total of 373 useable student responses was obtained: 188 from the New University, 85 from the Sandstone University, and 100 in total from the Gumtree and UniTech institutions.

A Principal Components Analysis (PCA) of the various constructs was undertaken, and produced the levels of dimensionality illustrated in Table 2. These dimensions were derived from the total data set (373 cases), and were then checked for consistency and robustness across subsets comprising: the New University (188); the total non-New University cases (185); and the Sandstone University (85).

Table 2
Summary of Dimensions and Indicators for Nominated Constructs

Construct	Dimensions	Indicators
Image	• *Study Environment (Image_En)* • *Practicality (Image_Pr)* • *Conservativeness (Image_Co)*	• 10 indicators (Formative) • 3 indicators (Formative) • 3 indicators (Formative)
Perceived Quality: Humanware	• *Reliability / Responsiveness (SerQu_RR)* • *Assurance/Empathy (SerQu_AA)*	• 11 indicators (Reflective) • 12 indicators (Reflective)
Perceived Quality: Hardware	• *Tangibles (SerQu-T)*	• 7 indicators (Reflective)
Perceived Value	• *Emotional (Value_QP)* • *Social (Value_So)* • *Price/Value (Value_PV)* • *Quality/Performance (Value_QP)*	• 5 indicators (Reflective) • 4 indicators (Reflective) • 4 indicators (Reflective) • 4 indicators (Reflective)
Customer Satisfaction	• *Evaluative (Satis_Ev)* • *Emotional (Satis_Em)*	• 3 indicators (Reflective) • 3 indicators (Reflective)
Customer Loyalty	• *Customer Loyalty (Loyalty)*	• 5 indicators (Reflective)

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.

Image: The items, drawn from an unpublished research study (Turner 1999), were categorised into three components, which were named Study Environment (10 items), Practicality (3 items) and Conservativeness (3 items). 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.

Service Quality – Humanware and Hardware: 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. However, whereas the published scale posits five dimensions, in the case of universities the pattern of three components seemed reasonably robust across all samples. These were formed by pairings of four of the original scale dimensions combining 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.

Value: The nineteen-item PERVAL scale (Sweeney & Soutar 2001), while initially developed in a retail setting, generally seemed well-suited to a service-related context in a university environment. However, two of the items associated with perceived quality did not seem to translate to the new environment. Nevertheless, the remaining seventeen 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.

Customer Satisfaction: The original set of eight items in this scale (Brady, Cronin & Brand 2002; Cronin, Brady & Hult 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.

Loyalty: 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, Langer & Hansen 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, Arnold & Reynolds 2000, p.74-6; Rundle-Thiele 2005, p.340; Yu & Dean 2001, pp.238-9), the exact nature of this multi-dimensionality remains a matter of continuing investigation (Rundle-Thiele 2005, p.340-2). 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 results from the PCA led to the creation of a substantially more complex 'elaborated' research model as a starting point for Structural Equation Modelling, as shown in Figure 2.

