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To cite this article: Jennifer M. Rindfleish (2003) Segment profiling: reducing strategic risk in higher education management, Journal of Higher Education Policy and Management, 25:2, 147-159, DOI: [10.1080/1360080032000122624](https://doi.org/10.1080/1360080032000122624)

To link to this article: <https://doi.org/10.1080/1360080032000122624>



Published online: 03 Jun 2010.



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## *Segment Profiling: reducing strategic risk in higher education management*

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**ABSTRACT** *Over the last decade higher education institutions in Australia have moved towards a model of 'managerialism' due predominantly to changes in government funding policies. As a consequence of the need to compete with other universities for students, university managers have increasingly focused upon marketing techniques used in for-profit organisations to attract and retain students. This paper focuses on the question of whether, and in what ways, the marketing technique of segment profiling can be effectively employed to measure the potential of new market segments and the viability of strategic planning goals in the higher education sector. Geo-demographic data from the student database of a regional Australian university were cross-matched with segment profiling data from a nearby regional centre to ascertain the viability of the region for the establishment of an undergraduate 'satellite' campus. The results of the study show that the technique is useful in reducing the risk of specific strategic planning goals by identifying the potential of new market segments and streamlining target marketing practices. The implications of these findings are discussed with reference to the future success of strategic planning goals achieved by managers in higher education.*

### **Introduction**

A change in the management of institutions of higher education towards a model of managerialism has been well documented (Clarke, 1998; Crowley, 1999; Debats & Ward, 1998; Marginson, 1999; Winter *et al.*, 2000). There are complex historical, political, and social antecedents to the rise in managerialism in higher education. However, one consequence of the rise in managerialism has been a challenge to management imperatives brought about as a consequence of changes to funding allocations. The need to compete with other universities for student enrolments has exposed management practices to economic rationalism (Pusey, 1991). A central tenet of managerialism is the idea that 'senior management can solve almost any problem it faces if it adopts strong executive leadership principles and private sector business techniques' (Winter *et al.*, 2000, p. 281). Together with the assertion that students could primarily be seen as 'customers' (Hill, 1995, p. 15; Thorne & Cuthbert, 1996, p. 176) the adoption of

marketing practices employed in for-profit organisations by higher education institutions has increased markedly. Consequently, university managers are increasingly focused on marketing techniques, such as targeting and communicating with market segments, that can attract new students and retain existing students.

This paper focuses upon the question of whether the relatively simple but effective marketing technique of segment profiling, frequently used in for-profit organisations, can be effectively used to identify and plan for new markets and increase understanding of existing market needs in the higher education sector. The results of this study show that the technique of segment profiling is successful in reducing the strategic risk of management decision-making by identifying the specific needs of market segments within geographic regions where marketing efforts would be most productive. The technique also allows senior managers in universities to match specific strategic planning goals with geographic regions identified as having the market potential to respond to those goals, to fine-tune their marketing efforts towards the more viable market segments, and ultimately to feel more confident in the success of their strategic and marketing goals. The application of such a simple and cost-effective technique as segment profiling can particularly help universities, with limited funds for marketing, to reduce their exposure to the economic risks associated with new ventures.

The research referred to in this study was part of a larger study undertaken to measure the feasibility of one specific strategic planning goal of a regional Australian university. The strategic goal was to open a smaller 'satellite' campus in a nearby regional town in order to facilitate higher enrolment numbers of on-campus undergraduate students for the university. Although the specific strategic goal was to increase on-campus student enrolments, off-campus students were also included in the study to measure the potential of both segments. The application of the segment profiling technique was only one part of the feasibility study. The results of the research show the ability of the technique to define the potential of new markets in terms of the specific needs of each segment within the market in a highly cost-effective fashion. The broadly predictive power of segment profiling is more powerful than the unidimensional descriptive character of demographic data usually relied upon in student databases. The information gained through segment profiling can be used by marketing managers within universities to compare against strategic marketing goals, refine target marketing practices, and reduce the economic exposure and risk that accompany new ventures.

