CHAPTER 11

Market segmentation

YORAM (JERRY) WIND and DAVID R. BELL

All markets are heterogeneous. This is evident from observation and from the proliferation of popular books describing the heterogeneity of local and global markets. Consider, for example, *The Nine Nations of North America* (Garreau, 1982), *Latitudes and Attitudes: An Atlas of American Tastes, Trends, Politics and Passions* (Weiss, 1994) and *Mastering Global Markets: Strategies for Today's Trade Globalist* (Czinkota *et al*., 2003). When reflecting on the nature of markets, consumer behaviour and competitive activities, it is obvious that no product or service appeals to all consumers and even those who purchase the same product may do so for diverse reasons. The Coca Cola Company, for example, varies levels of sweetness, effervescence and package size according to local tastes and conditions. Effective marketing and business strategy therefore requires a segmentation of the market into homogeneous segments, an understanding of the needs and wants of these segments, the design of products and services that meet those needs and development of marketing strategies, to effectively reach the target segments. Thus focusing on segments is at the core of organizations' efforts to become customer driven; it is also the key to effective resource allocation and deployment. The level of segment aggregation is an increasingly important issue. In today's global economy, the ability to customize products and services often calls for the most micro of segments: the segment of one. Following and implementing a market segmentation strategy allows the firm to increase its profitability, as suggested by the classic price discrimination model which provides the theoretical rationale for segmentation.

Since the early 1960s, segmentation has been viewed as a key marketing concept and has been the focus of a significant part of the marketing research literature. The basic concept of segmentation (as articulated, e.g. in Frank *et al.*, 1972) has not been greatly altered. And many of the fundamental approaches to segmentation research are still valid today, albeit implemented with greater volumes of data and some increased sophistication in the modelling method. To see this, consider the most compelling and widely used approach to product design and market segmentation – conjoint analysis. The essence of the approach outlined in Wind (1978) is still evident in recent work by Toubia *et al*. (2007) that uses sophisticated geometric arguments and algorithms to improve the efficiency of the method. Other advances use formal economic theory to specify optimal consumer trade-offs – see Iyengar *et al*. (2007) for an application to non-linear pricing.

Despite the underlying stability of the basic concept, recent advances in information technology and the trend towards globalization are introducing a discontinuous change to the adoption and implementation of segmentation strategies. The revolution in information technology and strategy makes possible the creation of databases on the entire universe and enormous advances in database marketing and innovative distribution approaches. It has also facilitated much of the development in flexible manufacturing with the consequent emergence of mass customization. In addition, the Internet has expanded not only the ability to implement market segmentation research more effectively, but also expanded the portfolio of segmentation methods available for use (see, e.g. Dahan and Srinivasan, 2000). These changes are leading to the creation of 'one-on-one marketing' or segments of one. The

globalization of business expands the scope of operations and requires a new approach to local, regional and global segments. Moreover, businesses that have not traditionally embraced marketing in general or segmentation in particular, see it as imperative for success and even survival. Consider the current enormous effort by the leading financial services firms to understand how to segment the global at-retirement market fuelled by the baby boomers in North America and Western Europe. Finally, it is important to recognize a subtle but pervasive shift in the *bases* for segmentation. Historically, marketers segment the market according to characteristics (e.g. demographics), preferences, usage rates, etc. Increasingly, it is difficult to fully articulate a segmentation strategy without an accompanying discussion of customer lifetime value (CLV) and a thought process that makes the CLV calculation explicit (see Gupta and Lehmann, 2003).

These changes require not only an appraisal of what we know about segmentation, and what works and does not work, but also a review of the segmentation area as part of an entirely new marketing and management paradigm.

Therefore, the purpose of this chapter is to introduce the reader to both the 'best practice' in the segmentation area and the likely new developments. These observations are based on advances in marketing concepts, marketing science research and modelling tools, generalizations from empirical studies, successful practices of leading firms and the conceptual implications of operating in the global information age. This discussion of the best segmentation practices and likely advances encompasses five areas:

1 Use of segmentation in marketing and business strategy.
2 Decisions required for the implementation of a segmentation strategy.
3 Advances in segmentation research.
4 Impact of operating in the global information age on segmentation theory, practice and research.
5 Expansion of segmentation to other stakeholders.

Thus, this chapter is based on the premise that segmentation is the firm's response to a fundamental market feature – heterogeneity. The likely success (or otherwise) of the firm's segmentation strategy is assessed through a segmentation audit discussed next. The firm enacts the segmentation strategy through: (1) data collection, (2) application of models and frameworks and (3) resource allocation and differential action based on segment (customer) value. The chapter concludes with a set of critical issues that provide the guidelines for research agenda in this area.

Use of segmentation in marketing and business strategy

Conceptually any business strategy should be based on understanding, meeting and even exceeding the needs of target segments. Figure 11.1 illustrates the centrality of segmentation and the progression of fundamental questions to address. At the core is the identification of the existing and potential customer base, an understanding of underlying heterogeneity and the evolving needs and wants of target segments. Next is the response to segmentation, namely guidelines for the development of products and services, and their associated positioning to meet the evolving needs of the target segments. Finally, the product positioning provides the foundation for the rest of the marketing strategy and the processes, resource allocation decisions and other activities of the firm.

Numerous published and unpublished case studies attest to the value of segmentation. For example, Bell *et al*. (1998) show how segmentation of store choice decisions of supermarket shoppers reveals fundamental differences in store attractiveness, conditional on a shoppers preferred shopping style. The model illustrates how one store format can capture market share from another. It is important to recognize that applications of segmentation cover a diversity of business contexts. In an industrial buying setting, Gensch *et al.* (1990) provide compelling evidence of the positive consequences of segmentation of electrical equipment buyers. In a 1-year test segmentation applied in two of three geographic districts, sales increased 18 and 12 per cent – while sales declined 10 per cent in the district in which model-based segmentation was not applied and 15 per cent for the industry. The firm reports continuous market share increases from the application of the segmentation approach. This is not an isolated case. The popular business press and the conference circuit are full of anecdotal cases in which creative segmentation has paid off. In fact a growing number of firms do use segmentation as the basis of their marketing strategy.

Yet despite the general acceptability of segmentation and its value, too many firms are not segmenting their markets effectively and are not

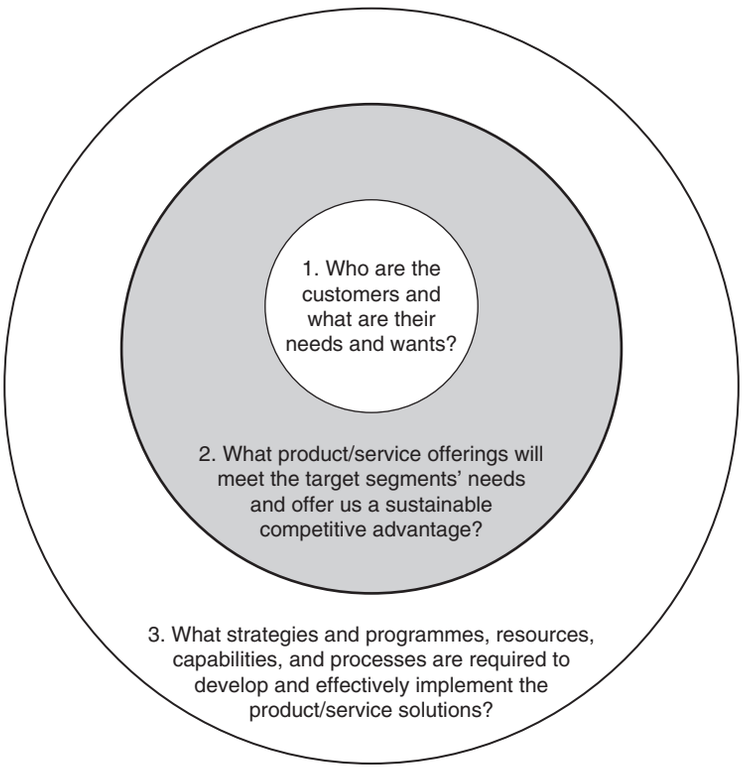


Figure 11.1 Focus on market-driven strategy

basing their strategies on the evolving needs of target segments. The experience of the more successful firms in consumer and industrial markets alike suggests, however, that effective segmentation is a must. The likelihood of a positive response to the firm's offerings is increased, the cost of reaching customers and chances of new product and service failures are reduced. The need to 'rediscover' the centrality of segmentation is made forcefully in a recent article by Yankelovich and Meer (2006).

