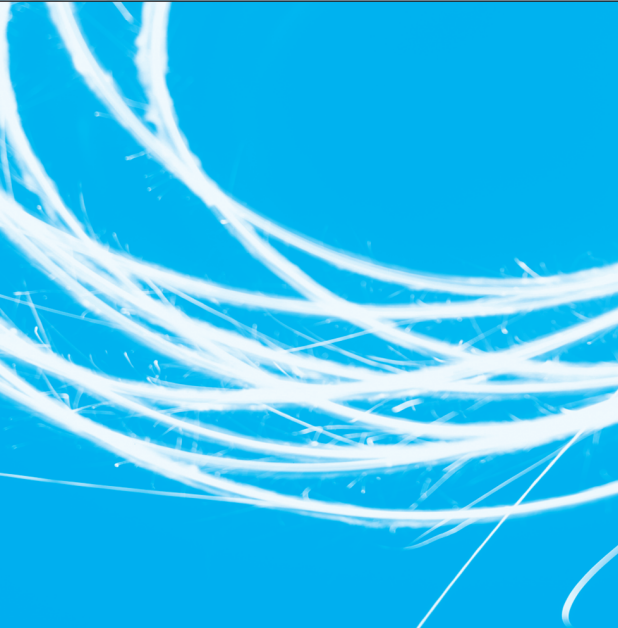


# 9 Segmentation and positioning research



*Researchers are anxious to find a magic formula that will profitably segment the market in all cases and under all circumstances. As with the medieval alchemist looking for the philosopher's stone, this search is bound to end in vain.*

**Baumwoll (1974)**

## Introduction

While the last chapter was concerned with the underlying concepts and principles for the key strategic issues of competitive positioning and market segmentation, the subject of this chapter is the research and modelling techniques that can be applied to evaluate these issues operationally.

The first section of the chapter focuses on segmentation research, and in particular the critical questions of whether or not to pursue a segment-based approach, and if so whether these are based a priori on some predefined segmentation scheme or developed *post hoc* on the basis of creative, empirical research. The second part of the chapter turns to positioning research, which may often be carried out in parallel to segmentation research, applying both qualitative techniques such as focus groups and depth interviews, together with quantitative modelling methods such as perceptual mapping through multidimensional scaling.

The process of identifying potential market targets can be one of the most creative aspects of marketing. There is no single 'right way' to segment any market. Different competitors may adopt different approaches in the same market. All may be intrinsically valid, but each may lead to a different conceptualisation of the market, and subsequently a different marketing approach and a different strategy. The creative aspect of segmentation research lies in finding a new way to conceptualise your market, a way that will offer some competitive advantage over the ways competitors choose.

Two broad approaches to segmentation research are typically pursued. First, the *a priori* approach. This entails using an 'off-the-peg' segmentation scheme, such as socio-economic or geodemographic classifications. Central to this approach is that the segmentation scheme is known in advance and the number of segments pre-determined by the scheme chosen. By its very nature **a priori segmentation** uses schemes that are in the public domain and hence also available to competitors.

The second approach is a *post-hoc* or **cluster-based** approach to segmentation. In this approach the final segmentation scheme is not known in advance, nor is the appropriate number of segments. The criteria on which to segment are defined in advance, but may typically be multidimensional (e.g. usage and attitude data). Data are then collected on these criteria (through the use of qualitative and/or quantitative marketing research) and analysed to identify underlying patterns or structure. The segmentation scheme emerges from the data analysis reflecting patterns identified in response. The data analysis itself is part science (using statistical techniques) and part art (employing judgement on which criteria to include and how to interpret the output). In this way the segmentation scheme emerging is likely to be unique to the specific analysis. This offers potential for looking at the market afresh and identifying new opportunities not necessarily seen by competitors. It also, of course, requires that any segmentation scheme created be rigorously tested to ensure that it is not merely an artefact of the specific dataset or the analytical technique employed.

Following the discussion of segmentation approaches the chapter goes on to discuss alternative methods for researching and presenting positions in the marketplace. Two broad approaches are discussed. First, the use of **qualitative** research methods to uncover brand, product and company images. These approaches are particularly popular in the development of advertising programmes. Second, **quantitative** approaches to modelling positions are explored, from simple profiling on semantic or similar scales, through the more complex modelling available to multidimensional scaling and correspondence analysis techniques.

### To segment or not to segment? That is the question

Although a central part of most marketing programmes, there are circumstances in which segmentation may be inappropriate. It could be, for example, that customer needs and wants in a particular market are essentially homogeneous, and hence similar offerings can be made to appeal across the whole market, or that the costs

associated with pursuing individual market segments with tailored marketing programmes outweigh their longer-term economic value.

A company following a segmented approach has either to choose a single market segment at which to aim, and therefore have a marketing mix that is inappropriate for other customers, or develop a series of marketing mixes appropriate for customer segments with different needs. Within UK retailing the two approaches have clearly been used by Next, which expanded its retailing chains to cater for the growing needs of young professionals, and the Burton Group, which has used the differently positioned Top Shop, Evans, Harvey Nichols stores, etc. to appeal to a variety of segments.

Both these approaches have limitations depending on the company's longer-term objectives. A single-focus company has limitations to its potential because the market segment itself is limited. If the company has expansion and growth objectives these may be constrained by the size of its target market. This, of course, would be less of a problem for a small or medium-sized company following the dictum *think small – stay small*. A company taking the multiple segment approach may face diseconomies in managing, supplying and promoting in a different way to each of the segments it has chosen. In some cases an economic alternative is to use an undifferentiated mix designed to appeal to as many segments as possible. The company does not fine-tune its offering to any one segment but hopes to attract a sufficient number of customers from all segments with one mix. The company can, therefore, benefit from economies of scale in a simple operation but may be damaged by the 'sameness of the mix', not appealing to the customers in each segment completely, or by better targeted competitors.

The appropriateness of segmenting or not segmenting depends on economies of scale, the cost of developing separate marketing mixes and the homogeneity of the needs of different markets – issues that are pursued further in Chapter 10. Such are the similarities in demand for petroleum, for example, that the products being supplied by competitors converge as they all seek to develop a mix with broad market appeal. Certainly segments do exist, but not of significant magnitude or difference to justify separate appeals. The aerospace industry and automobile industry have markets that are diverse but in which development and manufacturing costs are such that it is not feasible to develop products to fit all market needs exactly. The successful companies, therefore, focus on a relatively small product range with variations that appeal to individual customer preferences.

Even in markets whose main body does not demand segmentation, however, there are often small-scale opportunities where companies can thrive by pursuing a focus strategy. Examples include Aston Martin (now owned by Ford) and Morgan Cars in the sports car market. Therefore, even in markets where the major players may be using a mass strategy, segmentation offers an opportunity for some smaller participants. For small market share companies in particular, the advice is: segment, segment, segment!

Whereas the previous chapter concentrated on the concept of segmentation and possible bases for segmentation, this chapter follows the process of identifying usable market segments. First we discuss *a priori* approaches to segmentation. The chapter then goes on to discuss *post-hoc*, cluster-based approaches. For the latter we follow a model developed by Maier and Saunders (1990), which takes segmentation research from initiation through to eventual tracking. Within this framework the wide range of approaches and techniques for segmentation are discussed.

## 9.1 A priori segmentation approaches

### 9.1.1 Single variable segmentation

*A priori*, or off-the-peg, methods are the easiest way of segmenting markets. In their original form this involved searching among demographic or socio-economic characteristics and identifying which of these form significant and useful splits within the marketplace. Usually the search for appropriate criteria would be guided by some expectation of how the market could be divided.

The major advantage of this approach is that it can be undertaken from secondary sources and can be related directly to advertising media and messages. In the UK, consumer markets studies such as the Target Group Index enable managers to identify heavy users of a product group and relate this directly to their media usage. Crimp (1990) cites an example from TGI which shows that the proportion of wine users is higher among *Daily Express* readers and lower among *News of the World* readers than the national average. Wine users are also shown to be light viewers of television. A marketing manager responsible for wine sales may have segmented the market on wine use and can then use the TGI data to help select appropriate media.

There are some clear cases where *a priori* segmentation has proved a powerful tool. The successful toy company Lego, for example, has carefully developed assembly toys to fit the development of children from birth to mid-teens, segmenting the market on the basis of age. Duplo, their pre-school product, starts with rattles and manipulative toys, which are not immediately intended for assembly but do have fixture mechanisms that allow the child to progress into Duplo proper (chunky and brightly coloured bricks and shapes which can be assembled into all manner of toys). Duplo overlaps with Lego, a system of building bricks upon which the Lego empire was formed. Almost identical to Duplo parts in every other way, the Lego units are half the size, and therefore suitable for a child's enhanced manipulative ability, and allow more detail in construction. They are also cleverly designed to link with the Duplo units and therefore allow relatively easy progression from one to the other. As the children get older so they can progress to Legotechnic, and other specialist variants, which again build on the manipulative, assembly and design skills inculcated with earlier sets.

Age is also used as a powerful segmentation variable in the package tour market. ClubMed and Club 18–30 are aimed at the single or young couples market, while Saga Holidays are aimed at the over-50s.