## **Method**

The application of segment profiling in marketing practice generally takes two broad forms. First, the method has traditionally and most frequently been used as a way of targeting customers by mail with direct marketing promotional material. However, due to the increasing power of technology in the area of customer databases segment profiling is now commonly used as a way of matching the strategic goals of organisations with the potential needs and wants of segments within specific target markets (Kotler, 1997, p. 265). Geo-demographic mapping has been previously suggested as a technique appropriate for recruitment and communication with potential students (Tonks & Farr, 1995). However, segment profiling goes beyond geo-demographics to a more refined analysis of the needs of each segment profile and the potential of targeted markets.

Segment profiling is a process that combines demographic information (i.e. age, socioeconomic status, marital status, gender, etc.) together with geographic information (residential address) from any existing organisational customer database and cross-

matches it against segment profiling data for the same geographic areas. Segment profiling databases consist of not only basic geo-demographic statistics from census data but also highly specific buyer behaviour statistics such as supermarket scanner data, credit rating data, insurance data, housing data, and other general financial services data.

For this study, a comparison between existing student data from the case study university, for the strategically targeted region, against the segment profile data for the same region was undertaken for a nominal fee by an information mapping organisation called Salmat.<sup>1</sup> Salmat has developed a product called Marketfind Profile to map data from various sources against the profiles of any customer/student database. Salmat uses a mixture of demographic, housing, and financial information to create its segment profiles of specific geographic neighbourhoods. Salmat has developed a 24-level demographic profiling system that characterises the Australian population into a series of unique profile types, ranging from the top end of society (Prestige) down through to the economically disadvantaged (Suburban Welfare).

The result of the comparison between the student database and the Marketfind Profiles is an analysis that shows the amount of penetration the organisation has gained with its current student base into the different viable or potential lifestyle segments within specific residential areas. The penetration index (or target score) referred to in the results section of the study is a simple calculation based on dividing the percentage of the existing customer base in each profile type by the percentage of households that live within those same profile types. For example, if 20% of students were in the Family Achievers profile, yet Family Achievers represented only 10% of the potential market, the target score would be 200, indicating a high penetration of students in that profile. If the score on any profile is less than 100, it is considered a low and under-achieving score for that particular profile type. The higher the score is above the 100 mark, the better the achievement in terms of penetration of existing students in the segment. The target scores give managers a benchmark against which the success of penetrating each of the Marketfind Profiles can be compared. The benefit of such comparisons when compared with the unidimensionality and descriptive character of existing student database statistics is that they contain a broad level of prediction of potential student numbers.

According to the promotional brochure distributed by Salmat, target scores for each profile type can assist marketing managers in refining their marketing strategy further by asking the following questions:

- How well are you penetrating each of the Marketfind profile types. In particular, are you penetrating the profile types you are most interested in targeting?
- Are your customers coming from the profile types you thought they were coming from?
- Should you reduce the number of profiles you are targeting? Should you only target those profile types among which you currently achieve the best penetration?
- Are you appealing to a too limited segment of the population? You may have high penetration of a profile type, but if there are only a few thousand householders in an area your revenue potential may be limited.
- Why aren't you appealing to the other profile types? Do these constitute a possible area for growth?

These questions cannot be answered using the unidimensional statistics, such as age, sex, faculty of study, postcode, etc., available in existing student databases. As a further aid

to monitoring strategy, segment profiling can track changes in student data over time. Tracking will help to understand differences in the student database, how the lifestyle profiles of students are changing, and the success of any promotional activity. Marketing managers in universities can then specifically match their strategic marketing planning to each segment targeted, ensuring an optimal return for expenditure related to promotional campaigns. Consequently, the technique can fulfil three management needs: checking the viability of strategic planning targets, fine-tuning marketing activities to the specific needs of the market, and tracking the success of marketing activities.