A segmentation audit can help a firm make an initial determination as to whether it uses an effective segmentation strategy. We propose three interrelated approaches in decreasing order of complexity and time commitment. Table 11.1 presents a fairly comprehensive audit template (based on an actual audit for a large computer manufacturer). In scoring this particular audit it is important to note that effective segmentation requires a positive answer to each question. Any lower score on any of these dimensions requires correction.

A second approach is the *'Five Question' (5Q) method* which requires the firm to articulate an answer to each of the following:

1 *Who* are my market segments? This descriptive approach forces management to try and first identity the observable characteristics of individuals or firms thought to be in the target market segments. A firm unable to effectively answer this question is likely to have considerable trouble not only locating existing segments, but also predicting the evolution of new market segments.
2 *What* do my segments think and feel? An attitudinal evaluation of segments focuses on pyschographics and underlying segment preferences. A firm that cannot develop an answer to this question is unlikely to be able to communicate effectively with target segments. An understanding of perceptions, preferences and attitudes towards the firm and its competitors are necessary conditions for being able to tailor marketing messages and talk in the appropriate 'language'.
3 *How* do my segments behave? This question forces the firm to think about usage, demand and consumption patterns, and the reaction to changes in the marketing mix (product, price, promotion and distribution).
4 *Where* are my segments going? Here, the firm must attempt to map out the trajectory of segment growth. All segments follow a life cycle and this question forces the firm to address

Table 11.1 A segmentation audit

	Practice	*Completely describes us*	*Somewhat describes us*	*Does not describe us at all*	*Do not know*
1	Our business strategies recognize the need to prioritize target segments				
2	Our marketing plans include specific plans for each of the selected segments				
3	We have specific product offerings for each target segment				
4	We have a process for updating the information on our segments on an ongoing basis				
5	Our segments balance the unique country needs with potential synergies across countries				
6	We have an effective process for implementing segmentation research				
7	We have an effective process for implementing segmentation strategies				
8	We have P&L reports and accountability by segment				
9	We have detailed information about segments, including: • Current size of segment • Potential size of segment • Key business needs of the segment • Information systems needs of the segment • Their prioritized needs/benefits sought • Their prioritized preference for product and service features • Demographic characteristics of the segments • Product/system ownership and usage • Competition's strength in each segment • Perceived positioning of each competitor by the members of the segment				
10	Information about the target market segments are incorporated effectively into the following strategies: • Positioning • Product and service offerings • Pricing • Promotion • Advertising • Distribution • Sales force				

dynamics, and thereby understand long-term viability of segments.

5 *What* are my individual customers (and segments) worth? This final question stipulates that the firm must attempt to place a financial value on market segments. The inability to answer this question is likely to hamper firm efforts to effectively allocate marketing resources and maximize marketing return on investment (ROI).

A third exercise which is less time intensive, but can nevertheless reveal fundamental strengths and weaknesses in the current segmentation strategy is the '*Product by Segment Matrix*' (PSM). To create the PSM, the firm simply lists as rows of a matrix, the distinct products and services currently on offer. The columns of the matrix are a list of the segments thought to be addressed by the firm. At the very least, this exercise will provide some insight into the firm's view of market structure. For example, if all the matrix entries fall on the diagonal, each product is addressing a different market segment. A 'full row' implies that one of the firm's products is serving the needs of multiple segments simultaneously. Such a product is clearly of key strategic importance. Similarly, a 'full column' implies the presence of a segment with a deep level of attachment to the firm's product line.

These three different but complementary approaches to the segmentation audit illustrate important principles to keep in mind. First, effective segmentation requires a good deal of effort and attention. Cognitive effort, financial resources and time commitment from top management are prerequisites to the development of a viable segmentation strategy. A firm with limited commitment is unlikely to simply happen upon an effective strategy. Second, all good segmentation approaches seek to 'triangulate' – or converge on understanding segments through a different lens (description, attitude, behaviour, movement, value). Third, segmentation and the product/service portfolio must reflect and reinforce each other.

Decisions required in implementing a segmentation strategy

While poor segmentation can result from flawed thinking or conceptions of segmentation, it is our experience that many segmentation efforts fall flat because of poor execution and implementation. Effective segmentation strategy requires *detailed* answers to the following sets of questions:

1 How to segment the market?
2 What research procedure to use to develop a segmentation strategy?
3 What segment(s) to target?
4 How to allocate resources among the segments?
5 How to implement the segmentation strategy?

Segment identification decision

The determination of which set of variables – *basis* – to use for segmentation of the market is critical. Conceptually, the guiding principle is fairly obvious. A good segmentation variable is one that explains variation in use of the firm's products and services. If a proposed segmentation variable has no correlation to choice or other important behaviours, it is clearly of little value. Practically, the approach is quite involved and requires consideration of the following issues. Should we segment on product usage patterns (e.g. users versus non-users or heavy versus light users)? Should we segment based on benefits sought (e.g. product performance versus convenience versus price sensitivity)? Should we use some other measure of consumer response to marketing variables (e.g. likelihood of buying a new product concept, response to price promotion, participation in a loyalty programme)? The 'best practice' in this area suggests three propositions:

1 An *effective basis* for segmentation should allow one to differentiate among segments based on their response to marketing variables; thus buyers versus non-buyers or price sensitive versus non-price sensitive are possible bases for segmentation. Age, sex, marital status, psychographic characteristics or other general characteristics of the consumer may not be good bases for segmentation since they do not assure differential response to marketing variables.
2 The *selected basis* for segmentation should be directly related to the strategic purpose of the segmentation effort. In general, there are two types of segmentation with two different underlying rationales:
   - A general segmentation of the market which allows the organization to organize itself around the selected target segments. As an increasing number of companies shift from a product management organization to a market-driven organization or a matrix organization of product by market (as might

be implied by the PSM analysis), it is critical to identify relatively stable and large segments which could serve as strategic business units. Examples of such segments, in the case of a financial service firm, are the 'Delegators' – individuals who prefer to have a money manager take complete control over the management of their financial affairs, and the 'Electronic DIY' – who prefer to do it themselves using direct computer trading. To reach these two segments effectively the firm needs distinctly different strategies. Members of each of these strategic segments share some common financial/investment needs, yet each of these segments may still be quite heterogeneous with respect to other needs and, thus, could benefit from further sub-segmentation into more homogeneous groups.

- Specific segments for specific marketing and business decisions. For example, in the introduction of a new product, this may mean a focus on the segment that has the highest likelihood of buying the product. In the launch of a new online electronic shopping service, it could involve a focus on time-constrained individuals with high-speed Internet access at home. Other specific segments and their associated characteristics can be developed for each of the marketing mix decisions. Notice that in the following examples the informational requirements (and therefore basis for segmentation) differs systematically from issue to issue:
  - *For positioning*: product usage, product preference, benefits sought or a hybrid of the variables above.
  - *For new product concepts (and new product introduction)*: intention to buy, preference over current brand, benefits sought.
  - *For pricing decisions*: price sensitivity, deal proneness, price sensitivity by purchase/usage patterns.
  - *For advertising decisions*: benefits sought, media usage, psychographic/lifestyle. A hybrid of the variables above with or without purchase/usage patterns.
  - *For distribution decisions*: store loyalty and patronage, benefits sought in store selection.
  - *For general understanding of a market*: benefits sought, or in industrial markets, the criterion used is purchase decision, product purchase and usage patterns, needs, brand loyalty and switching patterns or a hybrid of the above variables.
3. To gain a better understanding of the various segments and their characteristics, it is critical to profile the segment's key discriminating characteristics. These include the complete segment profile on demographic, psychographic, product usage, perceptions and preferences, attitudes and the like. In the case of industrial (business-to-business) segmentation, these variables should include both the characteristics of the organization and each of the key members of the relevant buying centre. Table 11.2 identifies a list of variables commonly used as a basis for segmentation and as segment descriptors. It is important to note that variables not used as a basis for segmentation can become descriptors of segments that are developed based on other bases.