Despite their ease of use and intuitive appeal, attempts to validate demographic and socio-economic bases in terms of product preferences have met with little success. One of the earliest reported attempts to validate this approach was by Evans (1959), who sought to use demographic variables to distinguish between Ford and Chevrolet owners in the United States. He concluded that:

*demographic variables are not a sufficiently powerful predictor to be of much practical use . . . [they] point more to the similarity of Ford and Chevrolet owners than to any means of discriminating between them. Analysis of several other objective factors also leads to the same conclusion.*

In other markets the conclusions have been similar. Some relationships were found, but no more than could have been expected to occur by chance if the data were random. Unfortunately study after study throws doubt on the direct usefulness of demographic characteristics as a predictor for product purchase.

These findings do not dispute the certainty that some products with clearly defined target consumers depend heavily on demographic characteristics. For instance, nappies are purchased by families with babies, incontinence pads by older people and sanitary towels by women. However, evidence does seem to show that demographic characteristics alone are incapable of distinguishing between the subtle differences in markets that are not explained by the physiological differences between human beings. Perhaps most limiting, they have been found to be poor differentiators of individual products within the broad categories identified (i.e. brand of nappy or sanitary towel).

In business markets perhaps the most often used segmentation variable is the Standard Industrial Classification code. The industry classification can be very specific. Hindle and Thomas (1994) cite the SIC in the United States for manufacturers of a pair of pliers. The full code is '342311', made up as follows:

- '34' indicates a classification for fabricated metal products.
- '2' shows the industry group as cutlery, hand tools and hardware.
- '3' indicates the specific industry of hand and edge tools.
- '1' shows the product class of mechanics' hand service tools.
- '1' shows the product – pliers.

By selecting appropriate SICs a business marketer can identify the other businesses that may be most receptive to its offerings. Again, however, for businesses selling products and services that can be used across industry classifications (such as stationery, machine tools or consultancy services) SIC may be of little practical value as a segmentation base. While giving the impression of detail (six-figure classifications), the codes do not offer many clues as to why specific products are purchased or what is likely to appeal to individual customers.

### 9.1.2 Multiple variable a priori methods

Recently the traditional demographic and socio-economic means of off-the-peg segmentation have been supplemented by more sophisticated methods being promoted, in consumer marketing at least, by advertising and market research agencies.

These encompass the subjective methods and the marketing-specific objective measures discussed in Chapter 8. The distinction between these and the approaches discussed above is that multiple criteria are considered simultaneously and segments created on the basis of these multiple measures. A number of different consumer classification schemes have been suggested, such as ACORN, MOSAIC, VALS. These schemes have been created through analysis of large datasets (in the case of the former, two official census data) using cluster analytical techniques. They are still considered a priori because once formed they are then available for any users off the peg from the agencies concerned.

Earliest of the multiple variable a priori techniques was the extensive use of personality inventories in the 1960s and 1970s. At that time, researchers were seeking to identify personality typologies that could be related, in much the same way as socio-economic factors were, to purchase decisions and consumption patterns. Techniques of personality measurement were borrowed by marketing from psychologists. Set psychological tests such as the Edwards Personality Preference Schedule and the Cattell 16 PF Inventory were tested in a marketing context. Unfortunately these tests showed them to be of little more discriminating power than the less sophisticated demographic and socio-economic methods.

Compared with demographic and socio-economic off-the-peg methods, personality inventories have a slight but insubstantial advantage. They do appear to be able to discriminate to a small extent between some high-involvement products, but even in these cases they leave the majority of variance unexplained. As with demographic and socio-economic methods, they seem to have most power to discriminate in markets where their measurement has a clear role, such as smoking, which reflects a drug dependency, and deodorants, which suggest anxiety. However, the subtlety of personality measurement renders it less useful as an off-the-peg measure in most cases because the personality differences are less strong and obvious than the physiological differences that demographics can measure: introversion and dependency are well-defined personality traits, but they are nowhere near as easily measured or as linked to behaviour as gender or age.

At the same time that personality traits were being explored as potential bases for segmentation, marketers were also experimenting with combining demographic characteristics to create the idea of the consumer life cycle. Under this model, age, marital status and family size were combined to identify a life cycle stage. This approach has been used for the marketing of holidays, insurance, housing, baby products and consumer durables. A more recent development is the SAGACITY classification scheme, developed by the Research Services Ltd marketing research agency. This scheme combines life cycle (dependent, pre-family, family, late) with income (better off, worse off) and occupation (blue collar, white collar). Crouch and Housden (1996) list 12 resulting SAGACITY segments and show the types of products the different segments are considered likely to purchase.

The introduction of CACI's ACORN geo-demographic database represented one of the biggest steps forward in segmentation and targeting techniques. Its basis was segments derived from published census information that provides a classification of neighbourhoods based on housing types. Although the measure is crude, the great strength of the service depends on CACI's own research linking the neighbourhood groups to demographics and buyer behaviour, together with the ability to target

households. The system, therefore, provides a direct link between off-the-peg segmenting and individuals, unlike earlier methods that provided indirect means only of contacting the demographic or personality segments identified.

Like the other a priori techniques, the limitations of CACI's approach is the variability within neighbourhoods and the dissimilarity in their buying behaviour for many product classes. English (1989) provides an example of this where five enumeration districts (individual neighbourhood groups of 150 households) are ranked according to geo-demographic techniques. Of the five, two were identified as being prime mailing prospects. However, when individual characteristics were investigated, the five groups were found to contain 31, 14, 10, 10 and 7 prospects respectively: the enumeration districts had been ranked according to the correct number of prospects, but neighbourhood classifications alone appeared to be a poor method of targeting. With only 31 prime target customers being in the most favoured enumeration district, 119 out of 150 households would have been mistargeted. To be fair, as with other means of off-the-peg segmentation discussed, geo-demographics are powerful when related to products linked directly to characteristics of the neighbourhood districts; for instance, the demand for double glazing, gardening equipment, etc. Even in the case provided, targeting the best enumeration districts increases the probability of hitting a target customer from less than 10 per cent to over 20 per cent, but misses are still more common than hits. More recent developments have included CCN's MOSAIC, Pinpoint's PIN and SuperProfiles, all based on census data but using different items and different clustering techniques (Crimp and Wright, 1995).

Lifestyle segmentation provides an opportunity to overlay geo-demographic data with lifestyle characteristics. In this descriptive form they have existed for some time and have been associated with the original success of Storehouse's Habitat chain or the success of the Conservative Party in the 1986 British General Election. These have sometimes been used in conjunction with demographics and form the second part of two-stage segmentation. Third Age Research has done this after first identifying the over-65s as a target market and then breaking them up into lifestyle segments of apathetic, comfortable, explorer, fearful, organiser, poor me, social lion and status quo. To anyone who has contact with more than one older person it is clear that these labels provide a much more powerful way of putting a face on the over-65 customer than does their age alone.

Stanford Research Institute in the United States developed a lifestyle segmentation scheme called Values and Lifestyles (VALS) that has seven categories: **belongers** (patriotic, stable traditionalists content with their lives); **achievers** (prosperous, self-assured, middle-aged materialists); **emulators** (ambitious young adults trying to break into the system); **I-am-me group** (impulsive, experimental and a bit narcissistic); **societally conscious** (mature, successful, mission-oriented people who like causes); **survivors** (the old and poor with little optimism for the future); **sustainers** (resentful of their condition and trying to make ends meet). A similar scheme has been developed for use in pan-European marketing including: **successful idealists**; **affluent materialists**; **comfortable belongers**; **disaffected survivors**; and **optimistic strivers** (Hindle and Thomas, 1994).

Further developments have linked lifestyle segments to customer databases. In the United Kingdom there are several of these (Coad, 1989).

- **The Lifestyle Selector:** A UK database started in 1985 by the American National Demographics & Lifestyle Company. The Lifestyle Selector collects data from questionnaires packed with consumer durables or from retailers and holds over 4.5 million returned, self-completed questionnaires.
- **Behaviour Bank:** The UK service provided by the American Computerized Marketing Technologies company. This collects data from syndicated questionnaires distributed directly to consumers via magazines and newspapers, and holds over 3.5 million returned questionnaires.
- **Omnidata:** This is a result of a joint venture between the Dutch Post Office and the Dutch *Reader's Digest*. The company mails its questionnaires to all Dutch telephone subscribers and tries to induce them to respond by arguing that by doing so they would receive less junk mail. Twenty-three per cent of consumers responded, and Omnidata has 730,000 households on file from a total of 5 million in Holland.
- **Postaid:** This is a Swedish organisation by PAR, a subsidiary of the Swedish Post Office. It was started in the early 1980s and, similar to the Dutch system, was based on the thesis that people should be given the chance to determine the kind of mail they want to receive. The result is a database containing 1 million of Sweden's 3.7 million households.

Most research carried out so far has been on generalised lifestyle typologies and their comparative use in discriminating consumer attitudes and behaviour (Wilmott, 1989). The results are mixed, but one study (O'Brien and Ford, 1988) suggests that such generalised typologies are less efficient than traditional variables such as social class or age as discriminators. While the relative merit of demographic variables and lifestyle tends to vary from situation to situation overall, in the comparisons that have been conducted lifestyle comes out worst. It must therefore be concluded that, as with their less sophisticated demographic brethren, lifestyle segments are no panacea for marketing. Although, when added to databases, they provide a powerful means of shifting from target markets to individual customers, their low coverage renders them of limited value. On the other hand, lifestyle segments, where valid, do provide a more graphic portrayal of customers than do demographics, and hence can give suggestions for advertising copy platforms. As with single demographic variables, it is too much to hope that a single classification will work beyond markets for which they are particularly well suited.