### **Methodological Limitations**

The statistics used in the case study in this paper and the technique of segment profiling do have a number of methodological limitations. The analysis of the existing student database information defined the strategically targeted area as postcodes covering other regional centres to the north, south, and west and smaller rural areas. Of the 495 student addresses from the existing student database approximately half were not matched to segment profiles due to their rural or remote location (i.e. post office box numbers or property names). Generally, the accepted standard for analysing segment profiles is a minimum sample size of 500 (Lesser & Hughes, 1986, pp. 18–27). The case study originally had a total sample size of 495, which was reduced to half because of the unforeseen characteristics of some of the addresses in the database. The addresses that could not be used did not contain the required information to be cross-matched with the Marketfind data. This has the effect of decreasing the reliability of the segment profiling to the level where it is only very broadly indicative of the university's performance in the market segments identified. However, in this case the technique has been used as a broad indicator of strategic direction and was only one part of a larger and more comprehensive feasibility study. Consequently, the sample size was not crucial to the use of the technique.

A further limitation of the technique is the matching of international data with data available nationally. Although the technique could be relatively easily applied in countries that have similar reliable database capabilities to those offered through the Australian Bureau of Statistics Census Data, some countries may not have this capability. Consequently, matching of segment profiling data between countries when planning strategic initiatives directed at international students may not be possible.

The identities of the university and the region targeted have been kept confidential in order that the results from the study remain commercial-in-confidence. However, the identities of the university and region are not essential to the aims and objectives of the paper, which set out to show, in general terms, how and why the segment profiling method can be useful as a strategic marketing and planning tool.

The first part of the results section outlines the existing market statistics in the form of basic student demographic profiles from the strategically targeted region of the university in the case study. These existing market statistics are those most frequently used by university managers. The power of the technique of segment profiling will then be contrasted against the basic information provided by the demographic profiles that currently exist in university databases. The usefulness of the potential market statistics revealed by segment profiling is discussed in the second part of the results section.

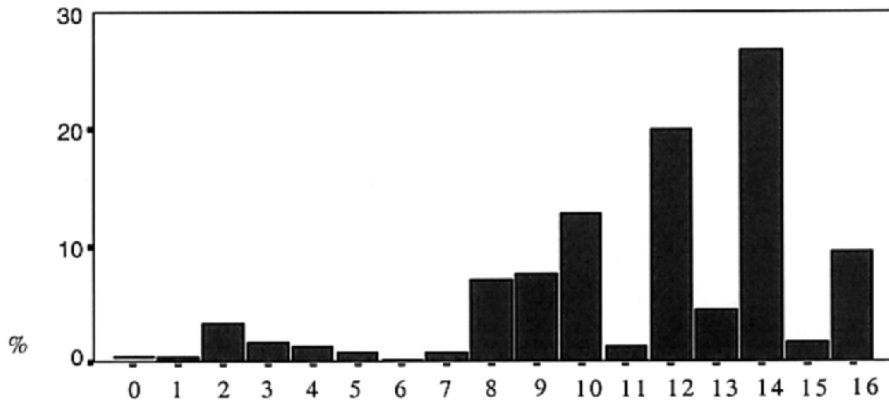


FIG. 1. Percentage of existing students from strategically targeted postcode areas.

## Results

### *Existing Market Statistics*

The statistics already available in the planning databases of universities can be used to undertake a basic demographic profile of any strategically targeted geographic region. The basic demographic profile will be the profile used to cross-match against the segment profile data developed to a much more specific and accurate level by market profiling organisations. The following is a statistical analysis of demographic data of existing students from the Australian regional university used in the case study for one year that live in the geographic region of strategic interest. The student's postcode and street address are used to generate the profile. In the first instance it is important to define the geographic boundaries of the region of strategic interest and any concentrations of existing students in the region. The university used in the case study has a larger off-campus student cohort than on-campus student cohort. However, for the purposes of the study the level of detail achieved by the statistical analysis will specifically define segment profiles and clearly delineate between the two cohorts.

