Theme: Theory & Practice

SEGMENTATION:

LINKING MANAGEMENT PRACTICE TO MARKETING THEORY

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ABSTRACT

The majority of research published on market segmentation prescribes how segmentation *should* occur but fails to connect theory with current practice. This paper consolidates and then reviews eleven criterion claimed within the literature as important when selecting variables to segment markets. The relevance of these criterion is then ascertained from an 'expert' panel of practitioners. The expert panel were also asked to comment on how different groups of variables – demographic, behavioural and cognitive variables – rated against these criterion. Practitioners were found to prefer using demographic variables over behavioural and cognitive variables but also acknowledged a weakness of demographics in predicting important elements of buyer behaviour. Also highlighted was a lack of understanding of some segmentation principles and their implications by 'users' of segmentation studies. This suggests a need to strengthen the link between market segmentation practice and theory.

INTRODUCTION

It is claimed that market segmentation is one of the most important concepts in the study of marketing (Dickson, 1982). Therefore, it is not surprising that the literature contains much discussion on the process of market segmentation, including guidelines for how segmentation should occur in theory. However, less work is documented on the practice of market segmentation, the needs of management or the most appropriate variables to use (Wind, 1978). This paper attempts to provide a link between management practice and marketing theory by consolidating and then reviewing criterion purported in the literature to be useful in the evaluation of variables used to segment markets. The theory behind each criterion is briefly explained with supporting evidence cited from the literature. The relative importance and current application of each criterion is then discussed based on the results of interviews with a panel of ‘experts’. This included rating the ability of different types of variables (demographic, behavioural and cognitive variables) against the criteria. Overall insights and conclusions regarding the use of variables in market segmentation are provided.

LITERATURE REVIEW

Segmentation Theory

Before proceeding, it is necessary to define market segmentation and establish that it is a worthwhile practice for marketing practitioners. Market segmentation was initially explained as a marketing strategy that firms choose to adopt. The concept of market segmentation was defined as viewing a heterogeneous market (one characterised by divergent demand) as a number of smaller homogeneous markets in response to differing product preferences among important market segments (Smith, 1956, p6).

The benefits of segmentation analysis to firms that choose this strategy, cited in the literature, include:

- The closer matching of a company's products and capabilities with customers needs (Smith 1956; Yankelovich 1964; Wind 1978; Mitchell 1996), and more specifically, directing resources to the most potentially profitable segments (Yankelovich 1964; Wind 1978).
- A greater understanding of how to most effectively communicate with customers in the market (van Raaij and Verhallen 1994), including quantifying the responses of segments already established (Yankelovich 1964).
- An insight into the first signs of behavioural changes of consumers (Yankelovich 1964; Mitchell 1996), allowing for such things as product repositioning (van Raaij and Verhallen 1994).
- The identification of new product/service opportunities from segments that have not been previously exploited (van Raaij and Verhallen 1994; Mitchell 1996), although marketing research oriented toward this area has been limited (Dickson and Ginter 1987).
- Improving strategy by not competing head on with larger organisations with superior resources (Mitchell 1996).

Before a firm can adopt market segmentation as a strategy they need to firstly undertake the process of segmenting the market. The aim of the process of market segmentation is to form segments containing groups of consumers that exhibit similar behaviour. These segments can be formed using a variety of distinguishing variables, including demographic, behavioural and cognitive variables. Of these, group membership defined by *demographics* is the most prevalent form (Beane, 1987, Hammond, 1996). 'Demographics' refers to 'person characteristics' - "lasting and general characteristics of the individual including intellect, sex and race that are stable over times and places of observation and may therefore be attributed consistently to the individual" (Thorndike cited in Belk, 1975). Behavioural variables are distinguished from demographics in that they refer to observable acts occurring within certain environments and capture what one *does* rather than what one *is*. Cognitive variables are all variables derived from peoples' thoughts. Collectively, cognitive variables have been termed "hypothetical, intrapsychic, dispositional constructs" (Kraus 1995) and the more popular cognitive variables are attitudes and personality[1]. The consolidation of prescriptions from the literature relating to the choice of segmentation variables and testing for their value to practitioners provides the focus of this research.