To return to Lego, which has been so successful in using age as a way of discriminating between sectors in the market for construction toys. Once the individuality of children starts to develop Lego has found it necessary to develop a wide range of products covering the different needs of children: Lego Basic for 3–12-year-olds, which specialises in using the original Lego components as they were initially contrived; Fabuland, aimed at 4–8-year-old girls, which revolves around a fantasy theme based on animal characters; Legoland for 5–12-year-olds, which are sub-themes of space, medieval life, pirates and modern suburbia; and Legotechnic for 7–16-year-olds, which has a focus on engineering mechanisms. Although the company found demographics as the first basis of segmentation, to go further depended on identifying customer characteristics specific to the product in question.



All the above approaches are in the public domain and hence, even where they do offer reliable segmentation schemes of a market, they will rarely offer the marketer any originality in viewing it. The essence of a competitively useful segmentation scheme is that it is fresh, new, original and provides insights into the market that competitors do not have. To achieve this originality requires primary research, where preconceptions about the market structure are put on one side and patterns sought from the original data.

## 9.2 Post-hoc/cluster-based segmentation approaches

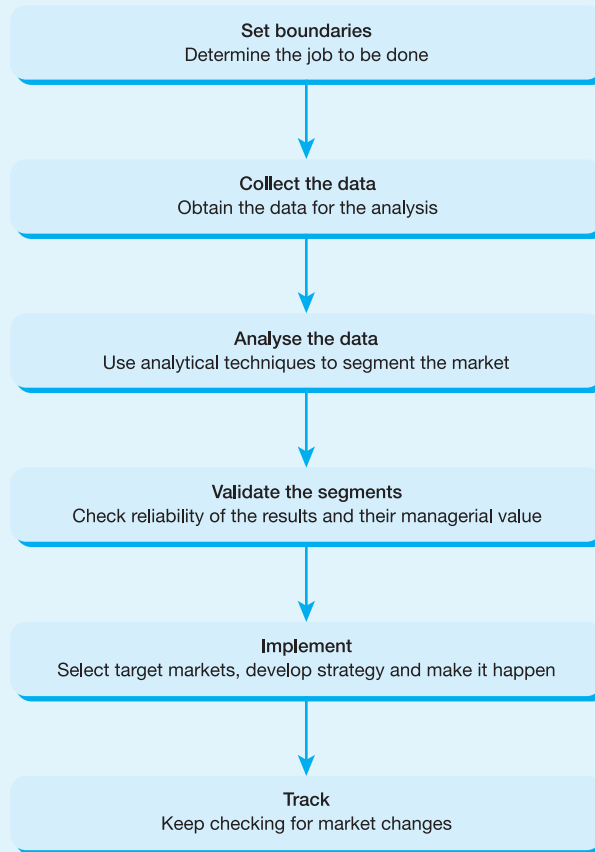
Unlike the methods discussed above for segmenting markets, the *post-hoc* approach does not commence with a preconception of market structure. The analysis is undertaken with a view to uncovering naturally existing segments rather than shoehorning customers into predefined categories.

The remainder of this chapter discusses how firms can go about this more creative approach to segmentation. In doing so it follows a model developed by Maier and Saunders (1990) (see Figure 9.1). The process flows from initiation of the desire to segment the market creatively through to the tracking of continuing segment usefulness.

### 9.2.1 Setting the boundaries

Original and creative segmentation research needs both market and technical expertise. This often necessitates a dialogue between a manager commissioning a segmentation study and an agency or individual conducting the necessary research. The value of the final segmentation results will depend on the effort the individuals concerned have taken in bridging the gap between the technical requirements of segmentation methods and the practical knowledge of marketing and sales management. It is customary to see this bridge-building role as a responsibility of the researcher (who will typically be a modeller or marketing scientist) but, since the marketing manager is going to depend on the results and is going to be responsible for implementing them, he or she has a clear vested interest in ensuring a mutual understanding is achieved. Whereas the expert or modeller faces rejection if the technical gap is not bridged, the marketing manager may face failure in the marketplace if the relationship fails. When employing an agency the marketing manager will certainly need to know how to cross-examine the agency to ensure their methods are appropriate and their assumptions valid.

The entry of the marketing researcher or marketing modeller into the segmentation process is similar to opening a sale. If good initial relationships are not formed the chance of further progress is slight. The researcher has to establish credibility by showing relevant expertise while fitting into the client's culture. As in selling, the prior gathering of information about the industry, the company and the personnel is beneficial. A grasp of terminology popular in the company is particularly useful.

**Figure 9.1** A model for segmentation research

Source: Based on Maier and Saunders (1990).

This preparation accelerates the formation of the mutual understanding necessary for successful model implementation.

The roles of the salesperson and the marketing researcher should be different because, although a salesperson usually has a limited set of products to sell, the marketing researcher should theoretically be able to choose without bias from a wide portfolio of appropriate techniques. Unfortunately this perspective is an ideal, for many marketing research agencies have a predisposition towards techniques with which they are familiar, or may even have developed in-house. So, in commissioning segmentation research, the marketing manager has to have sufficient knowledge to resist being supplied from a limited portfolio of solutions. Beware the researcher adopting the *'have technique – will travel'* approach!

The major lessons for starting a segmentation project are that the first contact is critical and that successful segmentation depends on the marketing manager and the marketing researcher being sympathetic to each other's needs – not necessarily knowing each other's business perfectly, but certainly having the ability to ask the right questions.

At this initial stage it is essential to agree the focus of the project, the product market to be investigated and the way in which the results are intended to be used. Multi-product companies may choose to start with one application and proceed to others if the trial is successful. There may also be market structures – such as the division between industrial and consumer markets – that suggest a two-stage approach: the first stage breaking the market down into easily definable groups, and the second being involved with the segmentation analysis proper. In their segmentation analysis of the general practitioner (GP) market, Maier and Saunders (1990) used such a process by first dividing doctors into general practitioners and hospital doctors, this distinction being necessary because of the different jobs of the two groups. The second stage then focused on determining the product usage segments within the GP markets.

Agreeing on a focus reduces the chance of initial misunderstandings leading to dissatisfaction with the final results and maximises the chances of the results being actionable.

### 9.2.2 Collect the data

The data required for segmentation studies can be broken down into two parts: that which is used in conjunction with cluster analysis to form the segments, and that which is used to help describe the segments once they are formed. Cluster analysis will allow any basis to be used, but experience has shown that the most powerful criteria are those that relate to attitudes and behaviour regarding the product class concerned. These could include usage rate, benefits sought, shopping behaviour, media usage, etc.

Before such data can be collected, however, it is necessary to be more specific about the questions to be asked. Typically, qualitative techniques, such as group discussions, are used to identify the relevant attitudes, or benefits sought, prior to their incorporation in representative surveys.

For effective benefit segmentation, in particular, it is vital that exhaustive prior qualitative research is undertaken to ensure that all possible benefits of the product or service are explored in depth. The benefits that the firm believes the product offers may not be the same as the ones the customers believe they get. For the subsequent analysis to be valid the customers' perspective is essential, as is the use of the customers' own language in subsequent surveys.

Following qualitative research a segmentation study will usually involve a quantitative survey to provide data representative of the population, or market, under study. The method of data collection depends on the usage situation. Where the aim is to define target markets based on attitudes or opinions the data collection is usually by personal interviews using semantic scales that gauge strength of agreement with a number of attitude statements. The results then provide a proxy to the interval-scaled data, which is the usual basis for cluster analysis.

By contrast, where the segmentation in a study is to be used in conjunction with a database that can rely on direct mailing the data sources are much more limited. For example, the lifestyle classifications mentioned earlier use simple checklists so that consumers can be classified according to their interests. In the database segmentation study conducted by Maier and Saunders (1990) the basis was product usage reports by general practitioners. It is clearly a limitation of database methods that their data collection is constrained by the quality of data that can be obtained from a guarantee card or self-administered questionnaire. There inevitably tends to be an inverse correlation between the coverage in segmentation databases and the quality of the data on which they are formed.

Where surveys are conducted to collect data for segmentation purposes these data are usually of two main types. The primary focus is on the data that will be used to segment the market: the benefits sought, usage patterns, attitudes, and so on. In addition, however, the survey will also collect information on traditional demographic and socio-economic factors. These can then be related back to the segments once formed (they are not used to form the segments) to enable a fuller picture of the segments to be painted. For example, a benefit segmentation study may find that a significant segment of car purchasers is looking for economical and environmentally friendly cars. To enable a marketing programme to be directed to them, however, requires a fuller picture of their purchasing power, media habits and other factors. Often age and social class are used as intermediary variables; where these factors discriminate between segments they can be used to select media.

### 9.2.3 Analyse the data

Once the data on which the segments are to be based have been collected they need to be analysed to identify any naturally occurring groups or clusters. Generically, the techniques used to identify these groups are called **cluster analysis** (see Saunders, 1999).

It should be realised that cluster analysis is not a single analytical technique but a whole class of techniques that, while sharing the same objective of identifying classifications with homogeneity internally but heterogeneity between them, use different methods to achieve this. This diversity of approach is both an opportunity and a problem from the practitioner's point of view. It means that the approach can be tailored to the specific needs of the analysis, but requires a degree of technical expertise to select and implement the most appropriate technique. Not surprisingly, it has been found that cluster analysis is relatively little used and understood among marketing practitioners, but is much more widely used by marketing research companies. In a recent set of surveys Hussey and Hooley (1995) found that across the top European companies only one in seven (15 per cent) reported regular use of cluster analysis in their marketing analysis, whereas the usage figures rose to three out of five (60 per cent) among specialist marketing research companies. The techniques are particularly widely used among researchers in the Netherlands (73 per cent), France (68 per cent) and Germany (67 per cent), but less so in Spain (47 per cent) and the United Kingdom (52 per cent).