The geographical region that was strategically targeted by the university includes a number of rural towns, some of which have larger existing student cohorts than the regional city targeted for the 'satellite' campus. Figure 1 shows the percentage of students in each postcode area who are currently attending the case study university from the geographic region strategically targeted. The postcode for the city targeted for the satellite campus is represented by bar graph number 10. The other postcodes represent geographic locations within a 30-minute drive from the targeted city, a drive deemed plausible for on-campus student enrolment. The graph clearly shows that there are two other nearby regional areas (postcodes represented by bar graphs 12 and 14) that are currently attracting more students than the strategically targeted geographical area.

### *Gender*

Sixty-seven per cent of students from the region are female and 33% are male. These proportions are similar for the on-campus and off-campus market.

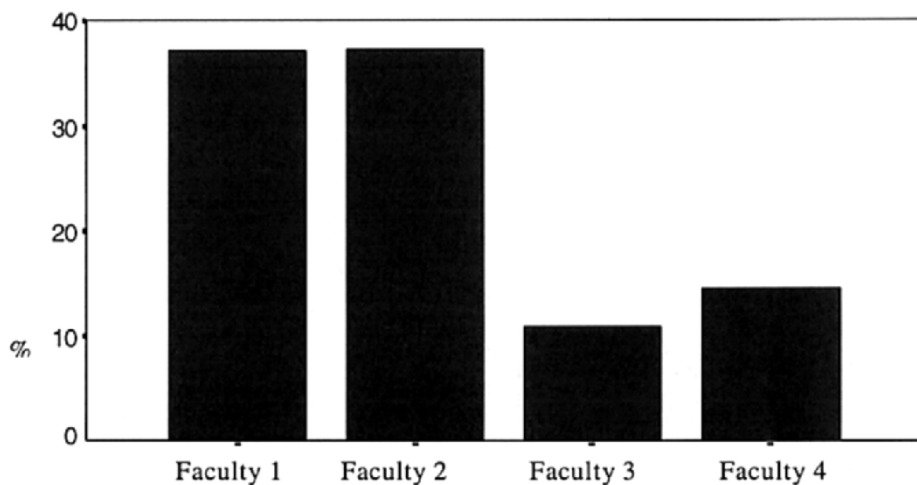


FIG. 2. Faculty of study.

*Faculty of Study*

Figure 2 shows that students from the region study predominantly in Faculty 1 (37%) and Faculty 2 (37%). A more than average percentage (81%) of students studying in Faculty 1 study at a distance. A less than average percentage (48%) of students studying in Faculty 4 study from a distance.

*Level of Study*

Eighty-two per cent of students are undertaking bachelor's degrees, 8% graduate Diplomas, 6% master's degrees, 2% doctorates and 2% graduate certificates.

*Age Distributions*

The age profile of existing students from the region is represented in Figure 3. The mean age of the combined on-campus and off-campus markets is 33 years. The bar graph shows an over-representation of the 17–21 year age bracket and an under-representation of the 22–37 year age group.

Due to an over-representation in the 17–21 year age bracket in the existing market, university managers may believe there is an untapped demand for the on-campus undergraduate product offering because two-thirds of the total on-campus students currently studying at the university fall into this age bracket. However, we shall see in the potential market analysis this age bracket is in fact in short supply in the targeted region and the university currently attracts the majority of this age bracket onto their main campus. Age distribution was then analysed according to on-campus or off-campus study mode.

*Off-Campus Student Market*

Sixty-eight per cent of students from the region study at a distance. Of the 321 students from the targeted region enrolled at the university as off-campus students the mean age was 39 years. The normal distribution curve for the spread of ages is shown in Figure 4 as a line. As you can see from the bar chart, the ages that are slightly over-represented