A review of the literature revealed eleven principles associated with the selection of variables used to segment markets. The review also indicated that it is unlikely to always find 'one best way' for a firm to segment markets. Multiple segmentation strategies may be required to meet a firm's range of marketing objectives. "Any attempt to use a single basis for segmentation (such as psychographics, brand preference, or product usage) for all marketing decisions may result in incorrect marketing decisions as well as a waste of resources" (Wind, 1978, p319).
It should be noted that although the criteria are well established and based on claims made in the literature, not all are proven correct. Each criterion is now discussed.

Variables Used In The Segmentation Process - Criteria in the Literature

1. Variables should correlate to differences in buyer behaviour
The aim of market segmentation is to form distinct groups and this assumes that markets are heterogeneous and can be segmented (Wind, 1978). However, this is not sufficient to provide managerially useful segmentation results, as the variables used must relate to differences in buyer behaviour. Frank (1967) raised the need for segments to differ in terms of some aspect of customer behaviour that has an impact on demand. Green (1991) also associates market segmentation with a presupposition of heterogeneity in buyers' preferences (and ultimately choice behaviour) for product/services.

While market segmentation has traditionally been based on variations in demand, it is also possible to segment markets on supply factors, such as consumer profitability based on consumer behaviour or its consequence to the firm (Storbacka, 1997). Irrespective of how segmentation occurs, it is important that the variable used correlates with *behaviours* of interest. Accordingly, a pre-requisite of market segmentation is the identification of the main predictors of *behaviour*. Arising, therefore, is the question of *which* variables (demographics, other behaviours or cognitions) are the better predictors. Unfortunately, despite thousands of academic and commercial segmentation studies (of which demographic variables have been the dominant classification variable), one can draw very few generalisations as to which variables would have what effect under what conditions (Wind 1978). In terms of demographics, while they may be

[1] While personality variables certainly can be behavioural, they traditionally embellish cognitive constructs.

intuitively the best option, there are many adhoc studies scattered throughout the literature finding little or no link between demographic descriptors and purchase behaviour or segment membership (for example, see Hammond, 1996, Biehal, 1983, Danneels, 1996, Shoebridge, 1997). In attempting to compare demographics and the lesser used behavioural variables, Cierpicki (1998) found that behavioural variables were equally good predictors of overall buying behaviours as, and at times better than, demographic variables in a reanalysis of seven empirical studies. In regard to cognitive variables, the current general view is that they are generally poor predictors of behaviour, except under the most stringent of research control conditions (Kassarjian, 1991, van Raaij, 1994, Kraus, 1995, Foxall, 1996).

2. **Variables should classify consumers into groups such that those *within* a group react in a largely similar way to the marketing stimuli of interest.**

3. **Variables should classify consumers into groups such that those *within* a group react in a largely different way to those in other groups.**

Criterion 2 and 3 have been widely endorsed in the literature, with both included in the definition by Smith (1956) and acknowledged by Claycamp (1968) and Dickson (1987) to be ideal conditions in a segmented market. Kotler (1997) refers to criterion 3 as the ability to define 'differentiable' segments - segments that are conceptually distinguishable and respond differently to different marketing mix elements. van Raaij (1994) refers to criterion 2 as 'congruity' and criterion 3 as 'variation'.

4. **Variables should classify within-person differences as well as between person differences, ie classify behaviours or specific attitudes as well as people.**

Preference heterogeneity can relate to differences between consumers (for example, demographic or psychographic characteristics, product usage, brand loyalty, etc), or to different situations (for example, type of meal consumed, purchase as a gift or for oneself, etc) (Green, 1991). Research undertaken by Dubow (1992) has shown that people-based versus occasion-based segmentation can produce different cluster solutions. A preference to use individual differences to segment users is found within the literature, but practically speaking, situation or person-situation analysis is most likely to provide managerially useful insights (Dickson, 1982).

It may be too strong a claim to state that variables should always classify both within-person differences and between-person differences but the literature highlights this criterion as offering another choice in the segmentation process. Dickson (1982) raised that it is the demand curves that are segmented, not people or situations. These demand curves reflect the needs that arise from consumers' interactions with usage situations. This suggests that both types of differences are important in the market segmentation process. Additionally, as behavioural correlates are almost always situation-specific variables (Rudelius 1987), behavioural variables would be expected to perform well in classifying within-person heterogeneity.