The most common approach to clustering is called hierarchical clustering. Under this approach all the respondents are initially treated separately. They are then each

joined with other respondents who have given identical or very similar answers to the questions on which the clustering is being performed. At the next stage the groups of respondents are further amalgamated where differences are small. The analysis progresses in an interactive fashion until all respondents are grouped as one large cluster. The analyst then works backwards, using judgement as well as the available statistics, to determine at what point in the analysis groups that were unacceptably different were combined.

Even within hierarchical clustering, however, there is a multiplicity of ways in which respondents can be measured for similarity and in which groups of respondents can be treated. Grouping can be made, for example, on the basis of comparing group averages, the nearest neighbours in two groups or the furthest neighbours in each group. Table 9.1 summarises the main alternatives.

Comparative studies consistently show two methods to be particularly suitable for marketing applications: Ward's (1963) method, which is one of the minimum

**Table 9.1 Clustering methods**

<i>Favoured name</i>	<i>Method</i>	<i>Aliases</i>
<i>Hierarchical methods</i>		
Single linkage	An observation is joined to another if it has the lowest level of similarity with at least one member of that cluster	Minimum method, linkage analysis, nearest neighbour cluster analysis, connectiveness method
Complete linkage	An observation is joined to a cluster if it has a certain level of similarity with all current members of that cluster	Maximum method, rank order typal analysis, furthest neighbour cluster analysis, diameter method
Average linkage	Four similar measures that differ in the way they measure the location of the centre of the cluster from which its cluster membership is measured	Simple average linkage analysis, weighted average, centroid method, median method
Minimum variance	Methods that seek to form clusters which have minimum within-cluster variance once a new observation has joined it	Minimum variance method, Ward's method, error sum of squares method, H GROUP
<i>Interactive partitioning</i>		
K-means	Starts with observation partitioned into a predetermined number of groups and then reassigns observation to cluster whose centroid is nearest	Non-hierarchical methods
Hill-climbing methods	Cases are not reassigned to a cluster with the nearest centroid but moved between clusters dependent on the basis of a statistical criterion	

Source: Based on Punj and Stewart (1983).

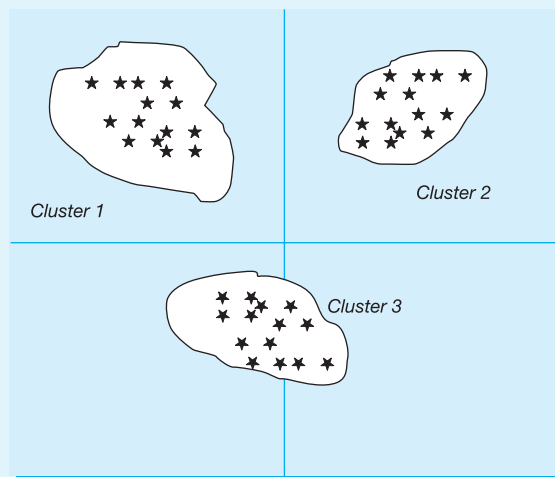
variance approaches listed in Table 9.1; and the K-means approach of interactive partitioning. In fact, an analyst does not have to choose between these two, because they can be used in combination, where Ward's method is used to form the initial number of clusters, say seven, and the K-mean approach used to refine that seven-cluster solution by moving observations around. If desired, after finding the best seven-cluster solution, Ward's method can then be re-engaged to find a six-cluster solution that is again optimised using K-mean, etc. This may seem a computationally cumbersome approach, but fortunately packages are available to allow this process to be used. The leading package is now the PC version of the popular SPSS package, at the time of writing in Version 11. So, at a stroke, by realising that Ward's method in conjunction with K-means is the best approach for forming cluster-based segments, the analyst has removed the necessity to sort among numerous cluster alternatives and is able to choose between the clustering programs that are available.

While there is plenty of advice available on which techniques to use, the determination of the most appropriate number of segments to select following the analysis is very much more judgemental. The statistics produced will offer a guide as to where amalgamation of groups results in two quite dissimilar groups being joined. The internal homogeneity of the group will suffer. This is a starting point and in some circumstances, where segmentation is very clear-cut, will be the best choice.

Figure 9.2 shows an example where there are three fairly clearly defined segments on the basis of the two dimensions studied. In this case 'eyeballing' a plot of the positions of each object (in segmentation studies the objects are usually individual respondents) shows three clusterings of objects scoring similarly, but not identically, on each of the two dimensions.

Figure 9.2

Clustering of objects in two-dimensional space



In most situations, however, there will be several dimensions on which the clustering is being conducted, and several candidate solutions, possibly ranging from a three-group to a ten-group solution. After narrowing down through examination of the statistics the analyst will then need to examine the marketing implications of each solution, basically addressing the question: If I treat these two groups separately rather than together, what differences will it make to my marketing to them? If the answer is 'little difference' the groups should usually be amalgamated. This is the creative element of segmentation where judgement is crucial!

Finally, it should also be noted that lifestyle and geo-demographic databases depend on some form of cluster analysis to group customers who are alike. The results obtained for ACORN and MOSAIC, for example, are based on judgement as to how many clusters are needed to represent the population adequately, just as tailor-made approaches are.

Once the segments have been identified, and described across other criteria, there is a need to validate the segments found.

#### 9.2.4 Validate the segments

One of the beauties and problems of cluster analysis is its ability to generate seemingly meaningful groups out of meaningless data. This, and the confusion of algorithms, has frequently led to the approach being treated with scepticism. These uncertainties make validation an important part of segmentation research.

One favoured method of validation was mentioned above. Where product class behaviour or attitude was used to form the clusters, the extent to which those clusters also vary on demographic or psychographic variables is a measure of the cluster's validity. If the cluster is found to describe people with different beliefs, attitudes and behaviour it would be expected that they could also have different demographic or psychographic profiles. Equally, from an operational point of view, if the market segments are demographically and psychographically identical it is going to be very difficult to implement any plan based on them.

Where sample data have been used to suggest segments and there is a hope of extrapolating those results to the fuller population, there is a need to test the reliability of the solution, to ask the question: Do the results hold for the population as a whole? The most common way to test for this is cross-validation. This involves randomly splitting the data that have been collected into two, using one set to form the set of clusters and the second set to validate the results. A simple approach is to conduct the same cluster analysis on both samples and to compare them to see the similarity of the clusters in terms of their size and characteristics.

Since comparing two cluster analysis solutions tends to be rather subjective, several authors have recommended using discriminate analysis for cross-validation. This approach once again involves taking two samples and performing a separate cluster analysis on each. One sample is then used to build a discriminate model, into which cases from the other samples are substituted. The reliability is then measured by comparing the allocation using discriminate analysis with the allocation by cluster analysis. Integrated data analysis packages, such as SPSS PC, enable such linked analyses to be conducted quickly and efficiently.

It is necessary to supplement this statistical validation mentioned above with operational validation, which checks if the segments have managerial value. At a first level this means the segments having face validity and appearing to provide marketing opportunities. If further endorsement is needed an experiment can be run to test if the segments respond differently or not. For example, Maier and Saunders (1990) used a direct mailing campaign to a sample of GPs to show their segments captured major differences in the doctors' responses to certain self-reported activity.

### 9.2.5 Implement the segmentation

Implementation is best not viewed as a stage in segmentation research, but should be seen as the aim of the whole research process. Implementation has become one of the central issues in market modelling. A successful (validated) model adequately represents the modelled phenomena, and implementation changes decision making, but a successful implementation improves decision making. In many cases it is worth going beyond the concept of implementation to implantation. By this we mean the results of the exercise not just being used once, but adopted and used repeatedly once the marketing scientist has withdrawn from the initial exercise. This again suggests that implementation not only begins at the start of the segmentation research process, but continues long after the results have been first used by the marketing manager.

Successful implementation, therefore, depends on more than the correct transfer of a model into action. The whole model-building process needs to be executed with implementation in mind. In particular, the segmentation researcher must be involved with the potential user in order to gain their commitment and ensure the results fit their needs and expectations. An unimplemented segmentation exercise is truly academic in its more cynical sense.

Segment selection and strategy development are two critical stages that follow the technical activity of segmentation research. These are managerial tasks that are central to marketing strategy and on which successful implementation depends. Chapter 10 focuses upon these and links them to the broader issues of strategic positioning.

### 9.2.6 Tracking

A segmentation exercise provides a snapshot of a market as it was some months before the results were implemented. Inevitable time delays mean that, from the start, the results are out of date and, as time goes on and consumers change, it will inevitably become an increasingly poor fit to reality. Modelling myopia (Lilien and Kotler, 1983) occurs when successful implementation leads to the conviction that market-specific 'laws' have been found that make further analysis unnecessary. The converse is true: success means modelling should continue. Customers and competition change. Successful implementation itself may also change the market and competitors' behaviour.



Tracking of segmentation schemes for stability or change over time is essential in rapidly changing markets. As segmentation and positioning strategies are implemented they inevitably change the pattern of the market and customer perceptions, wants and needs. Through tracking the impact of various campaigns on segmentation it may be possible to refine and detail the sort of promotional activity that is appropriate for them. If the segments do not prove to be stable, either showing gradual changes or a radical shift, that itself can create a major opportunity. It may indicate a new segment is emerging or that segment needs are adjusting, and so enable an active company to gain a competitive edge by being the first to respond.