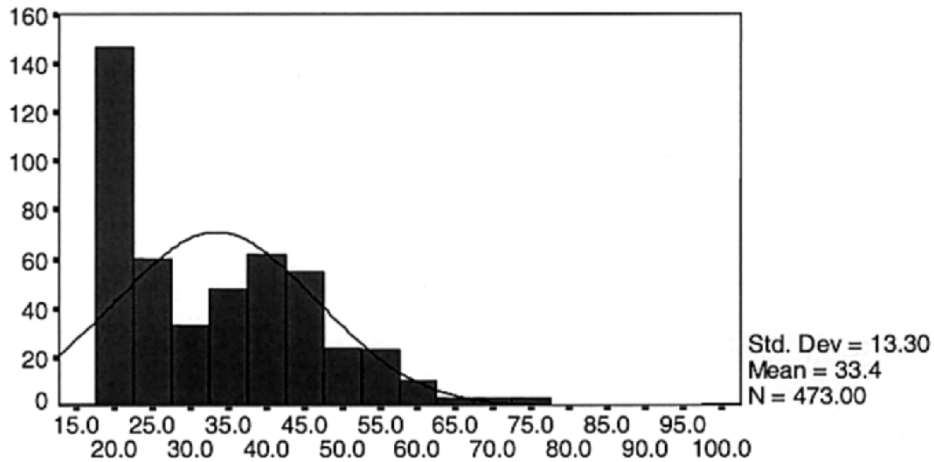


FIG. 3. Distribution of age.

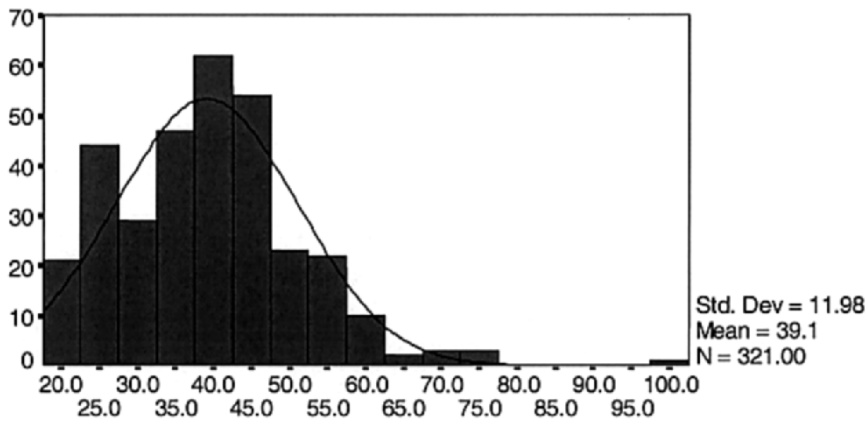


FIG. 4. Age distribution of off-campus students.

in the off-campus student population are the 25 year age group and the 40–45 age group. The age groups slightly under-represented are the 30 age group and the 50 age group. However, as we can see from the next bar graph, the distribution curve of the off-campus market is more evenly distributed than that of the on-campus market.

#### *On-Campus Student Market*

Thirty-two per cent of students from the region study as on-campus students. Of the 152 students from the targeted region enrolled at the university as on-campus students the mean age was 21.4 years. The normal distribution curve for the spread of ages is shown in Figure 5 as a line. The bar chart shows that the 17–22 age group is over-represented in the on-campus student population. The age group slightly under-represented is the 22–30 age group.

The analysis so far has focused on the existing market of the university in the case study. The segment profiling technique that follows focuses upon a comparison of the existing market data for the students from the university with lifestyle profile data for the region. This has the effect of measuring the potential market for the university.



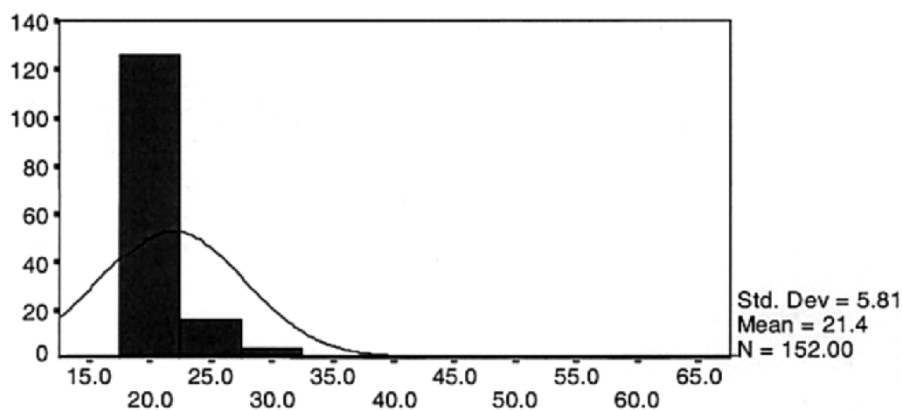


FIG. 5. Age distribution for on-campus students.