5. Variables that classify consumers should be able to be identified and measured

When deciding on the basis for segmentation it is essential that the selected variable can be both identified and measured, otherwise it is impossible to complete the market segmentation process. The definitions provided by van Raaij (1982) are used in this research, with 'identification' being the clear differentiation of one segment from another and 'measurability' the identification of segments in terms of measurable characteristics (relevant to consumption related behavioural response).

6. Variables should be objective rather than subjective

This is an extension of the previous criterion and attempts to ensure that the segments formed would be found if the process was repeated. It is possible that the segmentation approach undertaken by a firm does not reflect reality, particularly if the basis for segmentation is not the relationship between perceived product characteristics and demand (Dickson, 1987). It was expected that practitioners would consider some variables (eg demographic characteristics) to be more objective than others (eg attitudes and psychographic characteristics). While the use of objective variables may be desirable, this could also lead to a preference in the use of variables that do not provide a link with behaviour.

7. Variables should classify consumers such that the segments are relatively stable over situations and time ie., once classified, consumers should react similarly, over time, to communicative, distributional and product-related stimuli

This criterion highlights the importance of segment stability to managers. If the membership of segments or reaction of members changes in the short to medium term, then the findings of segmentation studies will provide little assistance to marketers. Stability depends on the choice of variable used as the basis for segmentation and Hoek (1993) states that it is illogical to expect segments defined in terms of benefit importance, usage habits or attitudes to remain constant in size, composition and behaviour.

8. Variables used to classify consumers should be able to withstand small changes in the way data is analysed

This refers to the method utilised in the process of market segmentation. Variables used to identify segments should be robust enough to withstand small changes in the way the data is analysed (Wright 1996). This is particularly important because many approaches rely on researchers providing decisions that can affect the segment solution identified. Subjective choices include the technique used, as well as the number and composition of segments. Indeed a number of authors have highlighted that validation is essential when using clustering techniques, particularly when using hierarchical cluster analysis as this method is known to be less reliable than alternative segmentation methods (Edris, 1989). Unless several different algorithms detect groups with similar positions and size, then the identification of 'real' segments cannot be claimed (Esslemont, 1989). As evidence of the need for this criterion, Wright (1996) cites an example where two competitors in the same market identified different (and different numbers of) market segments; one competitor identifying approximately twice as many as the other. In another example, Esslemont (1989) reanalysed a commercial segmentation study that used cluster analysis to come up with six customer segments. In reanalysing the raw data using 8 different cluster algorithms, the solutions found were markedly different. Given these outcomes, both Wright (1996) and Esslemont (1989) question the popularity of market segmentation.

9. Variables used to classify consumers should be generalisable ie suitable and applicable to many products and services.

It has been claimed that, at a general level (where broad consumption behavioural patterns are of interest), variables that are largely stable and permanent characteristics of consumers (eg., age, education, and personality) are likely to be the most suitable and, in principle, apply to many products and services (van Raaij, 1994). Expanding on this, Cornish (1989) suggests variables should consist of exclusive and unambiguous points or cells that have a consistent meaning in all surveys and source material. On this criterion it could be expected that demographic variables should perform well.

10. Variables used to classify consumers should exhibit a high level of reliability ie., can assign an individual to the same category each time he or she is studied

This criterion combines elements of criterion 8 (reliability) and criterion 7 (stability), and refers to the segments themselves rather than the ability to reproduce results with various techniques. The stability of segments over situations and time is an important issue and one that is often neglected (Wind, 1978). There are three factors that effect the stability of segments, the basis for segmentation; the volatility of the marketplace; and consumer characteristics (Wind, 1978).

The factors that impact on psychographic segmentation have been discussed by Edris (1989) and include the degree of variation between groups, the number of variables employed, the size of the sample, and the accuracy in response. As stated previously, the stability of segments is a critical issue if the results of market segmentation are used to target customers at an individual level, eg using database marketing.

11. The cost and effort/convenience of collecting the variable should be low

This last requirement relates to the need for market segmentation to provide a benefit to firms that undertake the process. It would be expected that practitioners would be more likely to use variables that were cheaper and easy to collect. This criterion is partly related to criterion 5 (ability to identify and measure variables).