Positioning research is often carried out in parallel with segmentation research. Indeed, the quantitative approaches discussed below typically have as their aim the development of a multidimensional model representing both the positioning of objects (typically brands or companies) and customer segments.

### 9.3 Qualitative approaches to positioning research

The images of brands, products, companies and even countries have long been of interest to marketing researchers. Qualitative research approaches to this are semi-structured techniques aimed at gaining a more in-depth understanding of how respondents view aspects of the world (or more specifically markets) around them. They include focus groups and depth interviews (see Chapter 4).

Calder (1994) relates a qualitative research study into the image of a for-profit hospital in the United States. The hospital chain was opening a new 100-bed facility in a town with two existing and much larger hospitals. The problem was how to position the new hospital given its relatively small size and lack of established reputation. A number of focus group sessions were held which showed that the relative size was known by respondents but not seen as necessarily negative. Indeed, the smaller size led to expectations of a friendlier, more personalised service. Comments during the discussions included:

*Very friendly and you get a lot of good care there. The others are a little big for that kind of care.*

*From what I hear it has a more personalized service. Mealwise and otherwise. You even get wine [with meals]. It's more of a personalized hospital.*

*I understand it has quite an excellent menu to choose from. Wine. They have the time to take care of you.*

The researchers concluded that the new hospital could be positioned very differently from the existing ones and it built on the friendly, caring image in subsequent marketing.

Through the use of projective techniques during qualitative research images can be uncovered that serve to show how the brand product of the company is positioned in the mind of the respondent. Some of the most popular techniques include the following:

- **The brand or company as animal or person:** Under this approach respondents are asked to name a person or an animal that embodies their view of the product or company under study. Calder (1994) cites the use of the technique to uncover the image of the US Army among potential recruits. Respondents were asked: 'If you were to think of the Army as an animal, which would it most be like?' The answers were, in order: tiger, lion, bull, wolf, bear. The Army was not seen as: mule, horse, dog, squirrel, elephant or cow! The researchers concluded that the Army was symbolised (positioned) as strong, tough, aggressive, powerful and dominating. This positioning had some negative effects on potential recruits who feared failure in the training/induction period. It is interesting to note that more recent recruitment advertising in the United Kingdom has served to stress the 'family' and 'team' nature of military service – an attempt at some repositioning.
- **Role-play:** In role-playing the respondent is asked to assume the role or behaviour of another person, or of an object under research. Tull and Hawkins (1993) give an example of research for a premium brand of Canadian whisky marketed by Schenley, called O.F.C. During a group discussion a member of the group was asked to role-play a bottle of O.F.C. and explain his feelings. The player explained that he didn't think anyone could like him as he didn't have a real name and hence no real identity. Further probing and discussion resulted in the name 'Old French Canadian' being suggested (using the letters of the original name, building on the origin of the liquor in the French-Canadian area of Quebec, and on the favourable image of 'Canadian Club'). The brand was relaunched with the new name, a stronger personality and a clearer positioning in the market.
- **The Friendly Martian:** In this approach the interviewer or group moderator assumes the role of an alien recently landed from space and asks members of the group to explain a particular product and how it is used. By acting as an alien the moderator can ask basic questions to which the respondents would normally assume the moderator knew the answers. In a group discussion for the British Home Sewing and Needlecrafts Association the researcher (a male in a female-dominated market) was able, through use of this technique, to discover that knitting was 'positioned' as a craft hobby that could be undertaken as a background activity while doing other sedentary activities such as watching television. Sewing, on the other hand, was 'positioned' as a thrift activity, undertaken primarily to save money, especially with children's garments, and required full attention to the exclusion of other activities.

A number of stimuli can be used to prompt respondents and aid them in articulating the images they hold of objects. These include the following:

- **Association techniques:** Here respondents are asked for associations with a particular stimulus. They may, for example, be asked what words, or values, or lifestyles, they associate with a BMW car. The words elicited can then be further explored through discussions and other techniques.

- **Concept boards:** Boards with pictures of the brand or the brand logo on them. These are shown to respondents and their reactions sought through probing.
- **Animatics:** Drawings of key frames from a commercial with 'bubble' speech. Respondents are then asked for their reactions and helped to describe the feelings they have towards the items being advertised.
- **Cartoon and story completion:** Cartoons of situations, such as the purchase of a specific brand, where the speech 'bubbles' are left blank for the respondent to fill in. Tull and Hawkins (1993) relate the use of story completion in researching changing drinking habits for Seagram. The unfinished scenario used was:

*Sarah hadn't seen Jane for a long time. She seemed very sophisticated and self-assured these days. At the bar she ordered . . .*

Completion of the scenario by female drinkers most often had Jane ordering a glass of wine reflecting, as the researchers interpreted it, her higher level of knowledge of drinks and general sophistication. Based on this and further qualitative research the company developed a wine-based drink with a twist of citrus to liven it up – 'Taylor California Cellar's Chablis with a Twist'.

- **Visual product mapping:** This is a qualitative form of the perceptual mapping approaches discussed below under quantitative techniques. Here respondents are given a large piece of paper – the size of a flip-chart – with two dimensions drawn at right-angles to each other. Respondents are then given a number of objects (such as brands or companies) on small cards, or in the case of small pack products such as shampoos they may even be given a number of real packages. They are then asked to position the cards or packs on the chart with similar brands close to each other but far apart from dissimilar brands. The dimensions that can be used to explain these differences are then discussed and written on to the maps. Alternatively, the identity of the dimensions may have been elicited from earlier parts of the interview (such as 'price', 'quality', etc.) and respondents are asked to 'position' the objects on the dimensions directly.

Qualitative approaches to uncovering the images and positions of objects in the minds of respondents have been particularly popular among advertising agencies who value the in-depth, rich data that can be derived. The images and positions articulated are in the respondents' own language and hence offer insights for direct communication with them as customers.

The classic concern of qualitative research, however, remains. That is, how representative of the population in their normal everyday shopping and consumption experiences are the responses of a relatively small number of respondents in often very artificial settings completing strange and unfamiliar tasks? In most instances positioning research needs to go beyond the qualitative to develop models of images and positions based on more representative samples in a quantitative study.

## 9.4 Quantitative approaches to positioning research

While qualitative approaches to image research often focus on the core object (brand, product, company, etc.) in isolation, the more quantitative approaches typically consider positioning relative to the positioning of major competitors and relative to the desires, wants and needs of target customer segments.

As a starting point, therefore, it is necessary to define the competitive set that will be analysed along with the focal brand, product or company. While positioning studies can focus at the level of the company or the product, most typically focus at the brand level.

For example, a company analysing the market for hover-mowers might be interested in how customers perceive competitors' brands (i.e. Flymo, Qualcast and Black & Decker) and the products they sell. When buying such a product a customer is likely to have a reasonable idea about the likely size and cost of the item they wish to buy and, therefore, give most attention to products within that price performance envelope. Among the competitors the customer is likely to see various dimensions of importance, such as value for money, reliability, safety, convenience, etc., and it is the relationships between the direct competitors with which positioning is particularly involved. If the direct competitors have not been correctly identified the researcher may include within the survey manufacturers of sit-on mowers, i.e. Lawnflight, Laser or Toro. This would not only add to the burden of respondents whose perceptions are being sought, but could also change the perceptions since, when compared with sit-on mowers, conventional hand-mowers may all look similarly inexpensive, time-consuming and compact.

The mower market is relatively simple compared with some others. Consider the problem faced by a company wishing to launch a low alcohol lager. Should the competitors be other low alcohol lagers or should it include low alcohol beers as well? Or maybe the study should be extended to include other low alcohol drinks such as shandy, cider or wine. In the United Kingdom the rapid increase in the consumption of soft drinks which has been associated with the concern for the health and safety of alcohol consumption may suggest that they too should be considered as an alternative to low alcohol lagers, but should diet and caffeine-free versions also be considered? Maybe it is a matter of just taste, and it is more appropriate to low alcohol drinks with variants with normal alcohol content. Production orientation is a danger when trying to reduce the number of product alternatives. A brewer may well consider low alcohol lagers or other lagers as the direct competitors, but certain customer groups may easily associate low alcohol drinks with colas or other beverages. It is clearly necessary to take a customer-oriented view of the direct competitors.

One way of defining direct competitors is to look at panel data to see what customers have done in the past. By tracking the past purchases of customers it may be possible to identify product alternatives when switching takes place. The danger in this approach is the dissociation of the purchasers with the usage situation and the user. For instance, a buying pattern that shows the purchase of low alcohol lagers, lemonade, beer and cola could represent products to be consumed by different people

at different times, rather than switching between alternatives. Another approach is to determine which brands buyers consider. For consumer durables customers might be asked what other brands they considered in their buying process. For low involvement products it may be inappropriate to ask a buyer about a particular purchase decision, so instead they could be asked what brands they would consider if their favourite one was not available.

Day *et al.* (1979) proposed a more exhaustive process as a cost-effective way of mapping product markets. Termed *Item by Use Analysis*, the procedure starts by asking 20 or so respondents the use context of a product, say a low alcohol lager. For each use context so identified, such as the lunchtime snack, with an evening meal, or at a country pub, respondents are then asked to identify all appropriate beverages. For each beverage so identified the respondent has to identify an appropriate use context. Once again the process is continued until an exhaustive list of contexts and beverages is produced. A second group of respondents would then be asked to make a judgement as to how appropriate each beverage would be for each usage situation, the beverages then being clustered on the basis of their similarity of their usage situation. For instance, if both low alcohol lager and cola were regarded as appropriate for a company lunchtime snack but inappropriate for an evening meal they would be considered as direct competitors.

