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CONSUMERS' PERCEPTIONS OF THE COMPETITIVE TIERS IN
SIX GROCERY MARKETS

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A thesis submitted for the degree of
Doctor of Philosophy
based upon research conducted in the
Business School of The City University

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DECLARATION

I grant powers of discretion to the University Librarian to allow the thesis to be copied in whole or in part without further reference to me.

ABSTRACT

By the early 1980's the pressures of increased retailer dominance resulted in some manufacturers reducing brand investment. Concurrently own label investment increased, amid speculation about a blurring between brands and own labels. Generics were launched in 1977, but showed evidence of retailer branding. Consequently this research was undertaken to

- assess how consumers perceive the competitive structure of 6 packaged grocery markets and
- identify how consumers' perceptions of market structure are influenced by marketing activity (external factors) and consumer characteristics (internal factors).

Within a consumer information processing paradigm, hypotheses were advanced. Repertory grids identified the attributes consumers use to evaluate competing tiers and the numerous attributes were reduced by examining the correlations between attributes, in conjunction with principal component analysis. These attributes formed attribute-brand batteries which were used, with colour photographs of the competing items, in a postal survey of householders to measure respondents' perceptions. A 48.5% response was achieved (1,065 returns) and using cluster analysis (single link algorithm) the compositions of the hierarchical clustering schemas were investigated.

Consumers' perceptions only matched marketers' in the washing up liquid sector (brands vs own labels vs generics) and at the 2 tier level, all 6 product fields were perceived as brands versus retailer labels (own labels plus generics). These perceptions are thought to be due to the way retailers branded their generics. None of the external or internal factors affected consumers' perceptions, possibly due to the superficial information search resulting from the low involvement nature of the products. To avoid consumers predominantly switching from own labels to generics, future retailers marketing generics should not brand their generics. Manufacturers should invest in their brands through advertising and product development and should refrain from launching value brands. Grocery brand advertising is unlikely to be effective if it portrays the potential social risks associated with own labels.

CHAPTER 1

OVERVIEW OF THE RESEARCH

1.1 INTRODUCTION

This chapter opens by explaining the background to the research and by broadly identifying the research objectives. The justification for this study is presented and the research methodology employed is explained. A brief explanation of the results is considered, along with the limitations of this research. This chapter finishes by presenting a guide to each of the subsequent chapters. The reader seeking the core of this thesis is referred to chapter 5, which develops the conceptual framework for analysing consumers' perceptions of market structure, and to chapter 9 which presents the research findings.

1.2 SCOPE OF THE PROBLEM

This section presents the background to the research undertaken and identifies the research objectives.

1.2.1 Consumers' versus marketers' perceptions of market structure

Until 1977, manufacturers' brands competed against own labels, but following the successful launch of generics in France (Carson, 1976), International became the first UK retailer to launch a range of generics (Sheath and

McGoldrick, 1981). These "no-frill" items in their austere packaging were priced below own labels, which in turn were cheaper than brands (Nielsen Researcher, 1982a). One of the interesting aspects of generics was that while the packaging was plainer and displayed less information, the artwork on the packs enabled consumers to associate different generic packs with specific retailers (eg the distinctive yellow packaging of Fine Fare and the BASICS "brand" name on the Argyll range). There was debate as to whether the generics launched in the UK were an extension of the own label concept (Simmons and Meredith, 1983). This kindled interest in the question: do consumers perceive generics as dissimilar from own labels?

The launch of generics in the UK coincided with increasing concern of a "crisis in branding" (King, 1978), with some brand manufacturers responding to the increasing pressure from multiple grocery retailers by cutting back on brand investment in favour of trade discounts. By 1983, multiple grocery retailers accounted for 66.8% of packaged grocery sales (Mintel, 1985/86) and were investing in their own labels (McGoldrick, 1984c) to the extent that during 1983 approximately 24% of packaged grocery sales were own labels (Euromonitor, 1986). Clearly, own labels represent an increasing threat to brands, but of more interest was the way that, from an analysis of the marketing mix, an argument could be developed predicting that consumers might perceive brands and own labels as being similar. Evidence exists of brand advertising falling while retailer

advertising increased (Mintel, 1984), of smaller quality differences between brands and own labels (Thermistocli & Associates, 1984), of narrowing price differentials (McGoldrick, 1984a) and of increasing own label distribution. The changed use of marketing resources behind brands and own labels aroused curiosity as to how consumers perceived brands and own labels.

Marketers talk about 3 tier markets, ie brands, own labels and generics (Hawes, 1982) but there has been no published research showing how consumers in the UK perceive the competitive structure of packaged grocery markets. In view of the intriguing presentation of generics and the changing nature of brands and own labels, this research was undertaken with the first of its two broad objectives being to assess whether consumers perceive the competitive structure of packaged grocery markets in the same way as marketers.

1.2.2 External and internal influences on perception

When consumers categorise competing items from the same product field, information is sought and processed, enabling a decision to be taken about the degree of similarity between certain items within that product field. By assuming an information processing model of the consumer (Engel et al, 1986) the intensity and direction of information search are believed to be influenced by several variables, two of particular interest being marketing

activity, eg advertising, pricing (external factors) and characteristics specific to consumers eg perceived advertising, perceived risk, etc (internal factors). The second broad objective of this research was then to identify the effect of external and internal factors on consumers' perceptions of the competitive structure of markets.

To predict the effect of different variables on consumers' perceptions of market structure a conceptual framework was developed. Consumers are assumed to seek information and from Cox's (1967a) model are thought to view products as arrays of informational cues, selecting cues with the the highest information value. Any information not previously sought from memory would be compared against memory to give meaning (Bettman, 1978). To protect their finite cognitive capabilities consumers would store information in memory as chunks (Miller, 1956). It is thought that brand name cues have a high informational value, since they can then be used to access a large amount of information stored as a chunk in memory (Jacoby et al, 1977). Thus in terms of the elements of the marketing mix, consumers place more reliance on seeking brand name cues, through which it is thought they would recall generalisations about other elements of the marketing mix.

In terms of external factors this research addressed the question: does the amount of advertising activity influence perception of market structure? The previous

section showed that some manufacturers cut brand investment during the 1970's and the early 1980's and one element of this reduced support that could be measured is advertising spend. A further question was then investigated, ie are perceptions of market structure related to whether long term advertising support for that product field has been maintained or reduced? The other external variable investigated was the price differential between the competing tiers. Of interest here was the question: does the size of the price differential between the competing tiers affect consumers' perceptions of market structure?

When considering internal factors, consumers' perceptions of advertising activity and their perceptions of price differentials were investigated to see whether these influenced perceptions of market structure. Some studies (eg Mintel, 1982/83) reported an increasing belief amongst consumers of own label groceries being as good as brands. In view of narrowing quality differences reported between own labels and brands, attention was directed at investigating whether consumers' beliefs in own labels being produced by manufacturers of major brands had any impact on perception of market structure. Other variables identified as likely to influence consumers' perceptions, which were investigated, included perceived risk, product importance, prior experience and the demographic variables of education, sex and age.

1.3 THE NECESSITY FOR THIS RESEARCH

Nothing has been published in the UK on how consumers, rather than marketers, perceive the competitive structure of markets. An addition to knowledge about (a) consumers' perceptions of market structure and (b) factors that may influence these perceptions should enable marketing management to more effectively employ marketing resources. This is particularly so since perception is a mediating variable influencing consumers' purchasing decisions when faced with several competing "brands" (Engel et al, 1986).

Wheatley (1980) recommended that "The introduction of generics is a significant development worthy of attention" (p169). His view was that generics have affected consumer buying behaviour and by marketers better understanding the impact of this third tier they can then "exercise some degree of control over this development" (p169). Research directed at understanding consumers' perceptions of the competitive tiers was also recommended by Sarel and Sewall (1980) who concluded their paper by stating "The generic concept merits more attention from scholars along both managerial and theoretical lines" (p190). They reported that research studies had not considered how consumers might interpret the informational cues associated with generics and questioned whether there may be a difference amongst consumers in terms of their perceptions of generics.

In view of there being no published research in the UK on consumers' perceptions of market structure, the practical value of such research and the exhortations of other researchers, this study was undertaken. As explained in more detail in chapter 9, this research filled a gap in marketing knowledge by showing that, in general, consumers' perceptions of market structure differed from those of marketers. It is this author's belief, based upon the research findings, that generics were perceived as similar to own labels rather than as a distinct category because the generic concept was not fully enacted. For each of the independent variables tested, respondents consistently viewed generics as being similar to own labels. To reduce the possible switching behaviour of consumers from own labels to generics, as implied by the perceptual findings, future retailers thinking about launching generics should ensure there is no evidence of branding on their generics.

1.4 OVERVIEW OF METHODOLOGY

This research focused on 6 product fields which had to satisfy several criteria. For example, 3 product fields had to show evidence of long term advertising support (bleach, toilet paper and washing up liquid) and 3 to have experienced long term reductions in advertising (aluminium foil, household disinfectant and kitchen towels). A wide price differential was sought in at least one product field (washing up liquid) and a narrow price differential in another (kitchen towels). Within each product field,

there also needed to be at least 3 brands, 3 own labels and 2 (preferably 3) generics.

To assess respondents' perceptions of the competitive structure of a particular market, they were asked to look at a 6 inch by 4 inch colour photograph displaying the 8 or 9 competing items in that product field. They stated how much they agreed or disagreed (5 point scale) with each attribute in a battery describing each item in the photograph. Data to classify respondents was also obtained from the same questionnaire. From the attribute-brand batteries each respondents' scores were standardised, converted to a squared distance matrix, aggregated with other respondents' squared distance matrices for that product field and the average squared distance matrices calculated. Cluster analysis of these 6 matrices (single link algorithm) was then used to determine the hierarchical manner in which the items formed clusters. By inspecting the hierarchical trees showing the order in which items formed clusters (ie dendrograms), the composition of items constituting the 3 clusters could be identified and then moving further up the dendrograms, the composition of the 2 clusters was also investigated.

To evaluate how different groups of respondents perceived a particular product field (eg high versus low risk perceivers) the average squared inter-item distance matrix was calculated for each group of respondents in a particular product field. These matrices were then

separately subjected to cluster analysis and the composition of the clusters at the 3 and 2 cluster levels on each dendrogram were visually compared.