This finalises the list of criteria developed from the literature relating to the process of market segmentation. The next section describes the methodology used to gain insights into the views of 'experts' on market segmentation and testing of the practical relevance of criteria.

RESEARCH DESIGN

The aim of this paper is to provide a link between segmentation in theory and practice and to assess which segmentation variables practitioners find more valuable. The previous section provided a list of criteria from the literature relating to the selection of variables to segment markets. It was decided that the formation of an 'expert' panel of marketing practitioners would be an appropriate method of testing the criteria and providing insights into the practice of marketing segmentation.

The Sample

The sample comprised of thirteen senior consumer marketing practitioners based in Adelaide, South Australia. Each respondent had at least 3 years experience in analysing or collecting data on consumer behaviour that included correlating or linking consumer behaviour to individual consumers or consumer segments. The sampling frame from which respondents were sought was drawn from two sources:

1. the University of South Australia database of practitioners that attend a regular marketing forum;
2. Adelaide based market researchers listed in the 1998 MRSA Directory.

These sources provided a total of 32 'experts', of which 13 met the selection requirements and agreed to be interviewed face to face. This provided a non-random sample chosen with the intent of fulfilling a predetermined criterion, namely a group of 'experts' based in Adelaide. The final mix of respondents included practitioners from the market research industry, FMCG and consumer based service organisations.

Methodology

A panel survey methodology was chosen as appropriate for the study. This is a qualitative research technique that can provide highly valuable information (Perreault, 1989, Rust, 1994). Each respondent participated in a semi structured, in-depth interview that lasted between 30 and 45 minutes. The use of a semi-structured interview method was selected as it is considered especially effective with busy executives (Aaker, 1986). This technique does not force respondents to answer any questions that are irrelevant and allows for the collection of information not originally anticipated in the survey design. Respondents are also more likely to answer because of the face to face situation and questions can be tailored based on previous answers/discussions. Another benefit of this methodology is the detection of non-verbal communication signals.

Questions focused on collecting a broad range of information about respondents' behaviours and knowledge. Each interview was taped with the results formed from a review of notes made at the interview and the tape recording of interviews. Comparisons across respondents were limited to predetermined questions that everyone responded to, making analysis easier and more meaningful had no predetermined questions been asked. This took the form of analysis of the main themes underlying the responses rather than on exact responses.

RESULTS

This section describes the variables currently used by practitioners to segment markets and then discusses the current use and applicability of each criterion.

Current Practice and Selection of Variables

Overall, practitioners described market segmentation as largely a process of 'trial and error'. This description is in accordance with the view of Smith (1956) and confirmed the finding of Danneels (1996). It suggests the lack of a common or systematic process for market segmentation. However, common to all 'experts' was the emphasis in use of demographic variables over behavioural or cognitive variables to segment markets. Demographic variables appear an automatic choice, with some practitioners admitting to not having deeply investigated the possibility of using non-demographic variables. The wisdom of this decision given the criteria established in marketing theory is now investigated by comparing demographic, behavioural and cognitive variables against the criteria.

Importance of Correlation of Segmentation Basis with Buyer Behaviour

A review of marketing theory identified eleven criteria for selecting segmentation variables, but the researchers selected one as being essential - all variables should correlate to differences in buyer behaviour (criterion 1). It was felt that failure to comply with this criterion would make segmentation a redundant process. Accordingly, expert panel members were asked to rate the other criteria relative to criterion 1. Ratings reflected the importance (low, medium or high) of each criterion.

Prior to doing this, practitioners were asked to comment on the ability of variables to correlate to differences in buyer behaviour. Despite the common use of demographics, only one practitioner believed they performed clearly better than behavioural variables in this regard. Most experienced only weak links between the demographics collected and behaviours of interest. Better predictors of future behaviour were suggested to be behavioural variables such as 'having previously bought from the product category or from a wider product category'. Some practitioners had investigated correlations with broader behavioural variables, such as ownership or consumption of complimentary products. The results varied depending on the product category. For example, no significant correlations were found between hiring videos (a behavioural variable) and eating pizzas (the consumption behaviour of interest) but correlations were found between type of food eaten or event attended (two behavioural variables) and the consumption of wine.