Selecting a research programme

The quality of a segmentation programme depends largely on the quality of information used in developing the scheme. Segmenting any market requires information on the characteristics of the market including:

- *Attractiveness*: The size and growth of the market segment(s).
- *Decision making*: The evaluation and choice criteria used by individuals (or buying centres in business-to-business marketing contexts), including the benefits they seek and problems they try to solve.
- *Perceptions and preferences*: The perceptions of preference for attitudes towards and usage of the products and services of the firm and its competitors.
- *Characteristics*: The demographic characteristics of the segment members or other relevant stable characteristics of the buying centre in the case of business-to-business markets.
- *Attitudes/feelings*: The psychographic profile (lifestyle, personality and other psychological and attitudinal characteristics).
- *Responsiveness*: Reaction and sensitivity to the marketing actions of the firm and its competitors.

To collect data on these variables and to analyse and interpret them requires a systematic research programme. Historically, segmentation research centred on customer surveys. Yet there are a number of additional approaches that should be considered. Figure 11.2 outlines the range of options. Formal primary research and especially surveys on

Table 11.2 Variables commonly used as basis for segmentation and as descriptors of segments

Basis for segmentation	*Descriptors of segments*
Organizational • Share • Trial • Purchase/adoption • Source loyalty • Price sensitivity • Customers of key competitors • Etc.	External • Socioeconomic, political environment (culture, technology, economic, political, regulatory, legal) • Behaviour towards competitors • Etc. Organizational • Industry type (e.g. SIC) • Size • Degree of centralization • Capabilities (technical, financial, etc.) • Geographic location (country, region, city, etc.) • Etc.
Buying Centre • Buying process • Informational search • Criteria/benefits sought • Negotiation style • Application • Decision • Post-purchase evaluation • Etc.	Buying centre • Size • Composition • Buying situation • Influence • Consensus among the members • Buying process • Buying organization and policies • Relations with suppliers • Etc.
Individual • Awareness • Knowledge • Perceptions, preferences, attitudes towards the brand • Preference • Recommendation • Purchase • Usage • Loyalty • Etc.	Individual • Demographic (age, sex, family life cycle, income, education, social class, etc.) • Psychographics (personality, lifestyle, activities, interest opinions, etc.) • Etc.

a sample of customers and prospects have been the most common approach to segmentation research. Recent developments of databases on the entire universe have changed the nature of segmentation research. Consider, for example, the pharmaceutical industry. Here a number of firms are developing databases on the entire industry. These databases include hundreds of thousands of physicians, thousands of hospitals and thousands of managed care organizations.

A second type of formal research includes secondary data analysis using geo-demographic data which can be used both for segmentation research as well as for experimentation. Adaptive experimentation (Wind, 2007) is another approach which could yield insights into the characteristics of various market segments and their response to marketing activities. One of the most important developments of recent years is the adaptation of traditional marketing research methods for application on the Internet. Dahan and Srinivasan (2000), for example, show which conjoint analysis replicates on the Internet. Of equal importance is the work by Dahan and Hauser (2002) that documents new research methods which are facilitated by the unique communication capabilities afforded by the Internet.

The third approach is input from ongoing business activities. In this case, we include both data on the market response to various strategies

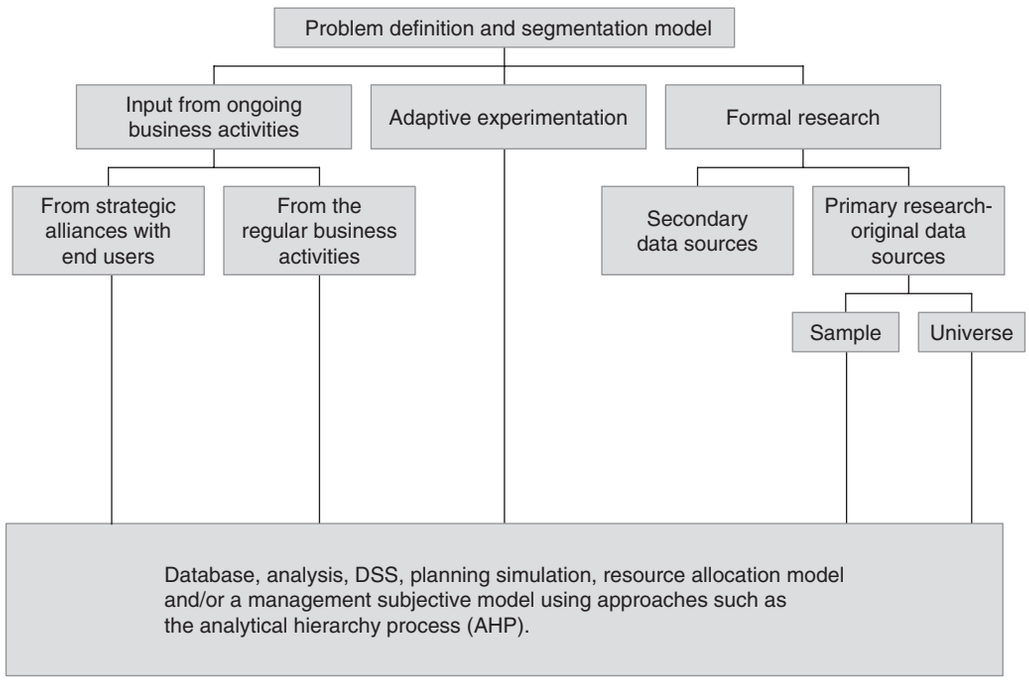


Figure 11.2 Selecting a segmentation research programme

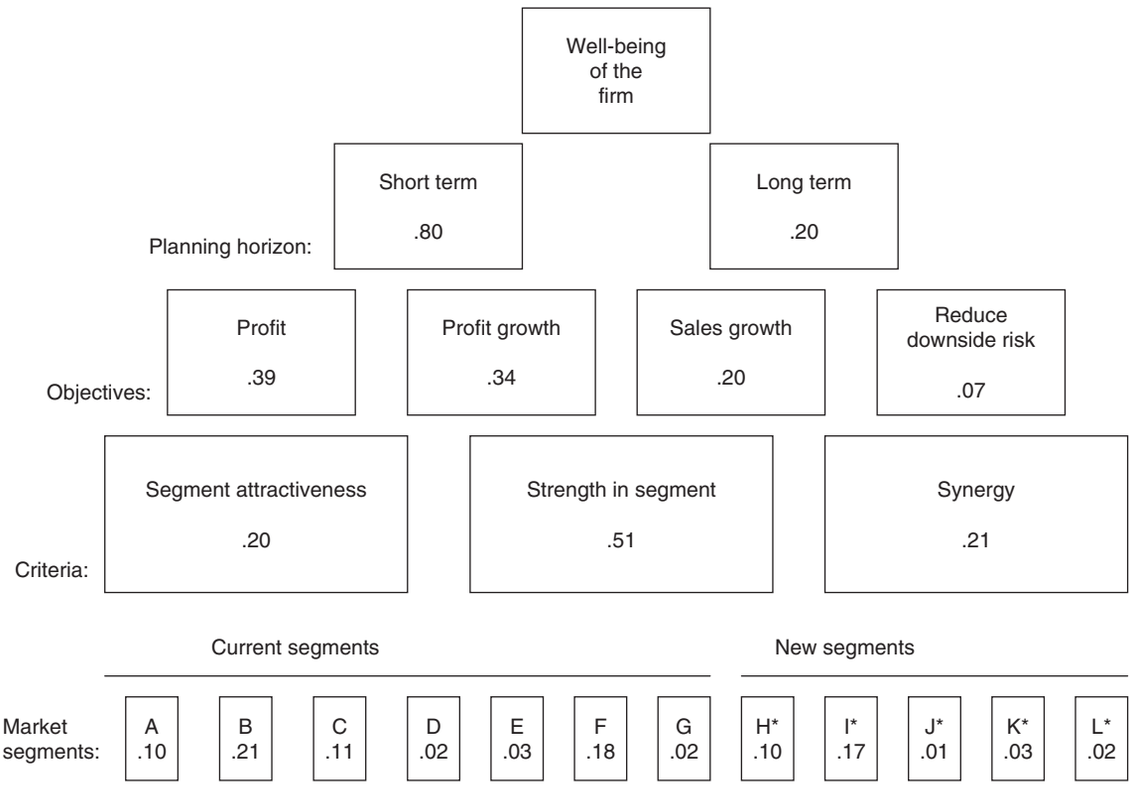
and insights gained from strategic alliances with customers. This latter approach is especially critical in the new product development area when the firm works closely with its customers on the development of new products and service. "Best research practices" would include using a number of these approaches, integrating the resulting data in a database, continuously updating the database and having it as part of a decision-support system (DSS).