The existing market statistics show a larger proportion of off-campus enrolments compared with on-campus enrolments in the strategically targeted geographic region. They also show that there are two nearby geographic regions that currently attract higher proportions of students than the region strategically targeted for the proposed satellite campus, and that there is a noticeable over-representation in the 17–22 age group for the on-campus product offering. Extrapolation about the market from such statistics is risky for the development of strategy because of their unidimensionality. Questions such as ‘Do the nearby geographical centres where more students are currently enrolled, or the 17–22 year age group, offer more opportunities for market growth?’ cannot be answered. Only a more sophisticated statistical analysis can answer such questions. The existing student database statistics tend to generate more questions about the target market than they answer. The segment profiling analysis discussed in the next section will be able to answer more questions than it generates.

### Potential Market Statistics

The results of the cross-matching of existing student database statistics against the Salmat segment profiles will be discussed first. A detailed description of each of the segment profiles will follow. Finally, the results will be discussed in the following section.

Table 1 shows the segment profiling analysis for the combined on-campus and off-campus students enrolled at the university. The table shows the number of customers, the percentage of the existing market, the potential number of households who fit that profile type in the region, the percentage of the potential market for that profile type, and the indexed score for each of the profiles in the strategically targeted region. As discussed in the method section, the index score is calculated by dividing the percentage of the university’s existing market by the percentage of the potential market segment for that region. For example, the Suburban Retirement segment has a penetration index of 71.64, which is 35.71% (the percentage of the university’s students who fall into this segment) divided by 49.85% (the percentage of the total market that falls into this segment).

The table shows that when both markets are combined, only two segment profiles have a penetration target score below 100 (which is considered below optimal level): the Suburban Welfare profile with a target score of 72.81, and the Suburban Retirement profile with a target score of 71.64. In every other segment profile the university is

TABLE 1. Profile penetration for combined on-campus and off-campus students

Segment profile	No. existing students	% existing students	Market potential	% market potential	Target score
Mid-Status Suburban	6	2.86	585	1.31	217.30
Suburban Empty Nesters	69	32.86	10,254	23.05	142.57
Low Status Family	36	17.14	6437	14.47	118.49
Urban Retirement	20	9.52	3871	8.70	109.47
Suburban Welfare	4	1.90	1164	2.62	72.81
Suburban Retirement	75	35.71	22,180	49.85	71.64
Total	210	100.00	44,493	100.00	100 = market

performing above what is considered to be doing well in terms of the optimal level of penetration into the segment which is 100. In terms of the size of each segment, Suburban Retirement (22,180) and Suburban Empty Nesters (10,254) offer the largest market potential. However, the university is already doing well in the Suburban Empty Nesters segment with a target score of 142.57 and it may not prove strategically effective to attempt to improve such a penetration index score. The Suburban Retirement segment does offer an opportunity; however, this segment has been traditionally attracted to an off-campus product offering, which is counter to the university's strategic goal of attracting students to an on-campus offering.

The same analysis was then undertaken for the on-campus and off-campus markets separately. Table 2 shows the segment profiling for on-campus students. The analysis shows that the university is attracting an acceptable proportion of each of the segment profiles from the region. Even the scores that are under 100, Urban Retirement at 97.13 and Suburban Retirement at 96.06, are very close to the 100 index mark which is considered to be equivalent to perfect penetration into each segment. Again, these two segments are the segments that are traditionally attracted to an off-campus product offering.