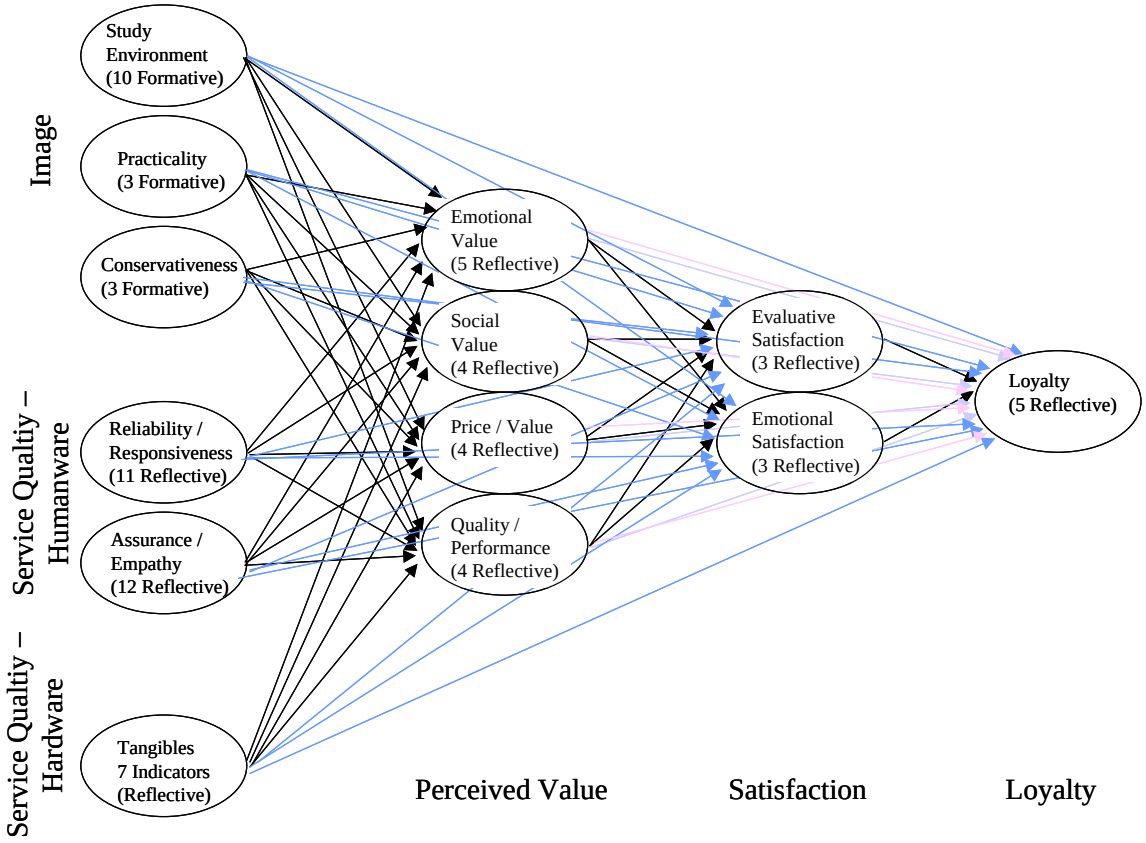
PARTIAL LEAST SQUARES ANALYSIS OF THE STRUCTURAL MODEL

A particular form of Structural Equation Modelling (SEM) is known as Partial Least Squares (PLS). The PLS method has some advantages in specific instances over the better-known covariance-based SEM procedures:

- It has the capacity to handle both formative and reflective indicators for latent variables.
- It makes minimal demands on measurement scales (e.g., unnecessary for interval/ratio level).
- 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: 295-296).

In the case of the current study, it was argued that the use of PLS was appropriate, particularly because of 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).