Selecting target segments

Having segmented a market it is often not desirable or possible to pursue all segments. Thus, a critical decision is the selection of target market segments. If more than one segment is to be addressed, then consideration needs to be given to the order in which each will be targeted. Moreover, all segments have to meet four conditions: measurability (ability to measure the size and characteristics of the segment); substantiality (having a minimum profitable size); accessibility (ability to reach and serve the segments) and actionability (ability to implement strategies to serve the segments) (Kotler and Keller, 2005). Beyond these fundamental requirements, the selection of target market segments requires answers to the questions given below. (Note the relationship between these questions for selecting segments, and those for segmenting the market itself, given previously.)

- *Relative Attractiveness*: What is the size of the segment in terms of the revenues and profits it is likely to generate?
- *Responsiveness*: What is the likely response to the firm's offering, including response to the positioning of the firm's products and services?
- *Competencies*: Do we have the required offerings and competencies to effectively develop, reach and serve the selected segments?
- *Exogenous factors*: What is the likely impact of changes in relevant environmental conditions (e.g. economic conditions, lifestyle, regulations, etc.) on the potential response of the target market segment?
- *Accessibility*: Can the segment be reached (via controlled media and distribution or via a self-selection strategy)?
- *Cost*: What are the likely costs of effectively reaching the target segment?
- *Competition*: What are the current and likely competitive activities directed at the target segment?
- *Portfolio management*: How many segments can be managed effectively? What synergies or relationships exist among the segments?

These and related criteria often require information that is not always available from market research. In addition, it is important that any information collected through marketing research or other



Note: The numbers are the composite priorities of each item.

Figure 11.3 An illustrative output of an AHP designed to select a portfolio of market segments

sources is structured in a way that is amenable to action. Consequently, a decision-support framework is needed to aid managerial decision making. This framework should utilize both managerial experience and available data. At the minimum it should include: identifying relevant criteria, and evaluating the segments on the selected criteria.

Following the logic of product and business portfolio analysis, a portfolio of current and potential market segments can be constructed (Wind and Robertson, 1983). Figure 11.3 illustrates a portfolio of segments in which each segment is evaluated on its attractiveness, on the firm's expected strength in the segment and on synergy. The first two criteria are the same dimensions used in the GE/McKinsey portfolio matrix. These dimensions can be based on a single criterion or represent a composite of multiple criteria. For example, segment attractiveness could include such factors as the segment's size and growth, risk factors and the cost of reaching the segment. Segment strength could include such factors as current and expected share in the segment and expected profitability. The specific criteria and their relative weights can be determined by management judgement and marketing research input.

The segment selection procedure illustrated in Figure 11.3 utilized the analytic hierarchy process (AHP). The AHP (Wind and Saaty, 1980; Saaty, 1992) is a measurement approach and process that helps quantify management subjective judgements. The essential steps in implementing an AHP include: (1) setting up the decision problem by the relevant management group as a hierarchy of interrelated decision elements, (2) evaluating the various elements of the hierarchy by pair-wise comparisons and (3) using a mathematical method to estimate the relative weights of decision elements. The *Decision Lens* (http://www.decisionlens.com) process and software greatly facilitates the implementation of an AHP and its extension to the Analytic Network Process (ANP).

The application of AHP or ANP to segment selection involves bringing together the key executives and presenting to them all available marketing research information. This provides input to the deliberation and evaluation of the various segments, in a pair-wise comparison, against each of the chosen criteria. The results for the prioritization of the segments from our illustrative example are given in Figure 11.3. An examination

of this illustrative hierarchy suggests a number of segmentation-related conclusions:

- Management established three criteria (segment attractiveness, strength in segment and synergy) which vary in their importance with respect to the firm's ability to achieve their four objectives (profit, profit growth, sales growth and downside risk). The objectives, in turn, vary in their importance under short- or long-term conditions (not shown in the figure). The overall importance of the four objectives, assuming an 80–20 weight for short versus long term is presented in Figure 11.3. The seven current segments when evaluated against the three criteria (segment attractiveness, strength and synergy), which in turn are weighted by their importance to the accomplishment of the four objectives (weighted by their importance for the short- and long-term well-being of the firm), suggest that three of the segments – D, E and G – are not very attractive and should be considered as candidates for deletion, or at least destined to receive no incremental resources.
- Five new segments were identified. When evaluated on the three criteria, two of the segments – H and I – were viewed as candidates for inclusion in the portfolio and three – j, K and L – as candidates for exclusion.
- As a result of the process, a new portfolio of segments was established with segments A, B, C, F, H and I.
- The outcome also suggests how resources should be allocated to each segment. Since the dimensions included in the hierarchy encompass both the expected benefits from each segment as well as the cost of reaching them and risk, the priorities can be used as a rough guide for resource allocation. This would lead to the following allocation: A = 11 per cent, B = 24 per cent, C = 13 per cent, F = 21 per cent, H = 11 per cent and I = 20 per cent.

This example reinforces the idea that the identification and selection of market segments not only requires explicit structure, but also quantification and prioritization wherever possible.

Allocating resources among segments

The selection of target segments and the allocation of resources among segments are interrelated and iterative decisions. For example, in the preceding section, AHP was utilized to select a portfolio of segments. It also provided guidelines for resource allocation among the segments. Allocation of resources typically involves not only the allocation among segments, but also the allocation of resources to the marketing mix variables – product, price, distribution, promotion and advertising.

The basic problem of resource allocation is to decide on the mix of resources that generates optimal response (sales, profitability, etc.). Estimating and modelling the sales response of each segment to the various marketing resources is critical. How, for example, should sales persons currently covering a market be allocated across segments to optimize their return? A comprehensive set of analytical tools for how to answer such questions have been developed in Lilien and Rangaswamy (2002). Other traditional approaches, typically based on conjoint analysis studies among current and potential customers, have been applied to a wide range of situations including computers, telecommunications products and services, pharmaceuticals, etc. (Green and Krieger, 1985; Krieger *et al*., 2004). In the cases in which empirically based market response functions are not available, management's subjective judgement, using either decision calculus methods (Little, 1979) or the AHP (Wind and Saaty, 1980), can be employed. Above all else, these approaches stress the importance of structure and managerial input. The principles underlying successful adoption and execution of marketing science models are clearly articulated by Lodish (2001) aptly titled *Building Marketing Models that Make Money*. The complexity and importance of the resource allocation decision suggests the advisability of employing a methodology such as the AHP that incorporates managerial judgement, empirical data derived from econometric market response models and experiments, consumer studies and decisions models.

Implementing a segmentation strategy

The most difficult aspect of any segmentation project is the translation of the study results into marketing strategy and programmes. No rules can be offered to assure a successful translation and, in fact, little is known (in the published literature) on how this translation occurs. However, informal discussions with executives and observations from our own experience of 'successful' and 'unsuccessful' translations suggest a few general conclusions on the conditions likely to increase successful implementation.

1 *Involvement*: All relevant decision makers (e.g. product managers, new product developers, advertising agency, sales management, etc.) must be involved in the problem definition, research design, strategy generation and evaluation.
2 *Texture*: The segment characteristics used in the analysis should be rich enough to provide the basis for innovative product positioning and product, pricing, communication and distribution decisions.
3 *Direction*: The segment characteristics should also provide guidelines for the generation of creative executions of the selected strategy.
4 *Ownership*: Given the oftentimes non-marketing orientation of product management, it can be desirable to shift the responsibilities for segmentation strategy to segment-driven managers and teams.
5 *Science*: Since vital information on the cause and effect relationship between marketing resource allocation and response is often absent, it is vital that firms undertake to explicitly measure and monitor outcomes. For example, linking market response to media and distribution systems.