Table 3 shows the segment profiling for the off-campus market. The table shows that

TABLE 2. Profile penetration for on-campus students

Segment Profile	No. existing students	% existing students	Market potential	% market potential	Target score
Low Status Family	12	16.90	6437	14.47	116.82
Suburban Empty Nesters	18	25.35	10,254	23.05	110.00
Mid-Status Suburban	1	1.41	1.31	1.31	107.12
Urban Retirement	6	8.45	3871	8.70	97.13
Suburban Retirement	34	47.89	22,180	49.85	96.06
Total	71	100.00	44,493	100	100 = market

TABLE 3. Profile penetration for off-campus students

Segment profile	No. existing students	% existing students	Market potential	% market potential	Target score
Mid-Status 12,4.39 16.	5	3.60	585	1.31	273.58
Suburban Empty Nesters	51	36.69	10,254	23.05	159.20
Low Status Family	24	17.27	6437	14.47	119.34
Urban Retirement	14	10.07	3871	8.70	115.77
Suburban Welfare	4	2.88	1164	2.62	110.00
Suburban Retirement	41	29.50	22,180	49.85	59.17
Total	139	100.00	44,493	100	100 = market

the indexed scores are at an acceptable level for all of the profiles identified except for the Suburban Retirement profile with a target score of 59.17. The Suburban Retirement segment has the greatest potential for growth for the university due to the size of the segment and the fact that currently the index score is the lowest of all the scores measured. As this segment is traditionally attracted to an off-campus product offering, it offers the greatest opportunity for the university in terms of boosting their off-campus enrolments. This would appear to be the most cost-effective and least-risk opportunity for the university. The university could enrol this segment with no cost to their existing infrastructure and there would be no need for the development of a new product, which is a time consuming and costly exercise. The statistics definitely do not support the intended strategic goal, which was the development of an on-campus satellite facility.

### Segment Profile Descriptions

Only six of a possible 24 lifestyle profiles registered as significant for the strategically targeted area. The reason for this was the high proportion of urban segment profiles that were not applicable to the geographic region of interest to the university in the case study. The following segment profiles registered as significant:

- *Suburban Retirement.* This is the largest segment profile, representing 50% of the potential market in the targeted region. Making up approximately 35.7% of the university's existing market in the region, these students are people aged 65 + , retirees and widows, Australian born, living alone in their own home on pensions. Currently the university has an overall market penetration rate index in this segment of 71.64, which is below what is considered as doing well. In the on-campus market the index is higher at 96.06 and in the off-campus market the index is much lower at 59.17. Therefore, there is only slight room for improvement in the on-campus market but much more opportunity in the off-campus market for this profile.
- *Suburban Empty Nesters.* This segment profile represents 23% of the potential market in the targeted region. Making up 32.8% of the university's existing market, this profile is characterised by two-person households, middle aged or older, in the 65 + age group, born in Australia, living on lower incomes in their own homes; they are a relatively stable population. Currently the university has an overall market penetration

rate index of 162, which is considered as doing well in this profile. The target score for the on-campus market is lower (110) than for the off-campus market (159.2); however, both are considered an acceptable level of penetration into their respective market.

- *Low Status Family.* This segment makes up 14.5% of the potential market in the targeted region. Making up 17% of the university's existing market, the profile is characterised by young and middle-aged families on low incomes or single incomes. The members of this profile tend to leave school at 15–17 years of age; many have vocational qualifications, are employed as tradespeople who work in production, transport and manufacturing, and are purchasing their own homes. The university is doing reasonably well in this segment with a market penetration rate index of 118.5 overall, 116.82 in the on-campus market and 1119.34 in the off-campus market.
- *Urban Retirement.* This segment represents 6.7% of the potential market in the targeted region. Making up 9.5% of the university's existing market, this profile consists predominantly of widows living alone in high-density dwellings on a low cost or life tenure scheme. They tend to be 65 + years of age and do not own a car. The profile sometimes also contains young professionals, white-collar workers and persons employed in health and community services. Currently the university is doing reasonably well in this profile with an overall market penetration index of 109.5, 97.13 for on-campus and 115.77 for off-campus. There is not much potential for growth in this profile, since it represents such a small percentage of the total market.
- *Suburban Welfare.* This segment profile represents 2.6% of the potential market in the targeted region and 1.9% of the university's existing market. The profile is characterised as consisting of one-parent families with young or teenage children. A high proportion are either separated or divorced, unemployed females. They reside in low cost rented dwellings from the housing authority. Those that do work tend to work in manufacturing, as labourers or production or transport workers. The profile has low incomes and a high reliance on welfare. Having an overall target score of 72.81, there is an opportunity for the university to improve but the overall size of the segment is such that any serious marketing effort may not prove worthwhile.
- *Mid-Status Suburban.* This segment profile represents 1.31% of the potential market in the targeted region and 2.8% of the university's existing market. The profile consists of middle-aged and older home-owners in white-collar occupations with two or more vehicles. They tend to live in separate houses in stable suburban areas. The overall target score for this segment (217.3) shows that the university already has strong penetration in this segment.