Rather than using consumers, it can be tempting to use a panel of experts or retailers to guide the selection of direct competitors. This could be quicker than using customers, but is likely to lead to a technological definition of preference. There can be a vast difference between what is perceived by experts and what is perceived by customers. Since the focus of positioning is to gauge customers' images of offerings and their preferences for them it is difficult to justify using any other than customers to define competitors.

### 9.4.1 Attribute profiling methods

One of the simplest ways of collecting quantitative position data is through the use of attitude or attribute scaling. Under this approach the dimensions that respondents use to differentiate and choose between alternative offerings are included in a survey (usually personally administered, though it is also possible to collect these data by mailed or telephone surveys) and presented as semantic scales for respondents to give their views on.

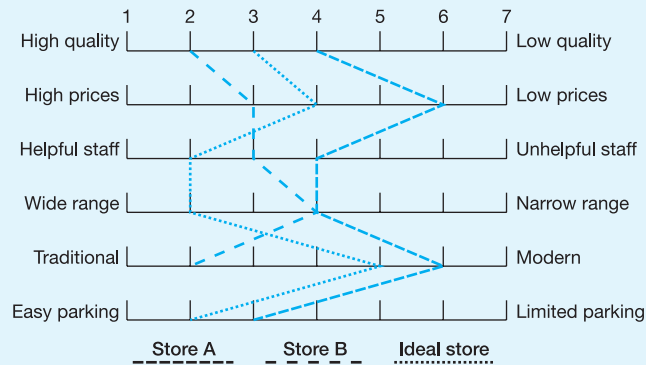
An example from a survey of store images and positioning is given in Figure 9.3. Here respondents were asked to rate two competing stores on six attributes identified as important in prior qualitative research: quality, price, staff attitudes, range of goods, modernity and ease of parking. Results are shown from one respondent only. Also shown is that respondent's ideal store profile – what he or she would ideally like in terms of the features listed. For most purposes the responses from the sample would be averaged\* and those averages used to show the differences in positioning and requirements. Where ideal requirements differ across the sample they could be

---

\* Note that where there is wide variation in the evaluations from individual respondents it may be necessary first to group respondents by perceptual segments, i.e. those sharing a common view of the market, prior to analysing alternative segment requirements.

Figure 9.3

## Modelling store images through the use of semantic scales



first grouped together (using cluster analysis – see above) to identify alternative segment requirements.

This approach examines each dimension separately, bringing them together in the diagram to enable a more complete image to be drawn. Some dimensions may, however, be more important to particular market segments than others. For instance, in the store positioning example above it might well be that for one segment price considerations outweigh convenience, range and other factors. It is therefore essential to examine the relative importance of the dimensions, either through weighting them differently to reflect importance or through assessing the dimensions simultaneously such that more important dimensions come to the fore.

### 9.4.2 Multidimensional positioning analysis

Increasingly researchers and managers are seeking to create multidimensional models of the markets in which they are operating. The essence of these models is that they seek to look at a number of dimensions simultaneously, rather than separately, in an attempt to reflect more closely the way in which customers view the market.

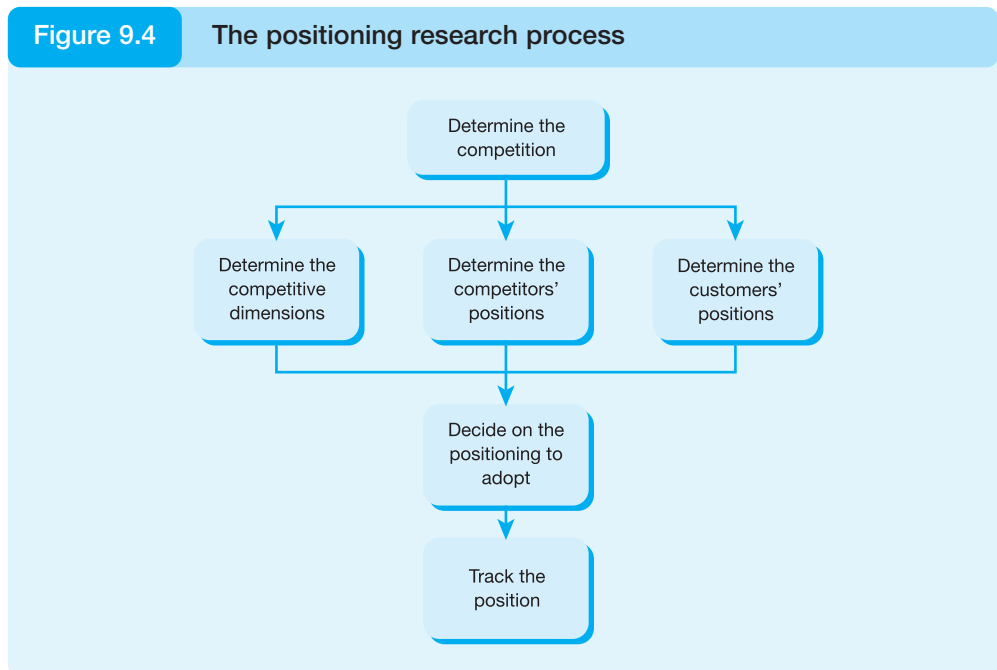
To explain this approach we shall follow a case involving the positioning of leisure facilities accessible from the East Midlands. For the sake of simplicity only the major attractions and segments are considered in this case. Interviews with respondents revealed six leisure centres that, although very different in their provision, were all seen as major attractions. These were:

- **The American Adventure theme park:** a completely modern facility, with a Wild West emphasis but also including other US themes such as GI and space exploration.
- **Alton Towers:** acquired by Madame Tussaud's, this is a large leisure facility based around a derelict country house. It has inherited several natural features, such as the house itself, the gardens and lakes, but particularly focuses on dramatic white-knuckle rides.

- **Belton House:** one of many country houses owned by the National Trust and, as with most of these, has splendid gardens and furnished accommodation, which visitors may see. Atypical of National Trust properties, the house also has a large adventure playground in a nearby wood, this being a venture started by the family who owned the house prior to its being passed on to the National Trust.
- **Chatsworth House:** one of the largest stately homes in the United Kingdom and still the residence of the owning family. Its extensive grounds and the house itself make it a popular place for families to visit.
- **Warwick Castle:** one of the best-kept and most visited medieval castles in the United Kingdom. As with many estates, it has been lived in from medieval times and the current owners have built a country house into the fabric of the building. Now owned by Madame Tussaud's, the castle's attractions have been extended beyond the building and its gardens, to include contemporary waxworks within the furnished accommodation, medieval knights cavorting, torture chambers, etc.
- **Woburn Abbey and Safari Park:** like Chatsworth, still the residence of the family owning the estate. However, the family in this case have developed two distinct attractions, the house and the safari park, the latter also having a fair-ground, etc.

Although widely different in their appeals, ownership and background, the respondents' interviews clearly indicated that these were direct competitors and were alternatives they would choose between when deciding on an outing.

The positioning research process (Figure 9.4) shows the determination of competitive dimensions, competitors' positions and the customers' positions as parallel phases. This is because there are certain techniques that can be used to extract all



these simultaneously. In this case the phases are taken in sequence. Details of other approaches that are available are given later.

### Identifying product positions

It is an odd feature of many of the techniques used in positioning research that the competitors' positions can be determined before it is understood how the customer is differentiating between them. Such an approach was used to represent the leisure park market in the East Midlands. The approach is called similarities-based multi-dimensional scaling. In this, respondents were given a shuffled stack of cards that contained all possible combinations of the six leisure parks. There were 15 pairs in all, ranging from American Adventure linked to Alton Towers, to Warwick Castle linked with Woburn Safari Park. The respondents were then asked to rank the pairs in accordance with their similarity, the pair most alike being on the top and the pair least alike being on the bottom. Since this can be a rather cumbersome process it is sometimes advisable first to ask respondents to stack the cards into three piles representing those pairs that are very similar, those pairs that are very unlike and a middling group. The respondent then has to rank the pairs within each group.

Figure 9.5 presents the ranking from one such process. It shows that this particular respondent (one of many) thought Belton House and Woburn Safari Park were the most similar. As the next most similar, the pair of Belton House and Chatsworth House were chosen, and so on, until the least similar pair of the American Adventure and Chatsworth House. An indication that the respondent is using different criteria to judge each pair is shown by the judgement that Belton is similar to Woburn and Chatsworth, but Woburn and Chatsworth are not alike. Such are the permutations and combinations of pairs each respondent can choose that it is almost inevitable that each individual's similarity matrix is different.