The attributes people use to evaluate competing items were found by administering repertory grids to approximately 15 householders for each product field (total of 95 householders interviewed during February 1984 to January 1985). Between 43 to 84 different attributes were obtained for each product field. These lists were reduced to more manageable lengths for respondents by removing the more trivial, descriptive statements (eg this pack has computer printing on it), resulting in between 19 to 29 attributes. This number was still regarded as being too large and a further attribute reduction stage was undertaken. By asking a further 15 different householders per product field to complete an attribute-brand battery (91 householders interviewed during January to May 1985) the correlations between attributes, in each product field separately, were calculated. Examination of the correlation matrices, in conjunction with principal component analysis, enabled the number of attributes to be reduced to between 8 to 10 depending on the product field. A procedure was employed to ensure that the reduced number of attributes adequately represented respondents' perceptions as measured by the full attribute lists.

The large scale study, to collect data on respondents' perceptions of the structure of the 6 product fields, was

completed between August to October 1985 in Hertford. A postal questionnaire with a colour photograph, a pre-paid envelope and an explanatory letter was sent to 2,196 householders. They were selected from the electoral register, using a systematic sampling procedure. By using a follow up letter, 1,065 questionnaires were returned (48.5% response rate). The results from these questionnaires were computer analysed.

1.5 RESULTING PERCEPTIONS OF MARKET STRUCTURE

As considered in more detail in chapters 9 and 10, respondents' perceptions of market structure generally differed from marketers. In only the washing up liquid sector did respondents perceive the 3 competitive tiers as brands versus own labels versus generics. At the 2 tier level in each product field, respondents saw brands as one cluster with own labels and generics ("retailer labels") as the competing cluster. It is my view that the main reason for the consistent composition of the clusters at the 2 tier level is due to the way that the generics displayed strong associations with specific retailers. With respondents placing importance upon brand name cues, retailers branding of generics resulted in them being perceived as similar to own labels. The credibility of this view is reinforced by developments in the market. All of the multiple grocery retailers withdrew their generics between 1984 and 1987 (as shown in section 2.4). Two possible implications of generics being perceived as

similar to own labels are the chance of own label purchasers switching to generics and the detrimental image effect of generics on own labels. The profit and image implications of consumers' perceptions of generics run contrary to retailers' objectives and this research suggests that retailers were wise to phase out their generics.

None of the external or internal factors had any impact on perceptions of market structure. It is thought by this author that because of the superficial external information search undertaken (due partly to the items being frequently purchased, low involvement goods) and the reliance placed upon "brand" name cues, perceptions of market structure were unaffected by these factors.

1.6 LIMITATIONS OF THIS STUDY

This thesis was restricted to low involvement items. By using 6 product fields which showed a consistency of findings at the 2 tier level, these results are believed to be generalisable to other low involvement items, but not to high involvement goods (eg household electrical appliances).

To ensure a sufficient number of respondents participated and not to make the questionnaire too demanding, the number of topics that could be included was restricted. One consequence of this was that no measure of any

situational effects was included.

The use of a postal survey necessitated respondents making judgements from a 6 inch by 4 inch colour photograph. This did not allow them to gain further impressions through touching the products, by feeling the weight of the items or by looking at the backs of the packs. Also, more effort would have been required to read some of the smaller print displayed in the photographs. It was felt, though, that the advantages of a postal survey outweighed the limitations introduced by using photographs.

The survey was restricted to householders in Hertford, but due to the presence of several major multiple grocery retailers in and near Hertford, the area was not thought to be atypical.

1.7 ORGANISATION OF THE THESIS

To guide the reader through the thesis, this section indicates the topics covered in each chapter.

Chapter 2 reviews the marketing development and characteristics of brands, own labels and generics in the packaged grocery sector. It considers the impact of increasing multiple grocery retailer dominance on the marketing of these 3 tiers, from which it questions whether there are 3 distinct competitive tiers.

Chapter 3 summarises the published research in the UK and USA on consumers' perceptions of market structure. The perceptual process by which people selectively seek and process information to categorise competing items is considered. A cognitive information processing model is presented showing the extent of consumers' information search in different situations. The importance of information being aggregated into chunks in memory is explained.

Chapter 4 reviews the reliance people place upon the informational cues associated with products. It considers the influence of different variables upon consumers' search for information and hence perception of market structure.

Chapter 5 develops the conceptual framework, within which hypotheses about consumers' perceptions of market structure are advanced. By considering the changing use of marketing resources behind some branded and own label groceries, along with an analysis of the way generics were marketed, it questions the conventional perspective of market structure. It also presents hypotheses about the impact of external factors (marketing activity) and internal factors (consumer characteristics) on perception of market structure.

Chapter 6 explains the methodology employed to test the research hypotheses. It shows how the 6 packaged grocery markets and the competing items were selected. The

procedure by which the dependent and independent variables were operationalised is described.

Chapter 7 is concerned with the data collection process and concentrates upon the use of a postal survey to collect consumers' data.

Chapter 8 focuses upon the data analysis procedure. It details how cluster analysis was used to measure respondents' grouping of items and explains the computational procedure employed.

Chapter 9 examines the results relating to each of the hypotheses. It shows how consumers' perceptions generally differ from those of marketers and considers what impact the external and internal factors had on perception of market structure. The results of each hypothesis are summarised in table 9-41, shown in section 9.13.

Chapter 10 draws a conclusion from the results, considers why the proposed theory was disproved, suggests implications for marketing management and identifies further areas for research.

CHAPTER 2

THE EVOLVING CHARACTERISTICS OF BRANDED, OWN LABEL AND GENERIC GROCERIES AND THE IMPACT OF RETAILER DOMINANCE ON THEIR DEVELOPMENT

2.1 INTRODUCTION

This chapter considers the evolution of brands, own labels and generics and shows how the development of these 3 tiers have been affected by increasing multiple retailer dominance. It presents evidence that casts doubt upon viewing markets in terms of brands versus own labels versus generics.

It should be noted that the word "brand" is used throughout this thesis to mean "manufacturer's brand". This is in contrast to some marketers who would understand "brands" in a wider context as manufacturers' brands and retailers' brands. Definitions are presented later in this chapter clarifying the terminology of brand, own label and generic.

The first part of this chapter looks at the emergence of branded packaged groceries, considers the characteristics and importance of brands and investigates how brands have been successfully marketed in the past. In a similar manner the development of own labels and generics are considered. The shift in the balance of power from the manufacturer to the retailer is documented and the impact

this has had upon the marketing of brands and own labels is presented. At the end of this chapter the sections are drawn together to show how a blurring between brands, own labels and generics may have occurred.

2.2 THE EMERGENCE OF BRANDED GROCERIES

In the early half of the nineteenth century it was common for groceries to be sold as commodity items. Household groceries were normally produced by small manufacturers supplying a locally confined market. Consequently the quality of similar products varied according to retailer, who in many instances blended several suppliers produce. As Britain adjusted to the industrialisation of society, so consumer goods manufacturers saw sales opportunities from the rapid rise of urban growth and the widening of markets through improved transportation. At the same time though, the widening separation between producer and consumer led to the increasing importance of wholesalers. Manufacturers produced according to wholesalers' stipulations, who, in turn, were able to dictate terms and strongly influence the product range of the retailer. As an indication of the importance of wholesalers, Jefferys (1954) estimates that by 1900, wholesalers were the main suppliers of the independent retailers who accounted for 87-90% of retail sales.

Increasing investment in production facilities made some manufacturers anxious about their reliance on wholesalers

as the main distributor of their products. During the second half of the nineteenth century some of the larger manufacturers started to affix a brand name to their product, advertising to consumers and appointing their own sales personnel to deal directly with larger retailers (eg Cadburys). The era of the balance of power resting with the wholesaler was relatively short and King (1970) estimated that from around 1900 the era of manufacturer dominance was heralded, lasting through to the early 1960's (Watkins, 1986). With "branding" and national marketing, manufacturers strove to increase the consistency and quality of their products, making them more recognisable through attractive packaging that no longer served the sole purpose of protection. Increased advertising was no longer used to protect the manufacturer's production investment but to promote growth of brands and with manufacturers exercising legally backed control over price, more manufacturers turned to marketing branded goods.

Precision in the language of marketing is important yet confusion has resulted in the semantics of branding (Schutte, 1969). Over time the composition of markets has changed and terms which were once very precise have had to adopt a wider spectrum of meaning, possibly diluting their usefulness. Bullmore (1984) believes that some people now give too little thought to the meaning of the word brand and thus, to ensure clarity of terminology, some consideration of the concept of "brand" is necessary.

2.2.1 The characteristics of brands

There is evidence from the Oxford English Dictionary (Murray et al, 1933) of today's term "brand" originating from the older meaning "to mark indelibly as proof of ownership as a sign of quality or for any other purpose" and as early as 1923 Copeland saw the prime purpose of brands as being identifying devices. This term aptly describes the activities of manufacturers at the turn of the century in their attempt to differentiate their offerings from the commodity items available. Some (eg Kotler, 1984; Wind, 1982; Evans & Berman, 1982) interpret the term brand from this perspective of being able to differentiate offerings. Kotler's (1984) definition exemplifies this: "Brand: a name, term, sign, symbol or design or a combination of them, which is intended to identify the goods or services of one seller from those of competitors". (p482)

A later section in this chapter reviews the evolution of multiple retailers' own labels which are also branded, (some after considerable retail investment eg Liebling, 1985), but this time the branding is done through a specification by the multiple retailer. To distinguish between manufacturers' brands and retailers' own labels (which in the wider context of the Kotler definition are both brands), Schutte (1969) developed a framework around which branding terminology could be clarified. By considering whether the main activity of the organisation

stipulating the specifications of the item was either production or distribution, he was able to clarify the term manufacturer's brand as: "...one which is owned and controlled by an organisation whose primary commitment is production". (p9)

While Schutte's framework allows for a clearer distinction between manufacturer's brand and retailer's own label it gives little insight into the characteristics of the manufacturer's brand.

Unlike the earlier authors who place emphasis upon a single element to describe brands, King (1978), states that there are many elements that are used to distinguish brands, ie product and range, services, names, packaging and advertising. Marketers use all of these elements to create their own unique brands. The combination of all these elements enables particular brands to appeal to specific groups of consumers at prices high enough to cover the cost of branding, with consistently high quality levels (Livesey and Lennon, 1978; Hancock, 1983) and yet produce adequate levels of profit.