## Discussion of Results

The existing market statistics reported in the first part of the results section send mixed messages about the characteristics of the targeted market. The postcode analysis clearly indicates that many more existing students come from two nearby geographic areas rather than the one targeted for the satellite campus. On the other hand, the statistics on age distributions could be misinterpreted and lead to the belief that an on-campus product offering would be popular in the region. However, the potential market statistics uncovered by segment profiling revealed a completely different view of the market.

The analysis of the data from the case study shows that the university is already attracting a good proportion of students from the majority of the predominant lifestyle segment profiles in the targeted region. The university already has a particularly strong

penetration into the Mid-Status Suburban, segment where it has a penetration index of 217.3. From a broad strategic planning perspective there would not be much return, in terms of student numbers, if the university focused resources towards this lifestyle profile. This is the segment that is most likely of all the segments to include school leavers, the segment to which an on-campus product offering would have the most appeal. Consequently, the original strategic goal of opening a satellite campus in order to increase on-campus student enrolments presents a high risk if the segment to which marketing efforts would be appealing is extremely small and already saturated.

The Suburban Retirement and Suburban Welfare segments are the only two segments where the university has an opportunity to improve their penetration.

Of these two segments, the one that has the greatest potential for growth is the Suburban Retirement segment. This is the largest segment profile and consists predominantly of retirees, a segment that, if attracted to university at all, has traditionally been attracted to an off-campus product offering.

The results show that the segment with most potential for the university in the region is in fact a segment that would not be interested in the on-campus product that the university intended to develop. Furthermore, the segment to which the intended product appealed was the segment in which the university already had a high penetration.

Two main findings from the segment profiling analysis are significant for the interpretation of management strategy and practice. The analysis shows the overall size of each segment profile and then reveals the amount of penetration into each profile which the university has achieved. The interpretation of these results shows that in this case the intended strategic goal of the university was misplaced both in terms of the size of the market for an on-campus product and the performance of the university in attracting a relatively small market.

## **Conclusion**

Taking the methodological limitations of the procedure into account, segment profiling is an inexpensive practice that can be undertaken by planning and marketing managers in higher education institutions to align broad strategic planning goals with the capacity of student markets to respond to those goals. The alignment of customer/student capacity (needs and wants) with the provision of services within organisations is the ultimate goal of marketing. Taking the relatively recent funding changes into account, higher education institutions operate within tightly controlled bureaucratic limitations in terms of students numbers and the development of fiscal opportunities. However, the low cost of the segment profiling technique enables managers to pinpoint the profiles of potential segments across the total student base. Therefore, strategic goals of the organisation, whether they be goals based on student access and equity needs or an increased target of full-fee paying international students, can be broadly assessed before management decisions are made. The existing market statistics in university databases are not sufficient to assist marketing managers in aligning their strategies with market needs. Even if broad in its application, segment profiling is much more effective in its ability to outline the potential of each market segment. The effect of applying segment profiling to the planning and projected provision of higher education services to students in specific geographic regions is a reduction in the risk of misplaced strategic goals. The measurement of the amount of risk that is reduced by such a technique is an area that could provide additional fruitful knowledge about segment profiling; however, further research is required in this area.

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## NOTES

1. Other organizations who undertake such analysis are AC Nielsen, Panorama, and Mosaic.

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