Advances in segmentation research

Many of the papers published by academics and practitioners in *Marketing Science*, *Management Science* and the *Journal of Marketing Research* offer specific advances in segmentation research and modelling. Moreover, *Interfaces* offers in-depth case studies of marketing science tools that demonstrably improve the bottom line for the client firm. While the approaches outlined in these articles are necessarily diverse and sometimes focused in their application, they nevertheless are centred around six sets of key segmentation 'tools'. We list the tools below in approximate increasing order

Classification methods

Classification methods for segmenting markets are especially critical for clustering-based segmentation approaches and for hybrid designs. A *clustering-based segmentation design* involves determining the number, size and characteristics of the segments based on the results of clustering of respondents on a set of 'relevant' variables. Benefit, need and attitude segmentation are examples of this type of approach. Significant advances have been made in the clustering area. *Hybrid segmentation design* includes those cases in which *a priori* segmentation design such as product purchase or usage, loyalty or customer type is augmented by some cluster-based segmentation on variables such as benefits sought. Hybrid designs are especially common in business-to-business segmentation.

Approaches such as macro and micro segmentation (Wind and Cardozo, 1974) and sequential clustering (Peterson, 1974) are often used in practice. Sequential clustering, for example, clusters on some market-based demographics followed by attitude (or benefit) clustering within each demographic segment. In both cluster-based design and hybrid design, the size and other characteristics (demographics, socioeconomic, purchase, etc.) of the segments are estimated. Classification procedures based on cluster analysis and variants thereof are especially useful in providing management with a data-driven view of segmentation. A 'classic' illustration of this value is given in Moriarty and Reibstein (1986) who use clustering methods to reveal a view of the market segments of the personal computer market that challenged management intuition about the way the market was thought to be structured. In particular, they are able to show how benefit segmentation relates to firm descriptors such as size and industry classification.

Discrimination methods

Discrimination methods employed to establish the profile of the segments commonly use multiple discriminant analyses or regression analysis. Such statistical methods are often augmented with graphic packages that graphically display the profile of the segments. These methods are especially useful when the goal is to assign new individuals (e.g. 'Prospects') into groups based on their likely disposition to use the firm's products and services. In recent years, discriminant-based techniques have fallen out of favour due to an absence of effective solutions to implementation and interpretation problems such as those documented in Eisenbeis (1977).

Simultaneous evaluation

One area receiving more attention from academic researchers involves application of sophisticated multidimensional scaling and multivariate statistical analyses in order to *jointly* locate segments and products in a consistent market map. One early development was the componential segmentation approach proposed by Green and DeSarbo (1979).

This method shifts the emphasis of the segmentation model from the partitioning of a market to a prediction of which person type (described by a particular set of demographic and other psychographic attribute levels) will be most responsive to what type of product feature. Componential segmentation is a logical extension of conjoint analysis and orthogonal arrays to cover not only product features but also person characteristics. In componential segmentation the researcher is interested in parameter values for various respondent characteristics (demographic, product usage, etc.) in addition to those for the product stimuli.

In a typical conjoint analysis approach to market segmentation, a matrix of subjects by utilities is developed. This matrix can serve as the input to the determination of the profile of some *a priori* segments (e.g. product users versus non-users) or alternatively as the input to a clustering programme which would result in a number of benefit segments. In componential segmentation, the same design principles which guide the selection of (product) stimuli are applied also to the selection of respondents. For example, in a study for a new health insurance product, four sets of respondent characteristics were identified on the basis of previous experience and management judgement: age, sex, marital status and current insurance status. Employing an orthogonal array design, one screens respondents to select those who meet the specific profiles specified by the design. Each respondent is then interviewed and administered the conjoint analysis task for the evaluation of a set of hypothetical health insurance products (also selected following an orthogonal array design).

Having completed the data collection phase, the researcher would have a matrix of averaged profile evaluations of the product stimuli by the groups of respondents. This data matrix is then submitted to any number of componential segmentation models, which decompose the matrix into separate parameter values (utilities) for each of the levels of the product feature factors (comprising the stimulus cards) and separate parameter values (saliences) for each of the levels of the customer profile characteristics (describing the respondents) which indicate how much each profile characteristic contributes to variation in the evaluative responses.

Given these two sets of parameters, the researcher can make predictions about the relative evaluation of any of the possible product features by any of the respondent types. The results are used with a simulation to estimate: (1) for each respondent segment the frequency of first choices for each of the new product combinations considered, and (2) for each new product combination, the frequency of first choices across segments. Componential segmentation offers a new conceptualization of market segmentation in that it focuses on the building blocks of segments and offers simultaneously an analysis of the market segment for any given product offering and an evaluation of the most desirable product offering (or positioning) for any given segment. The concept and algorithm of componential segmentation can be extended to cover not only two data sets (product feature and respondent characteristics) but three or more data sets by adding, for example, the components of usage situations and distribution options.

Other studies have used the output of logit and nested logit choice models to the simultaneous estimation of segment size, characteristics and choice probabilities to uncover market structure. Examples of this work can be seen in Bucklin and Gupta (1992) and other approaches documented in Grover and Srinivasan (1987, 1992). Elrod and Keane (1995) use panel data to simultaneously uncover latent attributes and consumer preferences. More recently, Moe and Fader (2001) use a stochastic modelling approach which allows clusters of products to draw from a fixed population of underlying segments. One advantage of this approach is that it simultaneously considers rates of purchase within segments and the mix of segments that interact with different clusters of products.

A conceptually related, but methodologically different stream of research has sought under the decision rules used by members of different market segments. Kamakura *et al*. (1996) illustrate that segments are not only heterogeneous in preferences, but also in information processing and consideration of product attributes. In that study, members of the 'Brand-type' segment focus first on brand, then on product form; 'Form-type' segment members reverse this process. Gilbride and Allenby (2004) show how to uncover and test for non-compensatory and compensatory decision rules using only choice data.

Simulation and optimization

Simulation and optimization are at the core of models for selection of a target portfolio of segments. These models are typically based on conjoint analysis studies. Among the most powerful of these approaches is flexible segmentation. In contrast to

a priori segmentation in which the segments are determined at the outset of the study and clustering-based segmentation in which the selected segments are based on the results of the clustering analysis, the flexible segmentation model offers a dynamic approach to the problem. Using this approach, one can develop and examine a large number of alternative segments, each composed of those consumers or organizations exhibiting a similar pattern of responses to new 'test' products (defined as a specific product feature configuration). The flexible segmentation approach is based on the integration of the results of a conjoint analysis study and a computer simulation of consumer choice behaviour.

The simulation model in a flexible segmentation approach uses three data sets:

1 Utilities for the various factors and levels for each respondent.
2 Perceptual ranking or rating of the current brands on the same set of attributes.
3 A set of demographics and other background characteristics.

The active participation of management is also required to design a set of 'new product offerings' (each defined as a unique combination of product features – specific levels on each factor included in the conjoint analysis study). Management participation can be on a real-time basis in which managers interact directly with the computer simulation. Research suggests that cross-functional teams should also have input into the conjoint simulator approach. For example, Srinivasan *et al*. (1997) leverage inputs from marketing, design and manufacturing in order to offer 'customer-ready' prototypes to respondents.

The choice simulator is based on the assumption that consumers choose the offering with the highest utility and is designed to establish the consumer's share of choices among the existing brands, which can be validated against current market share data if available; and the consumer's likely switching behaviour upon the introduction of any new product. This phase provides a series of brand-switching matrices. Within each matrix management can select any cell or combination of cells as a possible market segment (e.g. those consumers remaining with brand *i* versus those who switched to new brand, etc.). Once the desired segments (cell or cell combination) have been selected, the demographic, lifestyle, product purchase and usage, and other relevant segment characteristics can be determined by a series of multivariate statistical analyses which can be incorporated into the simulation. Some of the more significant developments in the segmentation area in the last two decades began with advances in simulation and optimization procedures and associated user-friendly software. Early developments by Green and Krieger (1991, 1994) greatly facilitate the task of selecting an optimal (or close to optimal) set of segments, and have now been incorporated into Adaptive Conjoint Analysis (ACA) routinely implemented by Sawtooth Software, one of the leading industry suppliers in the US (see e.g. Bryan Orme's *Introduction to Market Simulators for Conjoint Analysis*). A rigorous practitioner-oriented account of recent developments and applications can also be found in Krieger *et al*. (2004) and Green *et al*. (2003).