Gardner and Levy (1955) emphasise that, by using several elements of the promotion mix, a brand image will be evoked which in some instances may be more important than the technical features of the product. Evidence of this is shown by several authors (eg Saporito, 1986; Bellizzi and Martin, 1982; King, 1970; Allison and Uhl, 1964). This

idea of developing a personality through branding is stressed by Lamb's (1979) view that branding:

"...is not the simple description of a product function. It is providing a product with a personality which is so expressed as to encompass that product's uses, values, status, nature, function, stature, usefulness - everything." (p22)

Thus when consumers purchase a product they acquire a functional entity; when they buy a brand they have both an emotional and functional entity.

To clarify how this thesis interprets a brand, as being distinct from a retailer's own label, a synthesis of the writing on brands leads to the formulation of the following definition of a brand:

A brand is an added value entity controlled by either a manufacturer or a packer, which portrays a unique and distinctive personality through the support of product development and promotional activity.

By not restricting this solely to manufacturers, this exposition also allows for the importer who packages and then markets brands (eg marketers in the fruit market).

2.2.2 Criteria for successful brands

Later sections of this chapter show how some brand manufacturers cut back on brand investment in a climate of increasing retailer dominance. It is therefore necessary to consider the characteristics that differentiate the successful brand, which is sought by both consumers and retailers, from the weaker secondary brands facing the greatest threat of being delisted in favour of own labels.

One ingredient for a successful brand (either a brand leader or a major competing brand) is the benefit to consumers of added values (eg greater ease of use) that satisfy real consumer needs (Jones, 1986; King, 1984; Peckham, 1983). To establish a positioning for specific brands in consumers' minds, to communicate the associated added values and to make these values salient, advertising is necessary. The importance of consistent advertising to develop successful brands is a point made by several writers (eg Hancock, 1983; Ramsay, 1983; King, 1978, 1984). While packaging and merchandising aid in reinforcing a certain type of positioning, advertising overcomes the problem of the pack being inanimate and unable to fully explain its brand personality (Hancock, 1983). Advertising behind brands also helps establish the brand as a unique bundle of values, without a directly similar counterpart that consumers can easily substitute (King, 1984). The level of advertising associated with a successful brand is usually high for that particular product field (eg Smith and Roberts, 1983; Ramsay, 1983). More detailed empirical work by Broadbent (1979), Whitaker (1983) and Peckham (1983) showed that successful brands had a share of advertising expenditure in excess of their share of sales.

Advertising alone does not ensure successful brands. Ramsay's (1983) evaluation of successful brands showed the importance of high quality and innovative product development, while Carter and Hatt (1983) found that high

product quality encouraged brand loyalty.

Successful brands are those presented to consumers through a coherent marketing mix, developed on a holistic basis. This finding is supported by the case history type examinations of King (1984) and Strauss and Alcock (1984). Thus a high quality brand, in well designed packaging, backed by advertising, will be able to command a price premium through the association consumers have of high quality with high price (eg Wheatley and Chiu, 1977).

This section has shown how successful brands have been backed by significant advertising support, a commitment to high quality and the justification for higher prices. Later in the chapter it will be shown how reduced support in these areas has weakened some brands. With branded groceries accounting for 72% of all packaged grocery sales in 1985 (Euromonitor, 1986) an evaluation of the importance of brands will be considered.

2.2.3 The importance of brands to manufacturers, retailers and consumers

Manufacturers invest effort in branding for a variety of reasons. If the manufacturer has registered a trademark (ie some identifying brand name or symbol) its legally protected right to an exclusive brand name enables it to establish a unique identity, reinforced through its advertising, and increases the opportunity of attracting a

large group of repeat purchasers. Good brands aid in building a corporate image and hence reduce the cost of new line additions carrying the family brand name (Kotler, 1984). Retailers, as Cravens and Woodruff (1986) observed, are more likely to take new brands from manufacturers with a history of strong branding. Hawes (1982) notes that branding enables the marketing of different brands in the same product field which appeal to different benefit-seeking segments. By developing a sufficiently differentiated brand that consumers desire, a higher price can be charged (particularly if price comparisons are reduced due to perceived brand distinctiveness) and a higher level of profit may result.

Evans and Berman (1982) believe that a manufacturer with a strong brand has greater control when dealing with distribution intermediaries. As evidence of this Jarrett (1981) discussing the strength of the Kellogg brands stated:

"The only discounts available to our customers are those shown on our price list, and all those discounts relate to quantity bought and prompt payment. There is no possibility of special deals, just to those customers who stock private label". (p12)

In view of the pressures facing brand manufacturers from the powerful multiple grocery retailers, such a comment is indeed surprising.

Retailers, as O'Dochartaigh (1974) and Cravens and Woodruff (1986) point out, see strong brands as important since

through manufacturers promotions, a faster turnover of the retailers' stock results. This point was also made by the once Assistant Managing Director of Sainsbury, Davis (1983). Retailers see manufacturers' brands as being important since they offer profit opportunities (eg Johnston, 1982).

Some retailers are interested in stocking strong brands, since they believe that the positive image of particular brands enhances their store image (Arnold et al, 1983). A study undertaken by Jacoby and Mazursky (1984) showed that retailers with a poor image were able to better this by stocking brands of a more favourable image.

Consumers take advantage of the benefits offered by brands eg faster item recognition making shopping a less time consuming experience (Hawes, 1982). Brands provide a consistent guide to quality (eg Holstius and Paltschik, 1983) along with reliability and consistency (eg Randall, 1985) and enable consumers uncertain about the outcome of their buying decision to be more confident, (Roselius, 1971). Brands may also satisfy status needs (eg Market Behaviour Ltd, 1985).

2.3 THE INTRODUCTION OF OWN LABEL GROCERIES

Jefferys (1954) estimated that around the 1870's multiple retailers (ie a retailer owning 10 or more outlets) emerged

in the packaged grocery sector. With the development of multiple retailers came own label groceries, where, initially, retailers produced some of their own items which were sold under their names.

The growth of multiple retailers paralleled the increasing presence of branded goods. Due to resale price maintenance (RPM), multiple retailers were unable to compete with each other on the price of branded goods and relied upon service as the main competitive edge to increase store traffic. The multiples circumvented this problem by developing their own label range. Initially, the major retailers produced their own labels (Henley Centre for Forecasting, 1982). As Lennon (1974) reported, multiple retailers originally owned their own butter creameries and manufactured their own margarines. They tended to concentrate upon supplying and processing basic grocery items such as flour, tea, sugar, bacon, eggs and cheese. The degree of retailer production was limited by the complexity of the items and the significant costs of production facilities. Thus it became increasingly common for multiple retailers to commission established manufacturers to produce their own label items which were packaged to the retailer's specification. Fulop (1964) notes that before World War II, own labels accounted for 10-15% of multiples' total sales, but with multiple retailers accounting for 16.5-18.0% of food sales (Jefferys, 1954) the overall importance of own labels was far exceeded by branded items.

During World War II own labels were withdrawn due to shortages and reintroduced during the 1950's.

One of the consequences of the growth of multiple retailers was that the independent sector declined, an issue discussed in section 2.5. As a means of protecting themselves, some independent retailers joined together during the 1950's and collaborated with specific wholesalers in symbol/voluntary groups (eg Mace-Wavy Line, Spar). With a significant element of their purchasing channelled through a central wholesaler, they were able to achieve more favourable terms from manufacturers (Oliver, 1986). A further consequence of this allegiance was the introduction of symbol/voluntary own labels, designed to compete against own labels from the multiples.

2.3.1 Definition and characteristics of own labels

The definition of own labels which most aptly describes this category is that presented by Morris (1979):

"Own label products are defined as consumer products produced by, or on behalf of distributors and sold under the distributor's own name or trademark through the distributor's own outlet". (p59)

By using the term "distributor" in this definition, Morris clearly includes multiple retailers' own labels (eg Tesco and Sainsbury) and alludes to both wholesalers' own labels (eg Nurdin and Peacock) and symbols' own labels (eg Spar). His exposition concurs with Schutte's (1969) definition of "distributor's brand" ie "one owned and controlled by an organisation whose primary economic

commitment is distribution". (p9) Both definitions are consistent as regards specification of the brand name originated from a distributor (multiple retailer, wholesaler or symbol/voluntary group). The Morris definition is more descriptive since it encompasses the Co-op own labels which remain the one sector where the distributor still produces a significant proportion of its own labels.

Own labels have been a major strategic tool for multiple retailers over the past 20 years, both in their expansion programme (Mintel, 1973) and in an attempt to increase store allegiance (Martell, 1986). As a consequence, the development work behind own labels has generally resulted in today's own labels being better quality products than those of 20 years ago (eg Bullmore, 1984; Fulop, 1964; Economist Intelligence Unit, 1971; Mintel, 1973). A broad statement about the quality of own labels cannot be made, since this depends on the retailer concerned (Thermistocli and Associates, 1984).

A general characteristic of retailers' own labels is that the individual lines tend not to receive advertising support. Instead, multiple retailers adopt a corporate approach to advertising, with significant media support, where benefits associated with the retailer's name in general are promoted (Caulkin, 1987). Individual own label items do not compete with brands on a proposition specific to that product field; rather they rely on the

retailer's general advertising claims.

Own label goods are generally 10-20% cheaper than the equivalent branded item (Bond, 1984). The price difference between brands and own labels varies by product as well as by retailer (Thermistocli and Associates, 1984). A variety of reasons for retailers' own labels being cheaper are reported by McGoldrick (1984a), the main one being the dominant position of the large retailers, enabling them to achieve terms based upon little more than the manufacturer's marginal cost. When seeking own label suppliers, retailers use several producers for a particular item, enabling them to play suppliers off against each other to achieve the best terms (Martell, 1986). Some retailers also have a preference for using manufacturers of smaller brands (Lennon, 1974) rather than the major brand leader, as they believe this strengthens their negotiating position. Mintel (1973) believe that other reasons for the lower price of own labels are reduced costs for the manufacturer, lower advertising costs which are often subsidised by brand manufacturers and lower distribution costs.

Thus own labels as a second tier in packaged groceries have grown as competition to branded goods. But their purpose nowadays is not solely to provide a low price alternative to brands as will next be considered.

2.3.2 The rationale for own label goods

From the distributor's perspective, Economist Intelligence Unit (1968) noted that with the abolition of RPM in 1964, margins on brands fell as a result of price cutting. Own labels provided retailers with some cushioning on margins during the 1960's. They believe it was this new found profitability that was the prime reason for renewed interest in own labels. Own labels still offer retailers better margins than brands (Simmons and Meredith, 1983; Risley, 1981) and Euromonitor (1986) quantified the profit margin as being at least 5% more than the equivalent branded item.

