Pricing Segmentation and MBA Course Choice
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Abstract
The consensus from studies of the price-demand relationship for higher education is that this relationship is negative but small. This paper investigates the circumstances in which demand for an MBA is positive to price increases. A survey of currently enrolled MBA students, and prospective MBA students, found that most students displayed the expected price elasticity in a conjoint analysis of hypothetical MBA course ratings. However, 12 per cent of respondents exhibited “reversal” behaviour regarding price. Profiling these respondents using discriminant analysis suggested that “reversals” seemed prepared to pay more for a course at a high prestige university, if they could study off-campus using print-based materials.

Introduction
Leslie and Brinkman’s (1987) meta analysis of 25 of the most important empirical studies of student demand found that the mean price response was -0.7 percentage points for each $100 rise in price. Similarly, Becker’s (1990) review of 80 studies supported the view of a negative price-response by students. The majority of these studies have been time-series or cross-sectional regression analyses of national, state or college enrolments in the US, and focused on school leavers’ choices between higher education and work. Few studies have considered the price response of students within a market context or examined demand specifically for the MBA submarket. An exception is the study by Jantzen (2000) that examined price and quality effects on the demand for graduate business programs in the US. Jantzen determined the price elasticity for MBA courses to be around -1.4 percentage points, which is approximately double that reported in previous studies. None of the reported studies has examined the incidence of positive price elasticity in the demand for MBA programs.

Explanations for the price response of students can be found in both the economics and marketing literature. The economic theory of demand posits that the quantity of the service demanded is a function of price, the money resources of the purchaser, the prices of competitor services, and the buyer’s preferences or motives. The two aspects of education demand most studied have been the impact of price and the role of motives. The impact of price has been studied extensively in conjunction with the financial aid arrangements of institutions in North America. Tuition fees have been found to be the main influence on students’ price response (Jantzen, 2000; Leslie and Brinkman, 1987; Punj and Staelin, 1978). The consideration of motives for studying has usually been more implicit in these studies, with the assumption of either a human capital or consumption motive.

The human capital perspective suggests that students will make a rational decision to enrol in higher education based on the returns they expect to receive from their investment of time and money. Students compare the direct costs and opportunity costs incurred, with the benefits of increased career opportunities, advancement prospects, or higher wages. From this perspective, some MBA students may be less price-sensitive than others because they have better financial resources in the form of higher income or more extensive employer support or because they are better positioned to benefit from their investment in the future due to their gender, age or ability to enter more prestigious institutions. However, while these studies
provide clues as to why some students might be positively price sensitive, none of these studies has reported findings of this phenomenon.

The marketing literature on the price-quality relationship provides further insights as to why some students may be positively price sensitive. Zeithaml (1988) conceived of price as an extrinsic cue to quality. Price is more likely to be used as a signal of quality for experience or credence products, like education, that consumers find difficult to evaluate before purchase. Prospective students may use the tuition fees of a course as evidence of its quality and, therefore, be more willing to invest in a high-priced course.

Students may also derive consumption benefits from education. This perspective suggests that the benefits from studying an MBA may be nonpecuniary and unquantifiable and derive from the experience of engaging in the activity. These benefits may include personal satisfaction, enjoyment or fulfilment. An extension of this argument is that “Veblen effects” exist. Veblen effects exist when buyers are prepared to pay a higher price for a good or service regardless of whether products of similar functionality or quality exist (Bagwell and Bernheim, 1996). Such buyers engage in conspicuous consumption to signal their wealth or status. Price actually enhances utility (Creedy and Slottje, 1991).

There is evidence in the literature that both investment and consumption motives may influence the demand for MBA or other postgraduate study (see Carrel and Schoenbachler, 2001; Chui and Stembridge, 1999; and Pratt, Hillier and Mace, 1999). Further, several studies support the view that there is a relationship between tuition fees and perceived quality, especially where quality is conceived in terms of reputation or prestige. Findings by Jantzen (2000), Pratt et al. (1999), Quigley (1999) and Grunig (1997) support a relationship between the price students will pay for a course and its prestige. Other influences found on the price response of students include accreditation status (Jantzen, 2000), the type of college - public versus private (Quigley et al., 1999), degree of financial aid (Punj and Staelin, 1978; Richardson and Stacey, 1993), and employer support (Jantzen, 2000; Pratt et al., 1999).