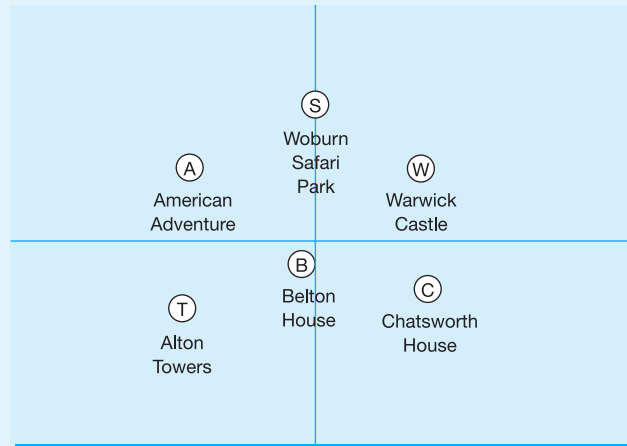
The objective from this point is to develop a plot of the stimuli (leisure parks) which shows those that respondents said were similar close together, and those that respondents said were dissimilar far apart. Although this is a difficult task to conduct manually, computers are particularly adept at finding such solutions, and researchers in the field of multidimensional scaling have produced many computer packages that can be used (for a recent summary, see Green *et al.*, 1989). A multidimensional scaling package called KYST can be used to produce perceptual maps from the similarities matrix provided and many other data formats (Kruskal *et al.*, 1973). The map produced (Figure 9.6) shows some of the detail from a similarity matrix (Figure 9.5). Chatsworth House, Alton Towers and Woburn Safari Park are some distance apart,

Figure 9.5

Individual similarity matrix of leisure facilities

American Adventure (A)	–					
Alton Towers (T)	3	–				
Belton House (B)	4	11	–			
Chatsworth House (C)	15	13	2	–		
Warwick Castle (W)	5	12	7	8	–	
Woburn Safari Park (S)	6	10	1	14	9	–
	(A)	(T)	(B)	(C)	(W)	(S)



**Figure 9.6** Perceptual map of leisure centres

while American Adventure, Alton Towers and Belton House are somewhat closer together.

There are two reasons why the fit is not perfect.

- 1 The perceptual map presented in Figure 9.6 is in two dimensions, whereas the customers' perception of the market is rather more complex than that; and
- 2 the perceptual map is an aggregate of a number of customers' views, whereas the similarity matrix in Figure 9.5 represents the views of one customer.

KYST can produce a perceptual map for a single customer, but it is more common to produce a map that aggregates either all customers or a segment's view.

### *Uncovering the dimensions of perception*

While the map shows a representation of the similarities between objects (leisure attractions) in itself it tells us little of why they are seen as similar or dissimilar. We need to go further to identify and understand the dimensions, or criteria, that were being used by respondents in giving their similarity judgements.

Two methods of determining the dimensions or criteria are not recommended. The first is using experts' judgements that, like their judgements of competitors, is likely to be different from that of customers; and, second, trying to eyeball the perceptual map to try to work out what the dimensions represent. Such maps are often ambiguous and there is a particular danger of researchers superimposing their own views of what is going on. A better, but still imperfect, technique is to ask customers directly how they differentiate the market. The problem here is that customers may give a relatively simplistic answer, which may not represent all the dimensions they may, sometimes subconsciously, use to differentiate product offerings.

More useful is a research-based approach where respondents are asked first to choose two or more similar products and say why they consider them to be alike,

then to choose some products they consider quite dissimilar and say why they see them as unlike. An approach such as this was used to determine the dimensions of the perceptual space for the leisure facilities. The respondents were first asked why they chose the first pair (Woburn Safari Park and Belton House) as most alike. They were then asked what made Belton House and Chatsworth House alike, and so on, until the respondents had difficulty saying that pairs were alike at all. The opposite tack was then taken, where the respondents were asked to explain why they considered pairs to be unlike; first of all, the most dissimilar pair of Chatsworth House and American Adventure, then Chatsworth House and Woburn Safari Park, etc. The result was a long list of attributes, which was reduced to ten after some similar ones were combined and less frequently used ones were deleted. The ones remaining were:

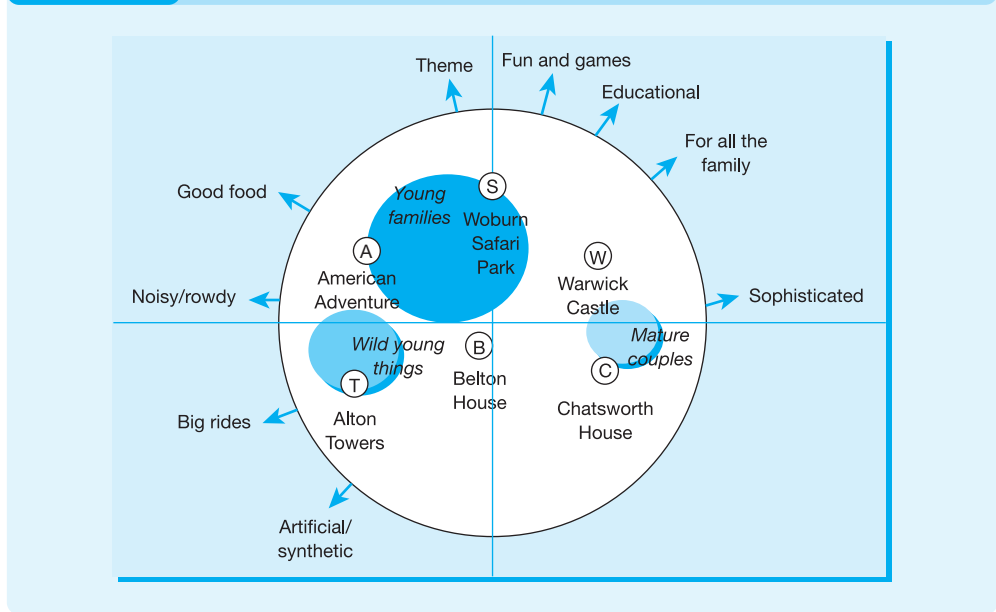
- big rides;
- educational;
- fun and games;
- sophisticated;
- noisy;
- for teenagers;
- strong theme;
- for all the family;
- synthetic/artificial;
- good food.

Kelly Grids are a popular marketing research technique that could also have been used to identify the dimensions underlying the perceptual map. A four-step approach is typically taken.

- 1 Respondents are presented with three stimuli (in our case, leisure attractions) and asked to state one way in which two of them are alike and yet different from the third.
- 2 The criteria on which the two were said to be alike (say 'noisy') is labelled 'the emergent pole' and associated dissimilarity (say 'quiet') is labelled 'the implicit pole'.
- 3 The remaining stimuli (leisure attractions) are then sorted equally between the two poles.
- 4 Another three stimuli are selected and the process is repeated until the respondent can think of no new reasons why the triad are alike or dissimilar.

To find how the dimensions fit the perceptual map in Figure 9.6, respondents were asked to rank each of the leisure facilities on the basis of the attributes identified. Once again the result is a series of matrices that are difficult to analyse manually and, once again, computers come to our aid. In this case a package called PREFMAP (Chang and Carroll, 1972) was used. This takes the perceptual map of product positions in Figure 9.6 and fits the dimensions as they best describe the respondents' perceptions. To identify the meaning of these vectors, each one can be traced back through the centre of the perceptual map (see Figure 9.7).

**Figure 9.7** Perceptual map of leisure centres with dimensions identified



The score of each of the leisure centres (stimuli) on the dimension (vector) is measured by their relative position as the vector is traced back through the centre. For instance, the respondents see Chatsworth House as being the most ‘sophisticated’ (on the east–west dimension), followed by Warwick Castle, Woburn Safari Park, Belton House, American Adventure and Alton Towers. In almost complete opposition to sophistication is the vector representing noisy and rowdy, on which Alton Towers and American Adventure scored the highest. Projecting back the vector that represents a strong theme shows the highest scoring leisure centre to be Woburn Safari Park, followed by the American Adventure and Warwick Castle with an almost equal rating, and finally Belton House, Alton Towers and Chatsworth House. Once again it is likely that the respondents’ individual or aggregated scores are not perfectly represented by the map that has been generated. This is inevitable, considering that the picture is now trying to represent even more information in the same two dimensions. The magnitude of this problem can be reduced by resorting to portraying the picture using three or more dimensions, but usually the situation becomes less understandable rather than more understandable as the map goes beyond our normal experience. It may also be that segments of the market have distinctly different views and therefore it is more appropriate to produce maps that represent their different perceptions rather than aggregating the market as has been done so far.

### Identifying market segment locations

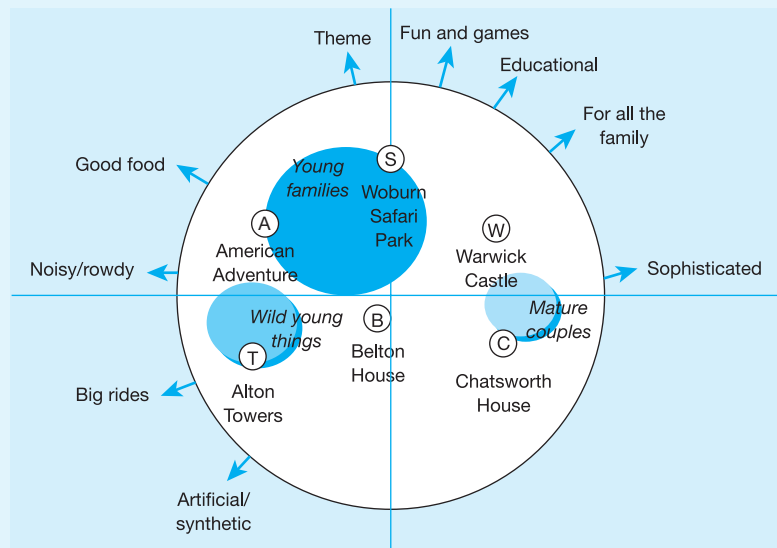
A two-stage process was used to add customer positions to the perceptual map of leisure centres. First, respondents were asked to rate the leisure centres in terms of

their preference. Cluster analysis was then used to form segments with similar preferences (see above). This indicated the presence of three main clusters. Analysis of their demographic characteristics revealed these to be mature couples or young sophisticates who found Chatsworth House and Belton House most attractive; young families who preferred American Adventure and Woburn Safari Park, and 'wild young things' who were most attracted by Alton Towers and American Adventure.