Own labels aid in the store image-building process which several major retailers saw as then shifting customer loyalty to their chain (Simmons and Meredith, 1983). Retailers aim to position their own labels as good value for money (Martell, 1986) and through this association aim to encourage store loyalty. Own labels do have a role in the store image-building process. However, this is only one of several reasons influencing consumers' store choice (eg J. Walter Thompson, 1978).

With stronger own labels, multiple retailers have rationalised their product range (eg Simmons and Meredith, 1983) and have taken advantage of the cost savings this produces.

Turning to the manufacturer's perspective, researchers (eg Cook and Schutte, 1967; O'Dochartaigh, 1974; Morris, 1979; Euromonitor, 1986) found that some of the main reasons for producers of successful brands undertaking own label production are:

- Economies of scale through raw material purchasing, distribution and production.
- Any excess capacity can be utilised.
- It may provide a base for expansion of the firm.
- In some cases substantial sales can accrue with minimal promotional or selling costs.
- It may be the only way of dealing with some retailers (eg Marks and Spencer).
- Protection against competitors. Some manufacturers believe that if they do not supply own label their competitor will, possibly strengthening the competitor's cost structure and his trade goodwill.

Consumers are believed to benefit from own labels. As noted earlier, one of the advantages is cheapness. With the increased confidence consumers have in retailers' own labels, Morris (1979) believes that consumers may prefer a lower priced familiar own label than an unfamiliar minor brand because of a perceived sense of guarantee associated with the own label. Increasingly, consumers are placing more confidence in the quality and good value of own labels, a point which will be explored later in this chapter.

2.4 GENERIC :- THE ADVENT OF A THIRD TIER

In April 1976 Carrefour in France launched a line of 50 "produits libres" promoted as brand free products, which signalled the advent of a third tier in grocery retailing (Hawes, 1982). Other countries in the Western World experimented with generics (eg Goormans, 1981; Nielsen, 1982b; Fitzell, 1982; Sheath and McGoldrick, 1981). The Nielsen Researcher (1982a) description of UK generics provides a full exposition of the concept:

"Generic labelled products are distinguishable by their basic and plain packaging. Primary emphasis is given to the contents rather than a distinguishing brand or retail chain name. Fine print, usually at the bottom or on the back of the pack, identifies the distributor, and gives any legally required information".

The term "generic" may be a misnomer since it implies a return to the days when retailers sold commodities rather than brands. Those retailers in the UK stocking a generic range have developed a policy regarding the product, pricing, packaging and merchandising that only too clearly enables consumers to associate a particular generic range with a specific store (eg Allan, 1981). One retailer (Argyll) went as far as branding their generic range (BASICS). The marketing of generics in the UK raises doubts about whether they are perceived as a unique third tier, or alternatively as own label variants. This is given further considerations in sections 2.4.2 and 5.2.

Table 2-1 shows those multiple retailers in the UK who launched a generic range.

<u>Retailer</u>	<u>Generic Range</u>	<u>Launch Date</u>	<u>Status</u>
Argyll	BASICS	October 1981	Withdrawn (1987)
Carrefour (Gateway)	Brand Free	March 1978	Withdrawn (1986)
Fine Fare (Dee)	Yellow Pack	March 1980	Withdrawn (1987)
International (Gateway)	Plain and Simple	July 1977	Withdrawn (1984)
Tesco	Value Lines	October 1981	Withdrawn (1986)

Table 2-1 UK Multiple Retailers who launched a generic range

One observation from this table is that from 1984 (while this research was being undertaken) the trend of retailers withdrawing from generics began. This development is not surprising since, as shown in section 9.4, consumers perceived generics as being similar to own labels rather than being a distinct third tier. Thus there would be some weakening of the image of the own label and also this perceived similarity would indicate consumers being more likely to switch their purchasing from the more profitable own labels, rather than branded items, to generics.

The quality of generics varies by retailer (eg McGoldrick, 1984a), but as Churchill (1982) observed they are often inferior to branded goods. The term generic implies no promotional support to differentiate the range, yet they tended to be given some promotional support primarily on launch (Sheath and McGoldrick, 1981). A Nielsen Researcher

(1982a) survey showed that, on average, generics in the UK were priced 40% below the brand leader and approximately 20% lower than the equivalent own labels. When considering how these low prices had been achieved, Euromonitor (1986) concluded that the plainer packaging generally resulted in minimal savings. A combination of factors, rather than one single factor, contributed to the overall price reduction, ie reduced product quality, accepting lower margins, more flexible approach to product sourcing, minimal promotional support, innovative approach to packaging, one pack size only and more skillful negotiation (Shircore, 1983; Burck, 1979; Murphy and Laczniak, 1979; McEnally, 1980).

2.4.1 The response to the launch of generics

The response of retailers to generics in the UK has been divided. Multiple retailers with strong own labels have a policy of not offering a generic range (Shircore, 1983). While generics may increase the number of shoppers it could also mean cheapening the retailer's image (eg Simmons and Meredith, 1983), cannibalising sales from the more profitable own labels, or selling some products in the range with a low margin (Harris and Strang, 1985). As generics are lower priced items it could also mean that while the volume of groceries sold has shown a small increase, the value being sold may have fallen. Other retailers, though decided that gains were to be made from generics through such aspects as adding value to the

store's total mix, creating a new image, increasing their share of labels under their own control or being competitive.

The overall impact of generics in the UK was small. Euromonitor (1986) estimated the generic share of packaged groceries in 1985 to be approximately 2%. The threat to branded manufacturers was not as great as that from own label. Once again though, pressure on shelf space increased. Some UK branded goods manufacturers saw generics as a further threat from the retailer and responded by using advertising to promote a premium quality image for their brand. McEwan (1982) reported how Heinz responded to the further pressures from retailers' labels by developing a campaign stressing the superior taste of Heinz Baked Beans. Other manufacturers responded by launching cheaper versions of their products (value brands) which had little advertising support and which could better compete on a price platform with own labels and generics (eg Scottowels).

The consumer benefit that retailers on both sides of the Atlantic were striving to satisfy was good value for money. Gardner (1982) and Business Week (1981) believe that the reasons why consumers switched to generics was the increasing concern with grocery costs in a period of heightened awareness of inflation and doubts about the value of paying a price premium for brands. A study amongst Fine Fare generic purchasers showed low price to be the

main attraction (Sheath and McGoldrick, 1981), while some trialists rejected generics because of their poor quality. Similar findings were obtained in the USA by Yucelt (1987).

2.4.2 The positioning of generics

Until 1978, Carrefour had been operating in the UK without an own label range, albeit the addition of Brand Free was more akin to an own label because of the policy of trying to emulate brands. The approach to generics by other UK multiple retailers varied and related to this, there is disagreement in the literature about the positioning of generics. Simmons and Meredith (1983) do not regard generics as a separate category, instead they see generics as being a variation of own labels. The marketing approach of retailers in the UK has not resulted in generic commodity items, but rather, they believe has evolved into produce packaged in a more basic manner which is exclusive to, and recognised as originating from specific retailers. For the same reason Mintel (1982/83) regard generics as forming a "secondary tier own brand range", as do Euromonitor (1986). Sheath and McGoldrick's (1981) trade interviews uncovered a variety of attitudes to generics, with some distributors adopting the view that generics are own labels under another name.

McGoldrick (1984b) shows how different retailers developed generics and hence how there is a continuum along which different retailers' generics lie. At a micro level, few

would regard own labels as a single entity and likewise it may be sensible to conceptualise generics in this manner. At a macro level, he postulates that on a price-quality perceptual map (McGoldrick, 1984a) own labels have shifted over the years towards the branded domain and generics, as a distinct third tier, have filled this gap.

Thus by the mid 1980's, competition from own labels and generics meant that brands were under more pressure than in the early 1960's. More shelf space was being sought by retailers for their own ranges and consumers who were concerned about price, or were sceptical of the price premium on brands, now had a real alternative with generics. By next considering how the balance of power shifted from the manufacturer to the retailer, greater insight into the increasing pressure on branded groceries is available.

2.5 THE ERA OF RETAILER DOMINANCE

Events can be traced back to the 1950's which swung the balance of power from the manufacturer to the retailer. During the 1950's building controls were relaxed, rationing was lifted, grocery sales increased and the early trial of self-service proved successful (Fulop, 1964). New management in the multiple retailers during the 1960's began to realise the profit opportunities of economies of scale, through buying, warehousing and selling (King, 1970) and the balance of power began to swing to the multiple retailer who opened more new sites and took over

competitors.

As multiple retailers continued to become more powerful, the next watershed associated with their growth was the abolition of RPM in 1964, further increasing their power (O'Reilly, 1972). No longer were independent retailers able to compete with the multiple retailers on the price of branded goods and the trend towards a smaller number of retailers controlling a larger proportion of packaged grocery sales became more evident. In 1959 it is estimated that multiple grocery retailers accounted for 25% of grocery turnover, while by 1969 this sector, which accounted for 10% of the total number of grocery outlets, had increased its share of grocery turnover to 41% (O'Reilly, 1972). Further evidence of this increasing concentration of buying power amongst the multiple retailers during the 1960's, comes from an estimate that in 1960, 80% of the grocery market was controlled by 1621 buying points, yet by 1970, 647 buying points controlled 80% of the grocery market (Economist Intelligence Unit, 1971).

By the end of the 1960's the balance of power had swung from the branded goods manufacturer to the multiple retailer. The power of the multiple retailer continued to increase, aided by the attraction of consumers to lower prices and the greater efficiency of larger stores (Firmston-Williams, 1980). The Monopolies and Mergers Commission (1981) report a survey showing that between 1971

and 1979 the number of multiple grocers' shops fell by approximately 5,000 to 6,015 outlets, while this sector's selling area increased from 21.9 to 27.6 million square feet.

Table 2-2 shows that between 1971 and 1983 the total number of grocery outlets virtually halved to 55,233.

	<u>Number of shops</u>			<u>Share of packaged grocery sales</u>	
	<u>1971</u>	<u>1983</u>	<u>% change</u>	<u>1971 %</u>	<u>1983 %</u>
Independents	86,565	47,069	-46%	42.5	20.6
Co-ops	7,745	3,599	-54%	13.2	12.6
Multiples	<u>10,973</u>	<u>4,565</u>	<u>-58%</u>	<u>44.3</u>	<u>66.8</u>
TOTAL	105,283	55,233	-48%	100.0	100.0

Table 2-2: UK Retail Grocery Trade (Mintel, 1985/86)

During this period, the number of multiple grocery outlets fell by 58% to 4,565 and yet this sector, which accounted for 8.3% of all grocery outlets, increased its share of the packaged grocery market from 44.3% to 66.8% (Mintel, 1985/86).