The least used variables were cognitive, with about half of the practitioners indicating that they had not discovered any important attitudes to collect and nearly all believing that links between consumer behaviour and consumer personality were unlikely to occur. The exception was a practitioner who had commissioned a psychographic (cluster based) segmentation study and had identified differences between buyers of brands. However, the practitioner mentioned difficulties in applying the findings of this study.

In summary, all practitioners confirmed the importance of the ability of segmentation variables to correlate with buyer behaviour (criterion 1). This contradicts the current practice of using demographic variables as they were acknowledged to perform weakly against this requirement. Investigation of the current application of other criteria, the importance given to these and the rating of variables may provide insights into why demographics remain popular despite this shortcoming.

The sample demonstrated a lack of understanding of criterion 2 and 3 that led to an inability to provide meaningful ratings. Both principles are widely endorsed in the literature and the result highlights differences between knowledge of researchers and the sample studied.

Overall, 'users' perceived that it was most important for variables to correlate with differences in buying behaviour, to be able to be identified and measured and should exhibit reliability (1, 5 and 10). The cost and convenience of collecting variables should also be low (11) and the variables should be generalisable (9) as well as identify between-person and then within-person differences (4).

It was less important that the variables were objective because of a perception that marketing is partly subjective itself (6) and not important for variables to withstand small changes in the way the data is analysed (8). However, it was important that the variable used was reliable in the categorisation of consumers (10). Additionally, segments did not need to appear to be relatively stable over time to marketing stimuli (7). The conflicting ratings given, (10 high while 7 and

8 both low), tends to confirm the lack of understanding by 'users' of the implications of criteria. It could also suggest that practitioners perceive it important for a constant correlation with the variable used to segment consumers and segment membership, but the behaviour exhibited by the segment is able to change over time, hence the preference for demographics. For example, a person's birth date can consistently identify segments, such as 'baby boomers', but the behaviour of this segment would have changed over time. The ratings given to each criterion are summarised in Table 2.

Table 2: Summary of Practitioner Performance Rating of Consumer Variable

		Performance Against Criterion		
Criterion	Importance of Criterion	Demographics	Behaviours	Cognitions
1	High	Medium	High	Medium
2 and 3	-	-	-	-
4 Between Within	 Low Medium	Low	High	High
5	High	High	Low	Low
6	Low	High	Medium	Low
7	Low	-	-	-
8	Low	-	-	-
9	Medium	High	Low	Low
10	High	High	Medium	Medium
11	Medium	High	Low	Low

CONCLUSION

This study confirmed the popularity of demographic variables to segment markets and suggests it is due to their reliability, ability to make generalisations, ease of collection and cost effectiveness. Cognitive variables, such as attitudes and personality, were generally not seen as able to segment markets in a beneficial manner and are unlikely to increase in use. Behavioural variables were thought to be the best predictors of behaviour, but are complex to select, costly to collect and are often product or situation specific. These reasons, combined with the preference of practitioners to initially classify between-person differences, makes it likely that demographic will continue to be selected. Unfortunately, this will provide segments showing weak associations with consumer behaviour and the continuation of this practice is unlikely to improve marketing decisions.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

All ‘experts’ interviewed in this study were located in Adelaide, South Australia. Accordingly, this research provides insights into how markets are segmented in Adelaide. Further work is required to ensure that the experience of these ‘experts’ represents those of marketing practitioners generally. Another limitation is the high proportion of ‘users’ rather than ‘analysts’ included in the sample. The results showed that this affected the ability of the sample to understand the importance and relevance of the criteria. Therefore, the replication of this study in other geographic locations and comparison of ‘users’ with ‘analysts’ is recommended.

There are additional issues not addressed in this paper that also warrant investigation. For instance, after considering the costs involved, do the benefits of providing multiple offerings to suit the requirements of the different segments outweigh those given by offering a mass market offering or a variety of offerings that are self selected by the market (Wright, 1996)?

This research indicates that ‘users’ need to improve their understanding of the principles of market segmentation and be more willing to include behavioural variables in segmentation studies. To assist in this task, researchers need to provide guidance to practitioners in a manner that is easily understood. In particular, further work is needed into the variables that can segment markets according to differences in buyer behaviour. Establishing greater links between market segmentation theory and practice will also improve the body of knowledge available on this subject and increase the chances of market segmentation providing benefits to practitioners.

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