Once again PREFMAP was used to locate these segments in relation to product position. However, in this case the segments were to be expressed as ideal points within the body of the map rather than as vectors in the way that the dimensions were examined. Figure 9.8 gives the final map. This shows clearly the strategy of American Adventure, the latest of the leisure centres to enter the market. Aimed at the family market, it has big rides, good food and plenty of opportunity for fun and games, particularly for very young children. Although lacking sophistication and being perceived as artificial, it is well positioned for young families and for wild young things. Less successful appears to be Belton House, where the National Trust has found itself running a country estate, with which it is very familiar, and an adventure playground, with which it is unfamiliar. Although the house and gardens may provide the sophistication and tranquillity desired by mature couples, the existence of the adventure playground would make it too rowdy for them. Equally, the direction of so many resources into maintaining the house and gardens to National Trust standards provides facilities that are unlikely to be attractive to the wild young things (which the National Trust probably thinks is good) or young families.

Figure 9.8

Perceptual map of leisure centres with dimensions identified and segment ideal locations



The map also shows the dangers of product positioning without consideration of market segments. The positions of the leisure centres suggest there may be an opportunity to develop one that excels in the provision of an educational experience for the pre-teens, or for all the family. Vacant that position may be, but it is dangerously away from the needs of the three major segments that have been identified in this case. Maybe the mums and dads would have liked such a leisure centre, but the kids would be happier with a less pretentious, synthetic attraction providing fun and games.

### 9.4.3 Alternative algorithms

In developing positioning maps researchers are spoilt by the number of alternative approaches that can be used (see Green *et al.*, 1989). For instance, PREFMAP allows the stage where segments were formed from individuals to be missed out and so produces a map representing the ideal point of each individual. Rather than the picture seen in Figure 9.8, which presents the ideal points of each segment, the map would then show the product positions, the market dimensions and the position of each individual relative to the product. From there it may be possible to eyeball the positions of individual respondents to identify a group that are worthy of being targeted. Another package, MDPREF (Chang and Carroll, 1969), can be used to combine the identification of the perceptual map of product positions and underlying dimensions. This would have required respondents to have rated leisure parks along each of the dimensions, such as ‘for all the family’ or ‘sophisticated’, and then aggregating the results to arrive directly at a map similar to Figure 9.7.

A further approach is offered through correspondence analysis. Correspondence analysis (see Carroll *et al.*, 1986, 1987) is a multivariate method for analysing tables of categorical data in order simultaneously to identify relationships between the variables (both rows and columns). It can therefore operate with commonly collected data, such as usage and attitude data, to produce perceptual maps that simultaneously show the positions of objects (brands or segment ideals) and attributes (dimensions). Originally developed in France as an alternative approach to multidimensional scaling, correspondence analysis is now available in leading MDS packages such as that provided by Smith (1990).

Anyone who starts to use this diversity of approaches will find that the map produced depends on the approach used. This is because of the differences in the data-gathering techniques and the assumptions and methods used to optimise the results. In that way the use of multidimensional scaling to produce perceptual maps is similar to cluster analysis, where the results depend on the clustering algorithm used. But, just as in cluster analysis, this should not be seen as a defect but the realisation that there are numerous ways of looking at a market. Life would be more convenient if there was just one map that represented a market, but any attempt to compress the richness of a market into so simple a perspective is likely to result in opportunities being lost, or never seen.

Only a few years ago the access to the packages was difficult, and the programs themselves were poorly documented and hard to use. Now the situation has changed completely. They, along with other reasonably user-friendly data analysis packages,

are available in PC form (Smith, 1990) and are routinely used by leading market research companies.

## Summary

Considerable research has shown that the naive practitioner of segmentation and positioning research can be easily confused and disappointed. The traditional a priori, off-the-peg methods of segmentation have proved to be a poor guide to segmenting markets other than those that have a direct and immediate link to the markets concerned, e.g. gender-, age- or race-based products. Although more expensive, and providing a much more graphic view of the marketplace, the more modern off-the-peg psychographic methods appear to provide little advantage. As with demographic bases for segmentation, they do work in certain circumstances, but only when the product class or form and the segmentation criteria are very closely related. Within a product class or a product form, however, they rarely differentiate between brands.

The need to find segmentation bases which are closely associated with the product market in question means that successful implementation often involves a company developing product-specific bases. Here there is a potential barrier because of the perceived complexity of the approach and the confusion that researchers have created by their own misunderstandings. Although once a major block to implementation, sufficient case law on using cluster analysis in marketing has been accumulated to allow some of the confusion to be removed. Comparative studies come down firmly in favour of Ward's (1963) method in conjunction with iterative partitioning. Few of the computer packages available can do this, so a selection of clustering algorithms and the computer package used to run it becomes routine.

There is rightly much scepticism about the results from cluster analysis. This is justifiable, given the confusion of the algorithms used, the tendency of cluster analysis to produce results even if the data are meaningless, and the lack of validation of those results. Being aware of these dangers it is vital that validation – both statistical and operational – has a central role within segmentation research. In particular, tests should be done to see if the segments formed can be replicated using other data, that the segments are managerially meaningful and respond differently to elements of the marketing mix.

As with segmentation research there is a wide variety of positioning research approaches and techniques available. Typically they require the collection of primary data relating to brand images and customer requirements. Multidimensional scaling techniques can be used to summarise the mass of data collected in visually appealing and easily communicable ways. They are perhaps best seen as visual models of the customer's mind. As such, they should be treated with caution, as any model is a simplification of reality, and used with care. They can never replace the individual manager's insights, which are central to creative marketing decision making. At best they are an aid to that process.

Segmentation and positioning researchers have indeed failed to find a single criterion that will fit all markets, despite the claims of those selling lifestyle segmentation.

However, rather than finding a single criterion, researchers have found consistently reliable methods of using product market data to segment customers into groups that are of managerial significance and to represent their views and opinions in visually communicable ways. While Baumwoll (1974) was right in predicting that no philosopher's stone would be found, researchers have perhaps discovered how to make philosophers' stones!

## Asianet, Zee TV, Namaste and more



## Case study

Alamy/Diondia Images



Is the UK's ethnic minority population big enough to sustain a strong media industry? On the face of it, the economics look difficult to work out. While the US's large ethnic minority population can support enough media to make Johnson a billionaire, it seems unlikely that a black entrepreneur with a similar business plan would reach those dizzy heights in the UK.

Ethnic minorities made up 7.1 per cent of the UK population in 2000, amounting to just over 4m people in total. That figure has been growing steadily for many years, up from 6.5 per cent between 1997 and 1999, and 5.7 per cent between 1992 and 1994. But the population is very diverse.

For instance, the black community, in which the two biggest single groups are the Afro-Caribbeans and black Africans, makes up 1.274m people. The Asian community divides into Indians (984,000), Pakistanis (675,000) and Bangladeshis (257,000). Chinese people make up one of the smaller ethnic groupings with 149,000 people, and about 219,000 other people belong to none of these bigger communities. White people total 53m.

These numbers ensure that any media exclusively targeting ethnic minorities will be catering to a small market. Look at the audience figures for existing ethnic minority cable TV channels: in 2001, according to the Independent Television Commission, Zee TV attracted 60,000 viewers and Namaste 51,436. Asianet fared better, with 230,530 viewers, but that lags behind other minority interest channels.

However, while the proportion of the UK's population coming from ethnic minorities is slowly rising, the media catering to them is proliferating faster, which could end up further fragmenting an already fragmented market. Plus, media targeting ethnic minorities face the additional problem that the groups on whom they focus have an increasingly diverse range of interests: an elderly black African immigrant may share few tastes with his young mixed-race granddaughter.

Attracting advertisers to such a heavily segmented market can be difficult. Saad Saraf, managing director of Media Reach Advertising, an ethnic marketing consultancy, says US advertisers are much keener than their UK counterparts on using ethnic media: 'US advertisers are much more willing to segment their markets, because they see that it makes their dollar go further. Brands in London still spend 100 per cent of their budget targeting 60 per cent of the people.' The prevailing attitude among advertisers is that their ads in the mainstream media already reach minorities, says Anjana Raheja, managing director of Media Moguls, an ethnic PR specialist. But she argues that, as people from ethnic minorities are increasing their spending power, advertisers are gradually growing more interested.

Tim Schoonmaker, chief executive of Emap Performance, believes advertisers and media buyers are getting more used to the fragmented audience of digital broadcast channels, which will benefit ethnic media.

And Michael Williams, director of marketing at Focus Consultancy, an ethnic change management agency, adds that advertisers should think influence, rather than size: 'Everyone talks about size, but that's not all there is to it. Ethnic minorities can be very influential on fashion – black kids had mobiles long before white kids.'

Source: Fiona Harvey, 'Creative Business: Could It Work Here?' *Financial Times*, 1 October 2002.

### Discussion questions

- 1 'The prevailing attitude among advertisers is that their ads in the mainstream media already reach minorities' in the UK. Is this assumption reasonable? Why may such mass marketing fail?
- 2 Examine how the marketing for clothes, cosmetics, telephone services and air travel may vary with the ethnic group targeted.
- 3 Although mass marketing may fail to appeal to ethnic minorities, a firm may choose to accept that risk rather than face the cost of developing campaigns for each of the groups. What are the dangers of such an approach?