Figure 2
'Elaborated' Model Incorporating Additional Construct Dimensions



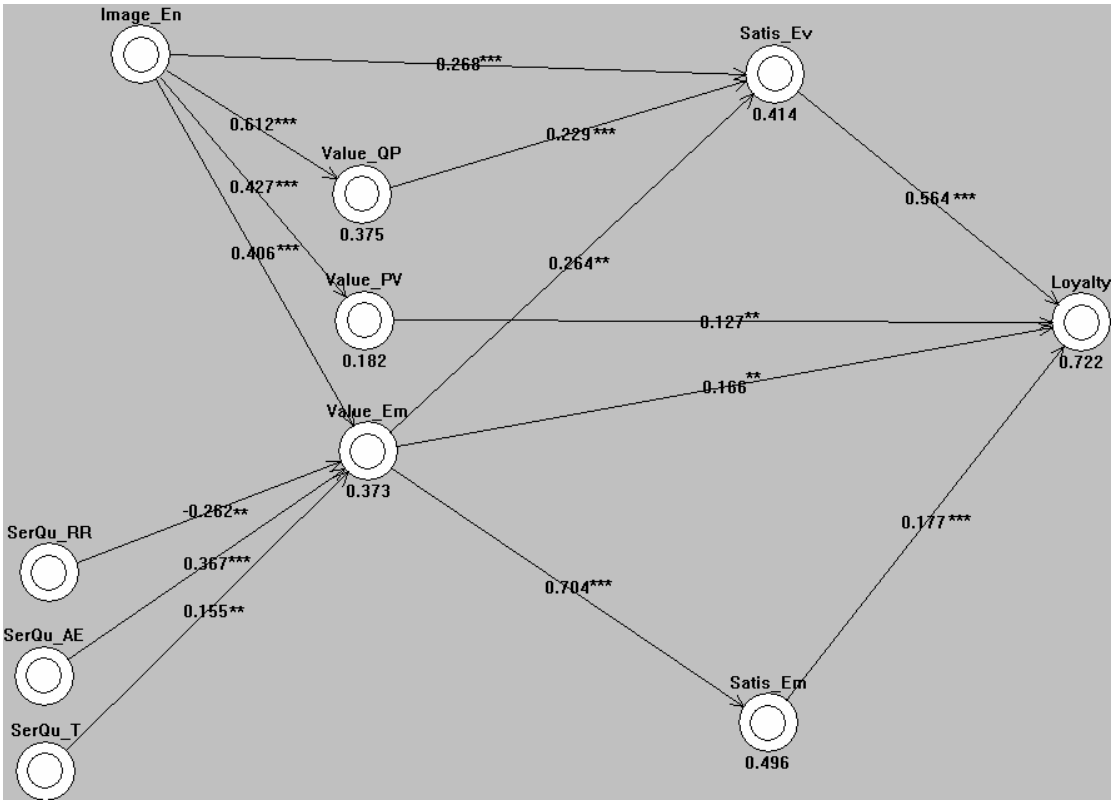
A number of iterations of PLS were run to simplify the path relationships in the 'elaborated' model on the basis of retaining only paths which held statistically significant relationships. The complex model from Figure 2 resolved to Figure 3 below. This model explained 41% and 50% respectively of the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

The outcomes of this process indicated that the use of an elaborated model was justified, in the sense that it demonstrated that inter-relationships between constructs varied substantially across 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 this light, it was interesting to examine the extent to which the findings of the 'expanded' model might be seen to reflect back onto the unidimensional model that was initially hypothesised. The following generalisations might be seen to exist between the final model and the various 'parent' constructs from which it developed.

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

iv. *Service Quality: Hardware* also displayed a significant path relationship with only one *Value* dimension out of four, and it was at a relatively low level (.155). Again, this is not a clearly robust relationship.
v. 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 (.704) to the other *Satisfaction* dimension. Overall, this is a strong relationship.
vi. Two of the three *Value* dimensions also had a relationship directly to *Loyalty*, although not at a particularly strong level.
vii. Although one was stronger than the other, both *Satisfaction* dimensions nevertheless had a strongly significant link to *Loyalty*.