The Present Study - Methodology

This study of the price-choice relationship in the demand for MBA courses was part of a larger project investigating students’ preferences for courses and modes of study. Conjoint analysis was used to identify segments in the MBA market. The attributes and levels for the conjoint were determined after an analysis of the MBA market in Australia and the conduct of a focus group of MBA students. The attributes selected for the study were university brand name, tuition fee, and study mode. A fractional factorial design was used, resulting in 20 profiles, including four holdout profiles. The full-profile method of presentation was used, and respondents rated the profiles on a 10-point scale. In addition to the conjoint, students were asked to rate the importance of 30 possible variables in course choice. These questions served both to test the convergent validity of the findings of the conjoint and to provide further insights into the influences on course choice. In addition, respondents were asked about their financial situation, the degree of employer support they received, and their demographic and situational details. Pilot testing of the questionnaire ensured that the conjoint attributes and levels were feasible and of practical relevance to students, and that all questions asked were meaningful and clearly worded.
The survey instrument was administered to two groups. The first group was the population of 1,287 students with a current enrolment in an MBA (or articulating course) at one Australian university in 2001. The second group comprised people who had enquired to the same university about studying an MBA, over the 12 months to August 2001. After eliminating duplicate, incomplete or obsolete records, 2,496 people were surveyed from this second group. The questionnaires were mailed to students with a covering letter and included an incentive to return it within two weeks, in the form of an entry to a draw for a $250 gift voucher from Amazon.com. Respondents were free to respond anonymously if they wished.

Findings

In total, 699 usable questionnaires were returned after allowing for non-deliverables. (No follow-up was undertaken.) This represented an overall response rate of 18 per cent, comprising a 32 per cent response from MBA students and 11 per cent from prospective students. A comparison on demographic variables between the outgoing and returned sample profiles indicated that there was no significant difference due either to non-response or the incentive offered. The 20 course profiles were subjected to multivariate analysis using the conjoint analysis procedure. Of the 655 cases producing acceptable conjoint results, 78 (12 per cent) demonstrated “reversal” behaviour on the course pricing attribute, i.e., the utilities for courses of these respondents increased as the price of the courses increased, rather than following the expected response of decreasing utility. As only one reversal – that being on price – was recorded for each of these 78 respondents, their price preferences were unlikely to be due to error but, rather, represented their genuine preference for higher-priced courses. The price behaviour of the two groups, “Positive Price” and “Negative Price”, is illustrated in Figure 1.

![Figure 1. Utility for Tuition Fees: Price Positive versus Price Negative Respondents](image)

In order to try to distinguish these “Positive Price” respondents from “Negative Price” respondents, discriminant analysis was used to try to predict two-group membership. Approximately 20 per cent of the variables included in the original, large questionnaire...
showed significant differences between the two groups, on the basis of bivariate analysis. Of these, those exhibiting the greatest differences, and judged to be meaningful in a theoretical sense, were included in the discriminant analysis. The variables included in the resulting function were (with the direction of the difference between the “Positive Price” (PP) respondents and the “Negative Price” (NP) respondents indicated):

1. Prestige of course influential in choosing institution in which to enrol (PP>NP)
2. Off-campus print-based study: Socially rewarding (PP>NP)
3. Extent of experience of on-line tutorials (PP>NP)
4. Lower level of tuition fees relative to other courses re importance in choice (PP<NP)
5. Prestige rating of a particular named (low-prestige) university (PP<NP)
6. Frequency of use of computers for course assignments (PP<NP)