One of the more promising lines of research in simulation and optimization is emerging from the joint efforts of researchers in operations research and marketing. Camm *et al*. (2006) provide an exact algorithm to identify the new product concept that will maximize the number of respondents for whom that product exceeds a particular utility threshold. This is an important development as prior research in marketing was only able to identify heuristics for this task and therefore could not guarantee global optimality.

Bayesian methods

One important development in segmentation research is the application of Bayesian methods to segmentation problems. Bayesian methods allow researchers to estimate individual-level response parameters and therefore connect the modelling approach to the conceptual notion of 'one-to-one' or 'customized' marketing. These methods have become increasingly prevalent in a host of segmentation-related studies that cover issues ranging from coupon response (Rossi *et al*., 1996), advertising effectiveness (Schweidel *et al*., 2006), price response and new product design (Sandor and Wedel, 2005; Evgenio *et al*., 2005). Review articles on the impact of Bayesian methods and the implications for market segmentation are given in Allenby and Rossi (1999) and Rossi and Allenby (2003).

Customer-to-customer interaction

One fundamental shift in the practice of segmentation involves the harnessing of 'customer-to-customer' interactions for segment involvement

and development. Customer-to-customer interactions facilitate the evolution of new segments and the transmission of product-relevant information and preference data. These interactions are explicit in evolving social networks (e.g., MySpace, YouTube, LinkedIn) and will be increasingly important to firms of all types. Consider, for example, 1800diapers.com which has grown from a start-up with no customers to over 100,000 registered customers in the space of a few months. A particularly important segment for this business is the cluster of customers who respond to the incentive to recruit other customers. This notion of employing existing customers and segments to create new ones is analysed formally using data-mining methods (see subsequent section in this chapter) by Hill *et al*. (2006) in their application to telecommunications data. Among other things, the authors find that customers linked to a prior customer adopt new services of the firm at a rate that is three to five times higher than baseline groups that were selected according to the firm's existing best practices. The relationship between physical and virtual proximity is also likely to influence customer acquisition and segmentation strategies for firms that have spatially dispersed clienteles. In examining trials of a new online grocery service, Bell and Song (2007) find that 'neighbourhood effects' play an important role in generating new customers, even after controlling for typical demographic and other location specific variables.

Linking segmentation findings with management subjective judgements

Given the complexity of deciding on the portfolio of segments to target, it is helpful to use a framework and methodology that captures managements subjective judgement while allowing the incorporation of findings from various segmentation studies. The AHP, as illustrated in Figure 11.3, and the more general ANP is ideally suited for this task.

Addressing the problems

In addition to methodological advances in these seven areas, some of the more interesting advances in segmentation research are those developed to address three of the criticisms of segmentation research. Namely, that it: (1) has too narrow a focus, (2) is static and deterministic and (3) is poorly integrated with strategy. The advances in addressing these problems are briefly discussed in the following section.

Too narrow a focus

This criticism encompasses five areas that can be addressed using specific advances in modelling technologies:

1. The traditional focus on '*one segment per customer*' (the assignment of individuals to mutually exclusive and collectively exhaustive segments) is too narrow. This problem can be overcome by the use of overlapping clustering using a clustering procedure that allows for an individual to belong to more than one segment. For a discussion of this method, see Arabie *et al*. (1981) and Chaturvedi *et al*. (1994). One could also argue that it is more appropriate to *jointly* model product-segment relationships as Moe and Fader (2001). Moreover, the interrelationships among product purchases across multiple product categories also provide insight into *which* customers are most worth pursuing. For an application of this method see Kamakura *et al*. (2004).
2. *One segmentation scheme fits all*. This problem of trying to fit one segmentation scheme for all marketing decisions can be solved by employing the flexible segmentation approaches or by developing a number of segmentation schemes and linking them. Moreover, the results from multiple schemes should be complementary and convergent. While traditional segmentation approaches focus on uncovering differences in behaviours and preferences, it may also be important to consider other possible segmentation approaches. This includes variation in decision-making rules or heuristics adopted by customers (see Gilbride and Allenby, 2006).
3. *Neglect of sub-segments*. With the exception of segments of one, most segments are heterogeneous. It is important to recognize this and augment the basic segmentation with additional sub-segmentation. This is the concept underlying hybrid segmentation models and is increasing in its popularity. In this context, it is also helpful to develop a hierarchy of segments. A byproduct of this research is the development of measures on the segmentability of each market (and the degree of homogeneity of selected segments). Several methods have been developed to deal with within-segment heterogeneity. These include the multi-mode Bayesian methods of Allenby *et al*. (1998) and the empirical Bayes approach of Kamakura and Wedel (2004).
4. *Individual as the unit of analysis*. Most segmentation studies use data on individuals. However, few

decisions are made by a single individual. Most households and industrial (business-to-business) decisions are made by a buying centre. An important advance in segmentation research is the shift in the unit of analysis from individuals to buying centres, which may be a pair of individuals in a family unit, or a more complex set of relationships within an organization. Recognizing the heterogeneity within a buying centre, the use of key informants as representative of the buying centre is often not appropriate. A better approach would be to identify all the members of the buying centre and collect the information on a subset of the buying centre members. This allows an assessment of the level of consensus among members of the buying centres. The level of consensus as well as the composition of the buying centres can be used as a basis for, or descriptors of, segments. Choffray and Lilien (1978) demonstrate critical differences in decision criteria among members of buying centres for industrial heating and cooling equipment. In addition, Wilson *et al.* (1991) describe and test the best ways to combine the preferences of individuals and buying centre members when trying to determine how the buying centre is most likely to act. Individual preference formation and the integration of preferences in a group process are analysed in Arora and Allenby (1999). The authors show that the method also facilitates revelation of 'high influence individuals' as part of the estimation and segmentation process. A more recent paper by Aribarg *et al.* (2002) examines the separate processes of preference formation and consensus building and shows how the two interplay to produce final decisions. Finally, state of the art work by Arora (2006) shows that one may in fact impute joint preference using smaller and more cost effective datasets using 'sub-sampling'. A formal treatment of sub-sampling – or the repeated sampling from observations which exhibit dependence – is given in Politis *et al.* (1999).

5 *The segmentation of the month*. Segmentation area has not escaped other management fads and has had its share of 'segment of the month' promise and advocates. To avoid this trap, one must attempt theory-driven segmentation. It also helps to keep the focus on market response variation as bases for segmentation and to include all other variables as segment descriptors. A recent conceptual article on 'marketing malpractice' illustrates that segmentation schemes can become cumbersome, a-theoretic and consequently, ineffectual (see Christensen *et al.*, 2005).

Static and deterministic perspective

A major limitation of many of the segmentation studies is their neglect of the dynamic aspects of segmentation. Static/deterministic segmentation tends to ignore segment change and market dynamics; ignoring such changes often has several consequences. Johnson and Lilien (1994) provide a conceptualization and model-based approach to deal with segment dynamics. The Internet is one environment in particular that requires special attention to dynamics and several authors have addressed this issue. A recent example is given in Reutterer *et al*. (2006) in which the authors develop a dynamic model built from purchase history information provided by a loyalty programme. In general, to address the issue of dynamics one can do the following:

- Define bases for segmentation that focus on change.
- Monitor changes in segment composition over time.
- Focus on strategies that will change segment membership (from non-users to users, light to heavy users).
- Incorporate competitive actions and reactions, since the desirability of a segment depends not only on the segment's characteristics and our own strategies but also on competitive actions and reactions.

A second major weakness of much of the segmentation research is the missing stochastic component. While early and seminal methods of segmentation (e.g. Kamakura and Russell, 1989) explicitly recognize that classification into segments is a probabilistic outcome, many applications seem to gloss over this important fact. One new direction in this area addresses the 'stochastic' component of the segmentation problem directly by explicit introduction of estimates of segment size and characteristics. The academic research world has also examined fuzzy clustering (see, e.g. Wedel and Steenkamp, 1991; Rayward-Smith, 2002), although this method has yet to be widely embraced and applied in the marketing community.

Poor integration with strategy

To address the problem that segmentation studies are often not reflected in the resulting strategy, a number of actions can be taken. These include:

1 *Analysis*. Carefully map the results of all studies such as copy, concept, product, distribution and other marketing studies at the segment level. To

the extend possible, develop empirical generalizations regarding your target segments.