By 1984 the power of the multiple sector had grown to the extent that the top 4 grocery multiples accounted for 40.7% of packaged grocery sales (Office of Fair Trading, 1985). The 1980's are an era of retailer dominance (Mazur, 1986; King, 1984) with the following quotation clearly showing the changed view of the retailer: "We now see ourselves as

the customer's manufacturing agent rather than the manufacturer's selling agent" (p305, Henley Centre for Forecasting, 1982).

2.6 THE IMPACT OF RETAILER DOMINANCE

The impact of the changed balance of power can be assessed, in particular from an evaluation of the way some brands now have greater similarities to own labels than was the case during the 1960's.

2.6.1 The increasing importance of own labels

From the 1970's onwards, retailers put more resources behind their own labels (McGoldrick,1984c) and consumer confidence in own labels increased (Mintel, 1982/83). As Hurst (1985) explained:

"...the pressure comes not so much from a low price, low quality own-brand product as from an own-brand product formulated to be the equal of the brand, packaged in a distinctive house style, given equal or superior in-store positioning, and still, despite all this, at a price advantage." (p396).

Own labels accounted for approximately 10% of packaged grocery sales in 1965 (Martell, 1986). However, as can be seen from table 2-3, by 1985 own labels and generics accounted for 28% of packaged grocery sales.

<u>1971</u> %	<u>1979</u> %	<u>1981</u> %	<u>1983</u> %	<u>1985</u> %
20.0	22.0	23.5	26.0	28.0

Table 2-3 Own labels and generics share of packaged grocery sales (Euromonitor, 1986)

2.6.2 The changed approach to advertising.

In the early 1970's, O'Reilly (1972) reported that some branded goods were subject to cuts in media support in an attempt to maintain brand contributions after giving bigger discounts to retailers. King (1970) pointed out the fallacy of regarding special discounts to retailers as marketing expenditure. Even so, as several authors noted (Intel, 1984; Risley, 1979; Wolfe, 1981) it became increasingly common during the 1970's for manufacturers to cut back on advertising their brands, while funding retailers growing advertising. A Intel (1984) analysis, presented in table 2-4, showed that advertising support by retailers rose in real terms by 116% between 1970 and 1980 while manufacturers' consumer advertising increased by only 19%. As a proportion of total advertising this analysis showed retailers' advertising grew from 10% in 1970 to 17% in 1982, while manufacturers' consumer advertising fell from 45% to 42% in the same period.

Others (eg King, 1978; Thompson-Noel, 1981) have reported a fall in brand advertising during the 1970's and an increase in grocery retail advertising. Advertising support behind the top 50 grocery brand leaders had fallen in real terms (ie allowing for media inflation) to the extent real advertising spend in 1979 was 64% lower than that in 1970, while by 1979 real advertising spend by the top 6 grocery retailers was virtually 40% higher than that of 1970 (Thompson-Noel, 1981).

	<u>Total Advertising Expenditure</u>	<u>Retailers Advertising Expenditure</u>	<u>Manufacturers' Consumer Advertising Expenditure</u>
	£ m	£ m	£ m
1970	1,022	103	461
1972	1,113	132	489
1974	1,118	166	432
1976	1,020	177	423
1978	1,254	210	510
1980	1,306	222	548
1982	1,316	211	554

Table 2-4 Advertising Expenditure
at 1975 Media Prices (Mintel, 1984)

In the 1970's grocery retailers used advertising primarily to inform people of low prices (Wolfe, 1981). Towards the end of the 1970's retailers started to promote an identity for themselves as a retail environment with a package of features (Bond, 1985; Davies et al, 1985; Granger, 1984). The increasing initiation of advertising activity by retailers rather than manufacturers is viewed by Piercy (1984) as further evidence of the transfer of marketing from manufacturer to retailer.

Thus in a climate of retailer dominance, some branded goods manufacturers cut back on advertising from the 1970's to the early 1980's, while grocery retailers increased their advertising effort. The personality of some brands has weakened in this period, while a personality for own labels

has been developed (King, 1985).

2.6.3 The changing quality of own labels and brands

Increasing concern with profitability and growing retailer concentration led some branded goods manufacturers to relax their brand quality during the 1970's. (Monopolies and Mergers Commission, 1981). Curtailing R&D investments and cost reduction exercises on product ingredients enabled some manufacturers to respond to financial pressures (O'Reilly, 1980). No quantification of the extent of this exists, but King (1980) alludes to it as being relatively common.

Retailers concern with the quality of own labels has led them to become more quality conscious, reducing the quality difference that once existed in certain product fields between brands and own labels, (Thermistocli & Associates, 1984; Simmons and Meredith, 1983; Livesey and Lennon, 1978). In the case of aluminium foil, one of the product fields evaluated in this research, the Metallurgy Department at The Hatfield Polytechnic found no difference in the thickness of Alcan Bacofoil and the International own label version. Major multiple retailers (eg Sainsbury and Tesco) now have quality control laboratories and test kitchens. Own label goods are no longer "cheap and nasty" (King, 1985).

Not all branded manufacturers have allowed their investment

in production and quality to slip. Rapoport (1985) reported that some major brand manufacturers (eg Heinz, United Biscuits) responded to the threat from own labels by investing in technological and product innovation, with a further aim of increasing cost efficiency.

2.6.4 The price differential between brands and own labels

There are instances where brands have been priced at a level unusually close to own labels deliberately to match the competitive edge of own labels (Risley, 1981). McGoldrick (1984a) believes that the price differential between brands and own labels has narrowed in the 12 years since 1970 due to frequent promotions, cost reductions and retail discounts on brands, while own labels have traded-up from their position.

2.6.5 The pressure for distribution

With the expansion programme of the multiple grocery retailers effectively ensuring a wider presence of multiples throughout Britain (eg Asda moving South from its area of strength in the North, while Sainsbury are opening new outlets in the North) and with the multiples accounting for two-thirds of packaged grocery sales, it could be argued that own labels now have as wide a geographical distribution as do branded goods. Furthermore, an increasing level of car ownership, (eg two-thirds of all

households owned a car in 1985 (Advertising Association, 1986)), has enabled more households to travel further to shop and hence has widened the availability of own label groceries.

Not only are own labels becoming as widely available as brands, there is also evidence of them having good in-store shelf positioning, at the expense of brands. In-store observations by Thermistocli & Associates (1984) showed that, on average, own labels were given double the shelf space allocation of the equivalent branded items. Trade interviews (eg Simmons and Meredith, 1983; Martell, 1986) indicated the preference amongst multiple retailers for stocking no more than a brand leader, the second brand, and an own label.

2.7 CONCLUSIONS

This chapter has presented a review of the evolving tiers in grocery retailing. The shift in the balance of power from the manufacturer in the 1960's to the retailer has been reviewed and the impact of this on the marketing of brands, own labels and generics considered.

Following the abolition of RPM in 1964, discounting on brands started to cheapen their price platform and with the growing concentration of grocery retail buying power the pressure faced by brands increased. Some brand manufacturers cut advertising support for brands in favour

of trade discounts, while retailers used some of this extra revenue to promote their stores. The quality difference between brands and own labels has narrowed and own label groceries are now as widely available as branded groceries. Thus in the 1960's because of the differing use of the marketing mix for brands and own labels, consumers would have been likely to recognise these 2 competitive tiers as being very distinct. By the 1980's, because the marketing mix of brands and own labels has more in common, consumers might perceive brands and own labels as being similar.

With generics positioned by retailers as a further competitive tier of a lower quality and a lower price than own labels, consumers might perceive them as a distinct third tier in retailing. Due to the association of each retailer's generics with a specific chain and the way that there is paradoxically some branding of generics, an alternative view is that consumers might regard generics as not being a distinctive third tier, but rather an adjunct to the retailers own label.

Thus evidence has been presented in this chapter which questions the validity of conceptualising markets in terms of brands, own labels and generics. The next chapter develops this argument further by considering the process by which consumers categorise competing items.

CHAPTER 3

CONSUMERS' PERCEPTIONS OF MARKET STRUCTURE AND THE ASSOCIATED ROLE OF INFORMATION SEARCH AND PROCESSING

3.1 INTRODUCTION

This chapter is concerned with understanding consumers' perceptions of the competitive structure of grocery markets and the reasons for there being a difference in perception between marketers and consumers.

The first section reviews the limited research that has been undertaken in the UK to assess consumers' perceptions and considers evidence from America of a difference in perception between consumers and marketers. Perception is considered as an explanation for the difference between marketers' and consumers' grouping of competing items. The way that consumers selectively consider information and the process by which competing items are categorised is reviewed.

To categorise items, consumers need to access information from memory or the external environment and a cognitive information processing model of the consumer is adopted which explains information search under different situations. Low involvement learning is considered as a means by which consumers receive information. An explanation is presented for both the limited extent of external information search and consumers' desire to

process the minimum of information. The importance of information being aggregated into chunks is identified as a means by which consumers can more effectively evaluate and group competing items.

3.2 CONSUMERS' PERCEPTIONS OF MARKET STRUCTURE

The previous chapter reviewed the changed marketing approach behind the 3 competitive tiers primarily from a marketer's perspective. This section reviews the limited literature on consumers' perceptions of the characteristics and composition of the competitive tiers in the UK. As more research has been published about American consumers' reactions to the competitive tiers, insight from the trans-Atlantic studies will be presented. Generics were launched in both the UK and the USA in 1977, but while in the UK distribution was limited to a few major retailers, in the USA they were stocked by approximately 80% of American supermarkets (Hawes and McEnally, 1983). It is recognised that differences between the retailing environments in the UK and the USA have affected the marketing of these 3 tiers (eg pricing legislation and a less dominant national multiple retailer presence) and while these differences impede any inferences that could be made about the UK, a further perspective is available.

Mintel (1976) presented a review in the early 1970's showing an increasingly favourable disposition of UK housewives towards own labels. Evidence of consumers

becoming aware of the changing nature of own labels and brands was shown in a later Mintel (1982/83) publication citing regular research undertaken by Taylor Nelson and Associates. In 1975, 13% of interviewees "strongly agree(d) that a store's own label is as good as a nationally advertised brand", while by 1981 this had risen to 20%.