The performance of the discriminant analysis was quite creditable, in terms of predicting group membership, as the following Tables 1 and 2 show (depending on whether the prior probabilities were set as reflective of the observed groups proportions, or set as equal a priori). As Hair et al. (1995, p. 200) noted: “The analyst must also determine whether to specify if the observed group sizes reflect the actual population proportions or whether the population group sizes should be assumed to be equal.” Using the Hair et al. criterion of acceptable classification accuracy of at least one-quarter better than chance, the “equal proportions” classification performed very well (71 per cent compared with 50 per cent), while the “population proportions” classification reproduced the observed proportions, at least (85 per cent), which is quite satisfactory in the light of the unevenness of the proportions. Recognising that the principal purpose of the initial analysis reported here was to determine the robustness of the “reversals” identified through the conjoint analysis, these summary discriminant results are supportive of the validity of the “reversals”, rather than them being a mere (undesirable) artefact of the complicated conjoint procedure.

Table 1. Discriminant Classification (assuming observed proportions)

<table>
<thead>
<tr>
<th>Price Group Membership</th>
<th>Predicted Price Group Membership</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td>Original Count</td>
<td>361</td>
<td>9</td>
</tr>
<tr>
<td>Positive</td>
<td>54</td>
<td>10</td>
</tr>
<tr>
<td>Ungrouped cases</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Percent</td>
<td>97.6</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>84.4</td>
<td>15.6</td>
</tr>
<tr>
<td>Ungrouped cases</td>
<td>100.0</td>
<td>0</td>
</tr>
</tbody>
</table>

a. 85.5 per cent of original grouped cases were correctly classified.
Table 2. Discriminant Classification (assuming equal proportions)

<table>
<thead>
<tr>
<th>Price Group Membership</th>
<th>Predicted Price Group Membership</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td>Original Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>264</td>
<td>106</td>
</tr>
<tr>
<td>Positive</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>Ungrouped cases</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Per cent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>71.4</td>
<td>28.6</td>
</tr>
<tr>
<td>Positive</td>
<td>34.4</td>
<td>65.6</td>
</tr>
<tr>
<td>Ungrouped cases</td>
<td>65.2</td>
<td>34.8</td>
</tr>
</tbody>
</table>

a. 70.5 per cent of original grouped cases were correctly classified.

Discussion and Conclusion

On the basis of the sample of students and prospective students examined here, it appears that most respondents display the typical aversion to higher prices when purchasing an MBA “product”. However, a substantial group appeared to have a more positive reaction to increasing MBA prices. These people tended to be less influenced by lower course fees, but more influenced by their view of the prestige of the university, when expressing a likelihood of selecting a course. Their greater experience with on-line tutorials, but apparently contradictorily, lower frequency of use of computers for assignments, was evident. Their favouring of print-based off-campus materials seemed to fit with this profile, i.e., they seemed to prefer a course that provided the convenience of off-campus study, but not necessarily requiring extensive computer use. Most demographics were not discriminators (e.g., sex and family status), but “Price Positive” respondents were somewhat over-represented in the early-middle-age bracket of 31-40 years. There was no significant difference regarding the source of funding for an MBA (self versus employer). Together, these findings are consistent with, but not conclusive about, an investment motive for MBA study. The major implication is that some price segmentation has been identified within the MBA market, which appears to confirm the characterisation of the MBA as a “prestige” product. Further, an off-campus, print-based MBA appears to be a prestige product for some market segments.

Gerstner (1985) noted that price can signal both demand-related and supply-related quality. A course or university’s prestige captures demand-related quality and was found in this study to be a variable that discriminated between Price Positive and Price Negative respondents. Conversely, quality-related variables (such as teaching ratings) tended to have little explanatory power in distinguishing the preferences of the Price Positive and Price Negative respondents. This finding appears to support the view of higher education as a positional product where exclusiveness, not quality, matters (Marginson, 1997). The next stage of this study will examine the extent to which positional advantage is identifiable with specific, named (branded) universities, and particularly, with their MBA programs. It will explore, also, the competitive strategies that may be utilised to overcome historic advantage.
References