2 *Targeting*. Avoid infrequent and expensive large base-line segmentation studies and instead include in all marketing and business studies a segmentation analysis.
3 *Linking*. Link the segmentation to positioning and its associated marketing mix strategies. Specifically recognize the interdependence between the two. Given a positioning, what is the best segment(s)? Given a segment, what is the best positioning(s)? Having fixed on a segment/positioning, it is critical to develop a marketing strategy that will meet the needs of the selected segment and reflect the target positioning.
4 *Implementation*. Carry the segmentation efforts to the sales force level by encouraging each sales person to segment his/her market. In addition, segmentation methods can also be very helpful in segmenting the sales force (or other aspects of the distribution channel).
5 *Selection*. Carry through the segmentation strategies to the business and corporate level by focusing on a portfolio of segments and by using the portfolio of segments as the core of the business and corporate strategy.

Segmentation in the global information age

The information revolution has been the subject of an increasing number of scholarly studies that has captivated the imagination of scholars, managers and the population at large. This revolution is greatly affecting the ways in which firms are managing their operations and is likely to change dramatically the way in which business is conducted. Information strategy is at the heart of most recent efforts to reengineer and reinvent the corporation and is leading to the creation of a new management and associated marketing paradigm.

In the new management and marketing paradigm (Wind, 2005) information is having a profound effect on: (a) the nature and quality of management decisions; (b) the nature of business strategies and (c) the creation of innovative communication and distribution systems.

Management decisions

Management decisions are affected by the availability and use of databases on the entire population and their linkage to decision-(and executive-) support systems (DSS/ESS) and dashboards, which in turn can include expert/knowledge-based systems. In this context, many advances in segmentation research and modelling can be incorporated in the DSS; moreover, much of our knowledge of segmentation can be developed as rules for a knowledge-based system that could help management to select target segments.

Some of the advances in this area include the ability to have 'live' databases in which one can update on an ongoing basis the customer database. Consider, for example, Citibank's interactive intelligent DSS which guides all interactions with the customer. These interactions include the delivery of a direct mail or telephone sales message targeted by the system which also coordinates a number of customer interactions. The coordinated interactions create a 'dialogue' to follow the consumer with the appropriate intervention at each touch-point of contact of the consumer with Citibank. The touch points include subsequent telephone enquiries, ATM use, bank teller interactions and receipt of statements. This system is based on a new relationship model with household and not only on the traditional banking focus on accounts.

Data mining

Data mining (e.g. Lewinson, 1994) offers enormous potential for empirically driven insights. 'Data mining' refers to a number of pattern recognition models that may use neural nets or fractal technology to discover patterns in the data. These methods have been employed commercially to identify segments of customers most likely to buy a given product (in banking, e.g.) and to the identity of customers most likely to leave (cellular telephones, e.g.). These approaches, although intriguing, are still in their infancy and require further validation. Some marketing researchers have combined data-mining methodologies with more traditional statistical models. Cooper and Giuffrida (2000), for example, utilize data mine the residuals of a traditional segment-based model of response to promotions and use this combined model to improve sales forecasts. A notable exception in this area is the work of Levin and Zahavi (2001) who compare several segmentation methods used in a predictive modelling context – several supervised-learning segmentation methods involving decision trees, and a couple non-supervised methods involving judgemental FRM and FRAT methods. This line of

work is promising and adds power to segmentation research and modelling.

Whereas the Citibank example illustrates future development, much of the work today relies more on the traditional geo-demographic segmentation based on consensus and other data. An example of this type of effort is the Claritas Prizm lifestyle segmentation. This segmentation divides the USA into 62 clusters. These clusters are further divided into 15 groups that vary with respect to the type of location – rural, town, suburb or urban – and with respect to level of affluence. The Prizm lifestyle clusters can be related to any target group of interest. Geo-demographic information continues to generate new applications and has been shown to be especially useful in customer targeting (see e.g. Sleight, 2004). Much of this work also signals a new interface between geography and marketing and how data sources and concepts can be combined for more effective segmentation and targeting (Harris *et al*., 2005).

Information strategies

Information strategies are relatively recent additions to the traditional set of marketing strategies. One of the early and most effective information-based strategies was the 'capture the client' strategy of America Hospital Supply's direct link between hospital computers and AHS computers, eliminating the need for human interaction in the straight rebuy case. 'Capture the clients' strategies, such as the direct computer link between P&G and Walmart, are increasing in popularity.

New communication and distribution options

Information technology is also dramatically changing the nature of the communication and distribution options. Electronic shopping developed at a much faster pace than was ever expected (see, e.g. Blattberg *et al*., 1994; Rangaswamy and Wind, 1994) and online business-to-consumer (B2C) sales in 2006 in the US alone were estimated at $212 billion (*US Department of Commerce*).

These changes affect all aspects of our lives and are altering the concept of segmentation. In the new marketing paradigm the traditional mass market is being replaced with segments including, at the extreme, segments of one. In a breakthrough book, *The One to One Future*, Peppers and Rogers (1993) presented a vision of their one-to-one paradigm which includes and focuses on:

- share of customers not share of market;
- collaborating with customers to create products and relationships;
- customizing products, services and promotional efforts for each customer;
- economics of scope;
- engaging the customers in dialogues – the interactive individualization of media is here.

The shift to segments of one requires a rethinking of the segmentation concept as well as the development and utilization of sophisticated databases, marketing analysis, modelling and strategy. The trend towards such developments is inevitable and is accompanied by another discontinuous trend – the globalization of business. The early vision exemplified in the work of Peppers and Rogers has recently been augmented by the notion of the 'Long Tail' – a phrase coined by Chris Anderson and popularized in his 2006 book. In the long tail a multitude of 'low demand' products are targeted at small segments of customers – such that their collective share outweighs that of traditional 'blockbuster' products. Effective segmentation is at the heart of delivering in long tail markets.

Globalization

Increasing numbers of industries are global. To succeed in this environment, firms have to shift from a domestic perspective to considering the world as the arena of operations both with respect to the consumer markets for products and services as well as for the resources markets for raw material, R&D, manufacturing, human and capital resources.

The globalization of industries is also accompanied by trends towards regional economic integration – the European Union, NAFTA and the various other efforts for regional integration in Asia and Latin America. The implication of these developments for segmentation is that management has to consider portfolios of segments that include:

- global segments;
- regional segments;
- segments within specific countries.

Added to this complexity is the need to consider as the unit of analysis not just countries but countries by mode of entry, since the risk and attractiveness of a country depend on the mode of entry. The

selection and implementation of a portfolio of segments which includes global segments, regional segments and segments within countries (by mode of entry) requires a significant amount of information on all relevant markets around the world. The creation and maintenance of such a data/knowledge base is not a trivial undertaking and is one of the major obstacles to the development of global segmentation strategies.

Creation of processes for the development and maintenance of country, regional and world databases is a high priority undertaking for all global firms. Yet the development of effective segmentation can take place even without such databases if the firm will proceed in an iterative bottom–up and top–down segmentation. This process involves three bottom–up steps:

1 Segmentation of the market in each country (by mode of entry).
2 Examination of the resulting segments in all the selected countries to identify common segments across countries – clustering of country segments.
3 The creation of a global portfolio based on various clusters of segments.

The resulting portfolio of segments should be compared to a desired (top–down) conceptual portfolio of segments. The comparison and contrast of the two portfolios should be driven by the concept of global operation which balances the need to develop strategies that best meet the needs of the local markets (given the idiosyncratic market, competitive and environmental conditions), while at the same time trying to achieve economies of scale and scope by focusing on cross-country segments in a number of markets. The AHP framework and methodology can and has been used in this context to help make such decisions, even in the absence of the needed 'hard' market data. As data become available, both from the firm's own experience and from other sources, the data can be integrated in a database and used as input to the AHP process.

The segmentation of global markets offers enormous opportunities but is still one of the neglected areas of segmentation. It does offer intellectual and methodological challenges and is critical from a management point of view. The literature presents scattered examples of global segmentation. Helsen *et al*. (1993) offer a proposed segmentation of multinational diffusion patterns, while Ter Hofstede *et al*. (2002) extend this notion to include explicit modelling of spatial aspects of cross-national segmentation schemes. A conceptual overview of how to think about cross-national segmentation is given in Steenkamp and Ter Hofstede (2002). Interestingly, very recent research by Ter Hofstede and Park (2007) suggests that spatial or geographic differences across countries provide considerable explanatory power for segmentation schemes. This result holds in an analysis of European Union consumers that controls for differences in other critical variables including culture and socioeconomic status. As global firms continue to struggle with the appropriate mix of 'customization' and 'standardization' there is enormous potential for important conceptual and methodological breakthroughs in this area.