The only published trend studies in the UK indicate that during the 1970's and early 1980's an increasing proportion of consumers perceived branded and own label groceries as becoming similar. The advent of generics raises the question, though, of how consumers perceive the competitive structure of grocery markets. McGoldrick (1984a) hypothesised that on a price-quality perceptual map, the perceptual distance between brands and own labels would have shrunk between 1970 and 1982, while generics in 1982 would have filled the gap originally held by own labels in 1970. If consumers only use these 2 dimensions to categorise competing items, this suggests consumers would perceive a 2 tier market, with brands-own labels as one tier and generics as a second tier. Besides the actual changes over time in brands and own labels reviewed in section 2.6, research in the USA based upon adaptation level theory also offers support for this proposition. Survey research by Wheatley (1980), which was further replicated by Wheatley et al (1981), showed that respondents' perceptions of branded and own label groceries changed when they were faced with the addition of generics.

Adaptation level theory states that the effect of a new stimulus initiates cognitive changes which adapt a person to the prevailing conditions. The new stimulus (generics) was assessed by being compared to neutral points on several attributes. Subsequently, the neutral anchor points would have been shifted towards the direction of the generics, resulting in an enhanced evaluation of brands and own labels. Their experimental results showed that quality perceptions of both brands and own labels increased after the introduction of generics and that fewer respondents thought own labels to be low priced groceries. The findings from these studies need to be treated with some caution since the results are specific to 6 product fields, no account was taken of whether respondents buy any of the 6 groceries, and own labels and generics were specific to only one store. The replication of results though, indicate that the introduction of generics had favourably altered respondents' judgements about brands and own labels. The hypothesis of brands and own labels being seen as a distinct tier from generics is feasible, provided the changes in perceived quality and perceived price by brands does not exceed these changes in own labels.

Another perspective on how UK consumers perceive market structure is provided by Market Behaviour Ltd (1985). Based upon 4 group discussions and 4 accompanied shopping trips they believe consumers do not rigidly categorise competitive versions as brands or own labels. Instead, consumers perceive own labels as being brands along an

evolutionary spectrum defined by the well established, fully developed brands at one end and the lesser developed generics at the opposite end. They indicate that some retailers' own labels have been sufficiently developed for them to be in the same area of this spectrum as fully-developed brands. While this can be regarded as being little more than a postulate because of the qualitative analysis and the sample being restricted to women aged 25-45, for certain retailers' own labels it does suggest a similar perceptual picture to that of McGoldrick (1984a).

Research with American consumers shows a different perception of market structure to that suggested in the UK. Bellizzi, et al (1981) showed 125 respondents 3 colour photographs of the 3 competitive tiers of food and non-food items and measured perceptions from a series of 33 Likert scales. By summing the scores (all adjusted for consistency of direction) for each competitive tier (brands, own labels, generics) and then comparing means for these 3 tiers they concluded that as the 3 means were significantly different consumers perceived 3 different tiers. This result is questionable since the authors do not state how the attributes were chosen and no allowance was made for the weighting introduced by several attributes measuring the same dimension.

Hawes and McEnally (1983) asked 455 Arkansas families about their purchase intentions for a series of 11 grocery products, each product being represented by a brand, own

label and a generic example. Principal component analysis of the purchase intention data for the 455 respondents resulted in the own labels and generics loading far more heavily on component 1 than the brands, while component 2 was characterised by the heavy loading of brands. The way respondents grouped these 33 items led these researchers to conclude that consumers categorised competitive items at a 2 tier level: brands versus own labels and generics. This study suffers from having own labels from only one retailer and respondents were not told which store the generics were from. In the light though of the way some American retailers have branded their generics, eg Safeway's Scotch Buy lines (Harris and Strang, 1985), this two tier perception suggested by Hawes and McEnally has some credibility. Two years after the advent of generics in the USA, Burck (1979) noted how this tier was not being positioned as commodity items, but by retailers clearly identifying themselves on packs "Generics are not so much anti-brand as a new kind of brand" (p72).

Perceived differences/similarities between brands, own labels and generics on a few specific dimensions have been reported amongst American consumers (eg Strang, et al, 1979; Murphy and Laczniak, 1979; Rosen and Sheffet, 1983; Rosen, 1984; Neidell, et al, 1985). Wilkes and Valencia (1985) considered a wider range of attributes and assessed respondents' perceptions of market structure as a secondary objective to providing data about the generic purchaser. They measured respondents' perceptions of generics on 9

attributes and by then comparing these results against the brand and own label results on the same 9 attributes found by Bellizzi et al (1981), they concluded "Generic goods are seen as more like private than national brands" (p118). This conclusion is of little value since no consideration was taken either of the impact of marketing activity between 1981 and 1985 or of the considerable differences in sample profiles, (the Wilkes and Valencia study deliberately containing a high proportion of ethnic minorities). The choice of attributes influences the grouping of items, yet these authors provide no justification for their list of attributes.

What little research has been published is product specific and is subject to methodological flaws, but there are indications that the conventional marketer's view of there being a 3 tier market (eg Hawes, 1982) is not similarly recognised by consumers. Other instances exist in the literature where marketers' perceptions of the market place do not reflect those of consumers. McClure and Ryans (1968) document a study showing how electrical appliance retailers perceived the importance of attributes in a different manner to consumers and also how retailers' and consumers' images of competitive brands differed. In the man-made fibre market Saunders and Watt (1979) showed that consumers used different criteria to evaluate brands than did marketers/buyers and that consumers perceived market structure differently to that of the marketers/buyers.

Thus, there is evidence of consumers categorising competing items in a different manner to marketers. An explanation for this difference can be found by considering the topic of perception.

3.3 THE CONCEPT OF PERCEPTION

To understand why there may be a different categorisation of competing items between consumers and marketers the relevant literature on perception will be considered. Not only can perception help explain consumers' cognitive grouping of items, but it is also regarded as a mediating variable influencing the decision choice between brands (eg Engel et al, 1986; Howard and Sheth, 1969).

When faced with competing brands, information both from clues surrounding the brands and from memory is cognitively organised by the consumer, interpreted and a meaning derived (Monroe, 1977). Forgas (1966), viewing perception as a process to help the individual adapt to environmental demands, defined perception as "the process of information extraction" (p1). This definition is far too specific, particularly since it places emphasis solely upon the process of acquiring information without considering the way that information is used to better understand the product or situation. A more comprehensive statement about the meaning of perception, that of Bruner (1957), is preferred, ie "the construction of a set of organized categories in terms of which stimulus inputs may be sorted,

given identity, and given more elaborated, connotative meaning" (p148). This exposition, albeit omitting selectivity and stressing categorisation, is a much fuller description of perception. If the consumer groups an item (eg Tesco own label disinfectant) into a category they had previously identified (eg own label disinfectants), then this new group member will achieve its meaning from the class that it has joined. If the consumer has little experience of the newly categorised item, through the identity acquired by being grouped as "an own label" the consumer is then able to use this perceptual process to predict certain characteristics of the new item (eg own labels are inexpensive, thus this new own label should be inexpensive).

But perception is a learning process (Bruner, 1958; Assael, 1984). Neisser (1976) proposes a cyclical model of the perceptual process that is built around the idea of a person's schema directing the search for information. Experience modifies the schema which in turn redirects information search. Thus when the consumer is faced with examples from competing tiers, cues associated with each item will be sought to categorise the items, but following product usage, the evaluation of these cues may change with a consequential regrouping of the competing items. Allison and Uhl (1964) found in a blind beer product test that respondents were unable to identify the brand of beer they drank most often and they expressed no significant difference between the different brands. When the test

was repeated 1 week later with labelled beers, respondents consistently rated their regularly drunk brand as better than the other brands. In the blind test respondents would have sought information from each product's characteristics, given an identity to the different brands and categorised them as members of the same category. With the label evident other attributes of the brands such as advertising would be recalled and through reliance upon earlier learning, respondents would have reassessed the categorisation of brands. More confidence could be placed upon these research findings if greater control had been exercised over the extraneous variables (eg temperature of the beers, order in which respondents tasted products and time span between trying samples).

A category is a rule for identifying the attributes necessary for an item to belong to a particular class of items (Zajonc, 1968). The simplest example of a category is a group of items that have just one common attribute, but it is thought that most categories are characterised by several common attributes. Reed (1972) found, from experiments based upon respondents classifying types of faces into 2 groups, that subjects formed a mental prototype to represent each category and then classified new faces according to their similarity with either of the 2 category prototypes. Respondents categorised faces by using several attributes, rather than just one, and the most frequently used strategy to categorise each face was that of weighting the importance of the information

displayed. The idea of weighting informational cues according to their informational value has been reported by others (eg Cox, 1967a) and is developed in more detail in section 4.2. While these findings suffer from being both specific to faces, and being based upon undergraduate psychology students, it shows evidence of respondents forming groups from several attributes rather than just one.

The way people organise individual items is not random, but follows the principles first described by the Gestalt psychologist Wertheimer (1923). Some of these principles are considered and the reader interested in a more complete review should refer to Wertheimer (1923) or Rock (1975). The more similar the items are to each other, the more likely they are to be grouped together. Section 4.2 considers in more detail some of the dimensions consumers might use to evaluate similarity (eg presence or absence of brand name, price perception, advertising perception). The closer items are to each other, the more likely that they are to be grouped together (ie proximity). An implication of proximity is that during any survey research to assess how respondents group numerous examples of brands, own labels and generics, the displayed items should be non-systematically positioned in a line with the separation between each item constant to minimise any categorisation bias introduced by the researcher. Closure describes the tendency people have to form a complete mental picture by filling in any missing elements when the

stimulus is incomplete. If a consumer groups 3 competing examples in the same product field as a category "brands" and if only 2 of the 3 examples have a price printed on their packs, then to complete the pattern a price will be inferred. A further factor influencing grouping is symmetry - the greater the symmetry induced by some of the packs, the more likely they are to be grouped.

People group a large number of related items into a few categories since this reduces the complexity of interpreting different situations (Berkowitz, 1980; Forgas, 1966). If a consumer had developed a category "brands" and on a shopping visit her regularly purchased brand of a particular grocery product was out of stock then one purchase strategy available which would involve minimal cognitive activity would be to purchase one of the available brands, since by association from its category, the available brand should have similar characteristics to the non-available brand. To be of value, though, categories should exhibit stability. Narayana (1977) provides some support for this by showing that over a 10 week period housewives' perceptions of competing brands in a soft drinks market remained constant. This study would have been of more value if it had included own label examples, if it considered other grocery products and had more than 32 housewives.