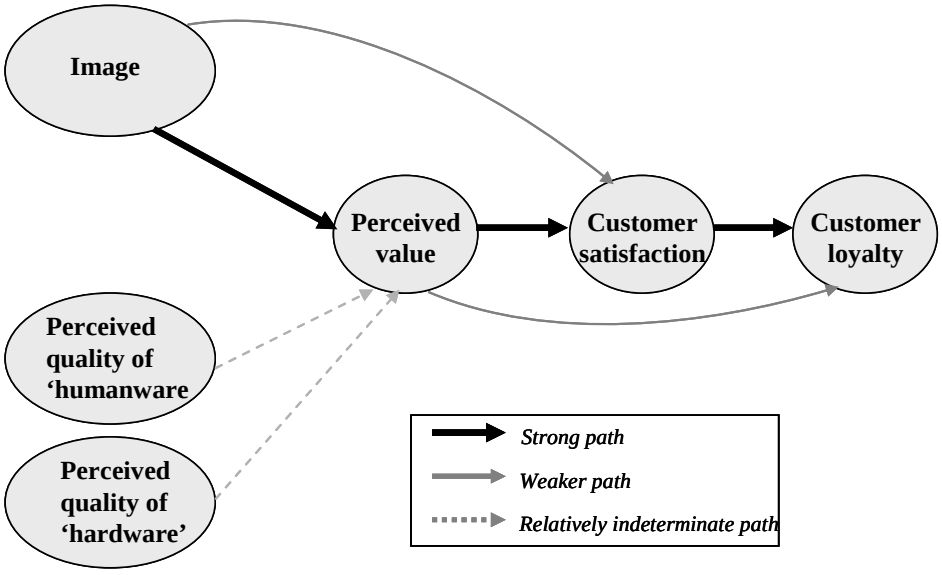
Figure 3
Diagram of 'Significant path' Model, With Path Loadings and Significance Levels



*2-tailed t-Test Statistics for n= 200 samples (199df):p<.05: t(199) > 1.97 *; p<.01: t(199)> 2.60**; p<.001: t(199)> 3.33****
Refer to Table 2 for Construct Names and details

Using these broad generalisations as a guide, it is possible to present the following schematic model as a final comment on the original model posited in Figure 1 above. 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 students attending Sandstone and New universities were seen to exist in the way in which this model played out.

Figure 4
Schematic Outline of Relationships Between Initial Model Constructs in an Australian Higher Education Setting



IMPLICATIONS FOR PRACTITIONERS

This research study confirms the view that the sector can be considered a marketplace and higher education a good. The implication is that universities can only be successful as long as the student 'consumers' are being offered something that they wish to buy at a quality they feel is acceptable (Zemsky, Wegner & Massy 2005: 59). The problem for many institutions in the Government's policy shifts towards marketisation 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 & Considine 2000: 191).

However, one of the findings of this study is 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:

i) image is a critically important construct for students in various types of universities in the services marketing model that was investigated;
ii) students' satisfaction and loyalty are not necessarily shaped solely – or even mainly – on the basis of strongly positional elements, nor strong performance in terms of service quality; and
iii) both transactional, evaluative factors and emotional responses strongly influence the students' perceptions of satisfaction and institutional loyalty.

This series of findings opens a way forward in strategic marketing terms for non-Sandstone institutions. Taking each of these points in turn, it suggests the following potential competitive strategies:

i) given that institutional image is not defined merely along a high-low prestige continuum, Universities can and must work to develop clear branding / 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';
ii) this implies a need to focus on activities that support a clear mission that fulfils a perceived need within a well-conceptualised market segment; and
iii) the findings of the elaborated model 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 also clearly important in shaping students' satisfaction and institutional loyalty.

One of then-Education Minister Nelson's clearly-stated goals in the 2002-2003 *Crossroads Review* of higher education was to develop a more differentiated sector (Nelson 2002). This theme has been enthusiastically adopted by his successor (Bishop 2006). It can be argued that some aspects of the Government's current 'one size fits all' funding model actually militate against this outcome by creating a sector that tends to differentiate along one dimension only – prestige. This has been reflected also in other Government initiatives such as the Learning and Teaching Performance Fund (DEST 2006a) and the previously-proposed Research Quality Framework (DEST 2006b) – both of which imply advantages for the older, established institutions which can draw on more able students and higher levels of resources to perform well on the quantitative measures that make up the bulk of the assessment frameworks. Nevertheless, within the current 'marketised' higher education 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 Australian institutions that pursue what has been called a 'market-smart and mission-centred' approach (Zemsky, Wegner & Massy 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 small number of institutions.

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 the current Australian environment.

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