Extending the segmentation concept

In the marketing literature, in practice and in the discussion so far, segmentation has been limited to 'customer' markets. Yet the concept applies to all heterogeneous populations and can and should be extended to the other stakeholders in the firm – all those who have a 'stake' in its survival and growth.

Consider, for example, the firm's own sales force. Most large firms employ thousands of sales people who vary considerably in their performance. The 20/80 rule often applies to them as it does to the customers (i.e. 20 per cent of the sales force often accounts for 80 per cent of the profits). In multi-product firms, different sales people often tend to sell different mixes of products. They differ in their family life cycle stages and hence have different financial and time needs (some are still worried about college education for their kids while others are single, etc.). These and other differences among the sales persons of any firm suggest that the traditional approach, in which a single sales strategy and compensation is employed, is suboptimal. To benefit fully from one's sales force, it is critical to segment it.

The segmentation of the sales force based on needs, benefits sought, expertise, perceptions and preference or any other relevant characteristics could lead to the identification of homogeneous segments and the design of separate strategies towards them. In fact in any situation where management relies heavily on a sales force a dual marketing strategy should be developed – one for the (target segments of) customers and a corresponding one for the (segments of the) sales force. Obviously,

these two strategies should be coordinated and integrated. Furthermore, a segmented strategy towards compensation is also desirable. To implement it while avoiding discriminatory practices requires the use of a compensation system with a number of options relying on a self-selection strategy in which the various sales people could select the option most appropriate for their needs. While the segmentation of the sales force and the resulting segmented strategies are likely to meet with considerable resistance, future research needs to address whether the benefits outweigh the difficulties and cost involved.

Similarly, a segmentation strategy can benefit the firm's dealings with its other stakeholders. Wind (1978) described a segmentation of security analysts and portfolio managers that led to better understanding by a firm of the criteria used in the evaluation of firms in their industry and the perceptions of the given firm and its competitors. Following a segmentation/positioning study, a strategy was developed to meet the needs of a target segment of security analysts that resulted in a spectacular increase in the P/E ratio of the given firm.

Other stakeholders such as suppliers, customer service personnel, competitors, government agencies and the firm's own shareholders are often heterogeneous. In all of these cases, understanding the key segments and selecting desired target segment(s) can greatly enhance the firm's effectiveness. In fact, as the cost of doing business in today's environment increases, a segmented strategy may be essential for any organization concerned with the return of their marketing investments.

Issues and associated research agenda

In one of the author's introduction to the *Journal of Marketing Research* special issue – segmentation research (Wind, 1978), the following conclusions were presented:

> 'Market segmentation has served as the focal point for many of the major marketing research developments and the marketing activities of most firms. Yet, too many segmentation researchers have settled on a fixed way of conducting segmentation studies. This tendency for standardization of procedures is premature and undesirable. Given the current state of the art, we offer the following 12-question areas as particularly ripe for new undertakings'.

Of particular importance seems to be research on the following areas:

1. *Conceptualization*. New conceptualizations of the segmentation problem.
2. *Theory*. Re-evaluation and operationalization of the normative theory of segmentation with special emphasis on the question of how to allocate resources among markets and products over time.
3. *New variables*. The discovery and implementation of new variables for use as bases for segmentation (i.e. new attitudinal and behavioural constructs such as consumption-based personality inventories and variables which focus on likely change in attitude and behavioural responses to the marketing variables) of the markets for products, services and concepts.
4. *Research design*. The development of new research designs and parallel data collection and analysis techniques which place fewer demands on the respondents (i.e. data collection which is simpler for the respondent and data analysis procedures capable of handling missing data and incomplete block designs).
5. *Analytic methods*. The development of simple and flexible analytical approaches to data analysis capable of handling discrete and continuous variables and selected interaction at a point in time and over time.
6. *Boundary conditions*. Evaluation of the conditions under which various data analytical techniques are most appropriate.
7. *Generalizations*. The accumulation of knowledge on successful bases for segmentation across studies (product, situations and markets). This could entail meta-analytic work to identify success drivers for different bases and methodologies.
8. *Validation*. Undertaking external validation studies to determine the performance of segmentation strategies which were based on findings of segmentation studies.
9. *Data generation techniques*. Designing and implementing multi-trait, multi-method approaches to segmentation research aimed at both the generation of more generalizable (reliable) and valid data.
10. *Cross-functional applications*. Integration of segmentation research with the marketing information system of the firm.
11. *Translation*. Exploring alternative approaches to the translation of segmentation findings into market strategies.

12 *Implementation*. Studies of the organizational design of firms which were successful and unsuccessful in implementing segmentation strategies.

As noted in this chapter, numerous innovative approaches to segmentation have evolved over the past 20 years. The centrality of the segmentation concept within the marketing field is still paramount, yet further work on the new conceptual and methodological aspects of segmentation should be undertaken. Review of some of the issues and current advances in segmentation research indicates that despite the great advances in the management of and research practice of segmentation numerous frontiers still require creative and systematic study. Furthermore, despite the advances in academic research during the past 30 years, we still do not have satisfactory solutions for many of the issues raised in the 1978 research agenda (Wind, 1978); yet new issues have emerged as well. The changes in the business environment and especially the implications of operating in a global information age, the emergence of empowered consumers and social networks do suggest, however, the need to challenge our mental models of segmentation (Wind *et al*., 2004) and add a few additional items to the research agenda. These include:

1 *Problem orientation*. Reconceptualization of segmentation *problems* in light of the impact of operating in the global information age and the emergence of segments of one seems a useful first step. Many of the issues raised in this review from trends in customer-to-customer interaction to the application of sophisticated Bayesian and data-mining methodologies suggest that strong conceptualization is still a necessary condition for effective segmentation.
2 *Decision support*. Development of expert system/knowledge-based systems to help management to select and manage the portfolio of segments seems vital. Such systems would ideally be incorporated in an effective DSS. The key to this is the development of a set of rules summarizing our current understanding of market segmentation. These *rule*s can reflect the empirical generalizations in this area and can be aided by appropriate meta-analyses. In addition, more thought needs to be given to the psychological and other impediments to use and implementation (see e.g. Hoch and Schkade, 1996).
3 *Management and implementation*. Development of the processes and organizational architecture required to assure effective adaptation and management of segmentation. This includes adoption of the segmentation concept as the foundation of all marketing and business decisions (as outlined in Figure 11.1) as well as the development of guidelines for effective management of segmentation.
4 *Implicit segmentation*. The effect of the Internet on within and across customer information transmission and demand aggregation is enormous (as acknowledged earlier in this chapter). It is therefore critical that firms understand and utilize *customer-to-customer* interactions as part of the segmentation process and allow customers to self-select and engage in mutually beneficial patterns of influence (consider the earlier example of 1800diapers.com). Such approaches may be more effective and leveraged than attempts to explicitly segment the market, regardless of the quality of the underlying data and statistical methods.

Addressing these newer challenges and continuing to build our knowledge concerning the items identified in the 1978 research agenda is critical in order to increase the value of segmentation. Continuous innovation and improvement in segmentation research and modelling for generating and evaluating segmentation strategies is necessary, but not sufficient. Real progress in this area requires rethinking the role of segmentation in the global information age and concentrated efforts by management to develop and implement innovative and effective segmentation strategies.

The obstacles to effective segmentation are not methodological, nor even the lack of data, but rather the ability and willingness of management to undertake a segmentation strategy and establish the processes and resources required for successful implementation. The concept of segmentation, once adjusted to reflect the impact of the information revolution and the globalization of business, is sound and valid. It is the *practice* of segmentation that is fraught with problems. These problems are solvable but the solutions require revision and alteration to most of the current approaches used to segment markets. If we have the conviction and courage to re-examine the traditional segmentation concept and approaches, we shall be able to significantly increase the value of our segmentation efforts in creating value to our customers and other stakeholders.

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