Besides categorisation another aspect of perception is that of selectivity. Britt et al (1972) found from considering

TV, radio and press advertisements, that depending upon the type of individual, he or she would be exposed to between 110 to 480 advertisements in a day. To prevent the substantial cognitive effort needed to process each message, people are selective in their search for information (Foxall, 1980a). A packaged grocery manufacturer might invest considerable effort promoting the benefits of his brand, yet because of perceptual defense only a small amount of the information might be accepted and processed by the consumer. It is thought (Assael, 1984) that for low cost, frequently bought items (ie packaged groceries), consumers are particularly prone to selectively screening out much information in an attempt to minimise cognitive activity.

Not only does perceptual defense protect the consumer against too much information, but it also helps maintain their prior beliefs and attitudes. Information which does not concur with the consumers' beliefs is distorted and supportive information is more readily accepted (Chisnall, 1985). Evidence of perceptual distortion was reported by Hastorf and Cantril (1954), who recorded different descriptions from opposing team supporters who all saw the same football match. This supports the view of selectivity as a positive process (Neisser, 1976; Krugman, 1977) ie individuals actively decide upon information that they will be attentive to or that they will reject. The supporters selected those occurrences that had significance relative to their frame of reference.

When consumers hold strong beliefs about packaged grocery brands or have considerable experience of those brands, if then faced with potentially dissonant information, there is an increased likelihood of their perceptual defenses being raised. Where a person has a strong motivation for obtaining a particular item, then perceptual vigilance will tune their sensory receptors to become more attentive to information concerning the item under interest (Schiffman and Kanuk, 1987). Evidence of the impact of motivational state upon perception has been documented by Bruner and Goodman (1947). The impact of personal characteristics upon perception of market structure will be considered in more detail in section 4.3 to 4.6 inclusive.

As a consequence of perceptual selectivity, consumers are unlikely to be attentive to all of the information that brand manufacturers or retailers have attempted to communicate about their products. Through consumers distorting some of the received information and being more receptive to other pieces of information, they might then categorise competing examples of brands, own labels and generics in a different manner to marketers. Furthermore, some of the information about the degree of dissimilarity between 2 competing examples may be below the differential threshold of the consumer (Britt, 1975) and as this dissimilarity had not registered, the consumer would group these 2 competing examples. For example, the difference in pack designs between own label and generic disinfectants may be noticeable by marketers, who would then separate

these 2 categories on this dimension, but if the contrast was below the threshold level for consumers, they would be more likely to group the own labels with generics.

This section has drawn upon perception literature to show how consumers might group competing tiers within a product field differently from marketers. As part of the process of formulating a perception, individuals undergo some form of information search (Monroe, 1977). The information search process will be considered in more detail in the next section.

3.4 CONSUMERS' INFORMATION SEARCH

Cognitive information processing models of consumer behaviour (eg Engel et al, 1986; Bettman, 1979; Howard and Sheth, 1969) are based upon consumers seeking information from memory or the external environment and processing it to arrive at a purchase decision. Evidence of information search and factors influencing depth of search are presented by Bettman (1978) and Newman (1977).

This thesis is based upon a cognitive information processing model reflecting the popularity of this type of model (Ring et al, 1980). The economist's view of the consumer is rejected since consumers do not acquire perfect information (eg Katona and Mueller, 1955; Kiel and Layton, 1981). Instead, consumers develop a rational decision based upon limited cognitive capabilities (Deshpande and

Hoyer, 1983; Nakanishi, 1974) to acquire, store and process limited brand information. Surrogate variables are used to overcome the problem of imperfect information, eg high price as an indicator of better quality (Wheatley and Chiu, 1977), and information is processed until it becomes consistent with consumers' prior experience of a brand (Sheth, 1979).

In the Engel et al (1986) model 3 major factors influencing information search are involvement, the degree of differentiation between alternatives and time pressure. The consumer behaviour literature shows no consistency in the interpretation of involvement (eg Zaichkowsky, 1985; Greenwald and Leavitt, 1984; Mitchell, 1979) and Engel et al (1986) interpret it as "the level of perceived personal importance and/or interest evoked by a stimulus (or stimuli) within a specific situation" (p24). Their model predicts that when involvement is high, when the alternatives in a product field are clearly differentiated and when there is no time pressure, extensive information search will occur ("extended problem solving"). In this situation consumers actively seek information about competing brands which they then evaluate prior to making a purchase decision. In "limited problem solving" involvement is relatively low, the alternatives in the product field are not widely differentiated and time is short. Engel and Blackwell (1982) explain how external information search is minimal in the limited problem solving situation. External information is passively

acquired and unlike the extended problem solving situation a purchase is made prior to competing brands being evaluated. Finally for regularly bought items, the consumer's behaviour conforms to "routine problem solving" where routinised repurchase strategies are established and memory is primarily searched. By knowing which stage a person is in when faced with competing examples of a product field, a prediction can be made from this model about the level of information search and following from this a prediction can be advanced about the way the person is likely to group competing items.

While this model enables predictions to be made about information search activity, it suffers from relying on a concept (involvement) that lacks standardisation of interpretation and hence restricts any attempt to relate its predictions to other research on "involvement". Following Krugman's work on passive learning (Krugman, 1965, 1966, 1977) there has been increased interest in understanding the influence of involvement on consumer behaviour (eg Robertson, 1976; Lastovicka, 1979; Lastovicka and Gardner, 1979; Traylor, 1981). Products with which people feel a high degree of involvement are thought to be bought after an active information search process, while products with which people feel low involvement are believed to be bought with minimal information search. Lastovicka (1979), defining involvement as a function of normative importance and commitment, showed that consumers' information search

increased as product involvement increased. These results, though, are specific to his definition of involvement, are specific to the 7 product buying situations considered and suffer from the bias introduced by the self-reported measure of shopping behaviour (eg Newman and Lockeman, 1975). Furthermore, while normative importance and commitment together explained the highest proportion of the variance in a regression model trying to explain the extent of information search, these variables only accounted for 33% of the variance.

Regularly purchased packaged groceries engender low consumer involvement and hence when faced with competing items in a grocery product field consumers would undertake minimal information search to decide how to categorise the competing items. But as there is no need to protect low commitment beliefs, the selective processes are relatively inoperative (Robertson, 1976) and hence the superficial examination of pack details will be processed and used to decide how to group these items. Some (eg Kassarian and Kassarian, 1979) argue that cognitive information processing models are best suited to high involvement products and that the learning theory concepts of behaviourism be applied to low involvement products. Interest is growing in the application of behavioural modification in marketing (eg Foxall, 1983; Rothschild and Gaidis, 1981), but in the light of the considerable literature on consumer information processing models, this thesis is based upon an information processing model.

3.5 THE EXTENT OF CONSUMERS' INFORMATION SEARCH

Information search usually commences with an examination of memory (Engel et al, 1986) and some of the factors Bettman (1978) identified as influencing the extent of internal search are:

- (i) The amount of stored information
- (ii) The suitability of stored information. Bennett and Mandell (1969) found that there was no relationship between the number of cars people had bought and the amount of information search, but repeatedly buying the same brand of car reduced external search and by inference increased reliance upon memory. This study would have been more informative if buyers had been classified by interpurchase periods which is thought to affect internal search (Bettman, 1978).

As grocery products are frequently bought, with a short interpurchase time lapse, it is likely that consumers will hold some information in memory which would be used to categorise competing tiers.

Guided by memory search, which may have shown the consumer what is not known, external search is undertaken. External search is a relatively limited activity, albeit there are variations in search activity between different groups of consumers (Newman, 1977) and this is considered in chapter 4. The Katona and Mueller (1955) seminal study of pre-purchase information search was the first to show in

detail the restricted depth of search undertaken by consumers. Recent purchasers of sports shirts and major household goods (eg TVs, refrigerators, washing machines) were asked about their pre-purchase information search activity. A third of the appliance buyers claimed to seek virtually no pre-purchase information and only 5% showed evidence of a very active information search process. Just under half (47%) of appliance purchasers visited only one store and only 35% considered another attribute in addition to brand name and price. They found a considerably reduced level of information search associated with the purchase of sports shirts. Katona and Mueller concluded:

"Any notion that careful planning and choosing, through consideration of alternatives, and information seeking accompanied every major purchase was contradicted by the data for each of the four durables. Rather, it appeared that there were great differences among buyers and that many purchases were made in a state of ignorance, or at least indifference". (p53)

Thus some respondents undertook extensive information search, while others sought less information. As these researchers pointed out, the apparent lack of deliberation does not point to irrational decision behaviour. Some purchasers may have found it difficult to evaluate all the features of a product and instead, relied on a limited number of predictive variables with which they were more confident (eg Cox, 1967a). Furthermore, because of consumers' limited cognitive capabilities, they attempted to overcome the bottleneck of limited information capacity by considering aggregated information (ie chunks) rather than disaggregated information (ie bits) and hence, for example, restricted information search to brand name (eg

Jacoby et al, 1977).

Arndt's (1972) study of the information search by newly married couples trying to find accommodation showed evidence of limited external search with 46% of the sample searching for less than a month and 82% examining only one home. These findings, though, suffer from the influence of situational factors (eg lack of accommodation, urgency of need).

Newman and Staelin's findings on information search behaviour (Newman and Staelin, 1971, 1972, 1973) reinforce evidence of the apparent limited external search. Amongst purchasers of new cars and major household appliances they found that 44% of purchasers used no more than one information source, 49% experienced a short deliberation time (less than two weeks) and 49% visited only one retail outlet. While on each of these dimensions the distribution of purchasers was generally biased towards the limited search domain, a minority did undergo considerable search. Clearly, information search has been undertaken and more detailed analysis showed that prior purchasing led to learning, which buyers used to limit their search activity (cf Howard and Sheth, 1969). They felt that their results suggested substantial selectivity of search (cf Bruner, 1958) and that buyers are not necessarily ill-informed, but may have already accumulated sufficient information.

Other evidence of limited external search for furniture, financial services, electrical appliances, cars and fashion clothing has been reported by Claxton et al (1974), Olshavsky and Granbois (1979), Capon and Burke (1980), Kiel and Layton (1981) and Midgley (1983). Similarly, for packaged grocery items a spread of information search activity was recorded between different consumer types (as will be considered in chapter 4), but again the level of external search was generally low. Some of the studies reporting limited search activity for packaged groceries are those of Schaninger and Sciglimpaglia (1981), Park and Winter (1979), Kendall and Fenwick (1979), Jacoby et al, (1977, 1978) and Bucklin (1969).

Several reasons exist for this apparently limited external search. Consumers have limited cognitive capacities (Miller, 1956) which are protected from information overload by perceptual selectivity (Bruner, 1958). This then focuses consumers' attention on those attributes considered important. Evidence of this is provided by Krugman (1975) who showed that because of perceptual selectivity only 35% of magazine readers noticed a brand being advertised. Further support for consumers having limited cognitive capacities has been shown by Jacoby et al (1974a, 1974b) investigating different packaged groceries. Beyond a particular level of package information, respondents made poorer brand selection decisions when presented with increasing quantities of information.

Another reason for reduced external information search, advanced by Claxton et al (1974), is that information is continually being directed at the consumer and when subsequently faced with a purchase decision, memory becomes a prime information source.

Those studies which relied upon questioning purchasers about their prior search behaviour, (eg Katona and Mueller, 1955) are subject to respondents' memory limitations and this could be understating the search activity. Possible evidence of the under reporting of information search has been presented by Newman and Lockeman (1975).

Newman and Staelin (1972) observed that studies on information search ignore how a skilled purchaser may gain sufficient relevant information from only one source (eg reliance placed upon the presence of a brand name). Many studies are also based on counts of the information sources consulted by respondents without considering the quality of information search (Newman, 1977). A variety of information search measures have been used by researchers which also hinders the comparability of findings across different studies.

3.6 INFORMATION PROCESSING

Having undertaken information search, cognitive activity is required to process the newly received information. Since there are finite limits to consumers' cognitive capacities,

not only are these protected by consumers only selecting a proportion of the information available, but according to the Principle of Information Processing Parsimony (Haines, 1974), "consumers seek to process as little data as is necessary in order to make rational decisions" (p96). Thus while there is an apparent restricted search for information by consumers in decision making, this principle indicates that the consumer is striving for efficiency by processing a minimum of information.

To process the minimum of information the consumer must develop a strategy to cope with the extensive information available. Miller (1956) was one of the first people to show how consumers can overcome their limited cognitive capacities. He refers to the term "bit" as a measure of information such that one bit of information "is the amount of information we need to make a decision between two equally likely alternatives" (p83). Of interest to this research, Miller (1956) shows that there is a limit of about seven items to short term memory. To overcome the problem of limited capacity he stresses the idea of the mind recoding bits of information into larger groups ("chunks"), which contain more information. By continuing to increase the size of these chunks, the consumer can process information more effectively. Both Simon (1974) and Buschke (1976) present evidence of this recoding process extending the capability of the mind to recall information. Simon (1974) is critical of Miller for being vague about the term chunk and explains that "a chunk of

any kind of stimulus material is the quantity that short term memory will hold five of" (p183).

The concept of chunking would help explain why consumers base purchase decisions on only a few attributes. The presence of a brand name has been shown in chapter 2 to represent several attributes (eg high quality, consistency, guarantees, advertising support, etc). Instead of the consumer seeking out each of these attributes which require processing, they can become more efficient by solely developing a strategy of looking for presence or absence of a brand name. Jacoby et al (1977) showed the importance of the brand as a chunk through the brand name being the most frequently selected piece of information and by respondents acquiring less information to make a purchase decision when a brand name was available and used. They also found that when respondents were presented with a large array of information they selected only a subset of this information, using between three to seven information dimensions, as predicted by Miller (1956). The importance of brand name as an information cue will be considered in more detail in chapter 4. A weakness of the Jacoby et al (1977) study is that it was administered to undergraduate psychology students rather than to housewives. A replication of this study amongst housewives would increase confidence in these results, particularly since Jacoby et al (1974b) found housewives could cope with higher levels of information than students when faced with a purchase decision.

3.7 CONCLUSIONS

Consumers in the UK have become aware of the changing nature of branded and own label groceries and there are indications of an increasing belief in the similarity of own labels and brands. With these changes and the advent of generics there is a need for a detailed evaluation of consumers' perceptions of the structure of the competitive tiers in several packaged grocery markets. This is particularly so since no thorough evaluation exists in the UK.

More research has been published about American consumers' perceptions of brands, own labels and generics. This chapter has shown methodological flaws in some of these studies but there are indications that Americans perceive the structure of grocery markets as 2 tiers: brands versus own labels and generics. Possibly related to differences in marketing environments, this is contrary to predictions about the UK (brands and own labels versus generics) and to the conventional marketer's perspective (brands versus own labels versus generics).

By considering the concept of perception, the difference between marketers' and consumers' grouping of the competitive tiers can be explained. Perception is the process where information about the competing items is selectively received, interpreted and the items then categorised into the appropriate groups. By gaining

experience of the competing items in a product field consumers learn about their characteristics and are better able to categorise these items. When grouping items with which people have little experience, they consider several attributes from each competing item and weight these informational clues in terms of their predictive importance for group membership.

A substantial number of advertisements are directed at consumers each day and to protect their finite cognitive capabilities they are selective about the information they receive and process. To maintain cognitive equilibrium, consumers distort information that does not conform to their prior beliefs and are more attentive to supportive information.

Basing this thesis upon a cognitive information processing model of the consumer, to form a categorisation of the competing items, the consumer would undertake an information search from memory and the external environment. The Engel et al (1986) model provides an explanation of the likely extent of information search, showing that for extended problem solving an active information search process is undertaken, while for limited problem solving and routine problem solving, consumers engage in a more passive information search process.

The extent of external information search varies between different consumers but is generally believed to be low for

packaged grocery products, due in part to consumers' limited cognitive capabilities. Other reasons for limited external search are that consumers may have sufficient information in memory, they may be efficient information searchers and confident making decisions on a few informational cues. Consumers strive to process the minimum of information and by grouping smaller units of information (bits) together into fewer but larger units (chunks), they are more able to evaluate competing items prior to categorisation.

Information search and processing is postulated to have an impact upon consumers' perceptions of market structure. With only a small amount of the information surrounding the competitive offerings being used and with consumers making inferences about certain attributes from chunks of information, consumers' grouping of competing items is postulated to differ from that of marketers. To fully comprehend consumers' perceptions of market structure it is necessary to consider some of the factors that affect the extent of information search and the importance consumers place on specific attributes in their search process. These issues will be addressed in chapter 4.

CHAPTER 4

THE INFLUENCE OF EXTERNAL AND INTERNAL VARIABLES ON INFORMATION SEARCH AND PROCESSING

4.1 INTRODUCTION

The concept of perception was shown in chapter 3 to provide a basis for understanding why consumers and marketers might group competing items in a different manner. People selectively seek information about competing items, from which they draw inferences and then use the processed information to categorise items. This chapter focuses upon the way that people use information to group items and considers those factors that affect the extent of information search and hence the resulting categorisation.

The extent of information search and the inferences consumers draw when forming a perception can be considered in the broadest sense to be influenced by external and internal variables. The external variables relate to marketing activity (both the type and quantity of information presented) and the situation. The internal variables are those unique to consumers, eg perceived risk, previous experience, product importance and demographic details. This distinction between external and internal variables has been made to clarify the analysis, but it should be realised that this distinction is arbitrarily made since for example, marketers can influence both external variables (eg the actual level of advertising activity) and internal variables (eg consumers' perception

of advertising activity). To prevent the problem of respondent fatigue in survey research, situational factors were not included in this research and only selected aspects of the influencing variables were considered (eg the only demographic characteristics included were sex, age and level of education).

The chapter begins by describing a model of the product as an array of informational cues from which consumers make inferences about the competing items and decide upon the extent of information search. Building on this model the reliance and inferences consumers draw from marketer activity is considered. The remainder of the chapter considers the influence of internal variables on information search and hence perception of market structure.

4.2 THE CONCEPT OF THE PRODUCT AS AN ARRAY OF CUES

Cox (1967a) first proposed the idea of consumers interpreting products as arrays of cues (eg price, brand name, packaging, colour, etc) which help their buying decisions. Hansen (1972) and Olson (1972) cite instances of consumers evaluating products on the basis of surrogate cues (eg the freshness of bread based on the nature of the packaging material) since consumers find this an easier way of evaluating products. Cox (1967a) believes that consumers assign information values to the available cues, using those cues highest in information value. A cue's

information value is a function of its predictive value (the accuracy with which it predicts the attribute under consideration) and its confidence value (the consumer's confidence in the predictive value they have ascribed to the cue). His research showed that consumers based their decisions on only a few of the available cues and that the predictive value of a cue has a dominant effect on cue utilisation with a moderating effect from the confidence value of the cue. Olson (1972) provided some support for this model, albeit suffering from being based solely upon psychology undergraduates. This perspective of a product offers a conceptual framework for understanding consumers' limited information search by indicating that if a few cues offer high predictive and high confidence values (eg brand name) these will be selected. Where none of the cues have high predictive and high confidence values more cues would need to be consulted. Learning, through product usage, would enable the consumer to internally adjust their predictive and confidence values, which would stabilise over time. The appeal of this model is its explanation of search behaviour which still presents the purchaser as a rational decision maker. However, it does appear to assume an involved consumer making predictive and confidence value judgements for each item. In view of consumers' limited cognitive capacities (section 3.5 and 3.6) it is thought more likely that generalisations will be made about cues across products.

Building upon this model, Olson (1972) added a third

dimension. He postulated that consumers' cue utilisation depends upon whether the cues emanate from the physical product (eg colour, smell, texture), ie intrinsic cues, or whether they derive from related attributes which are not a part of the physical product (eg price, brand name, label), ie extrinsic cues. Both Valenzi and Andrews (1971) and Szybillo and Jacoby (1974) showed that for butter/margarine and tights, respondents placed greater emphasis on evaluating products using intrinsic rather than extrinsic cues. It is encouraging to see that these results are not product specific, but they are limited by being based upon psychology undergraduates, a weakness identified by Enis and Stafford (1969) who found that undergraduates differed from housewives in their perception of quality. Park and Winter (1979), using students and housewives, found that respondents placed more reliance on product sample cues (when evaluating cotton fabrics) than extrinsic cues. While not analysing the 2 samples separately this study supports the idea of the importance of intrinsic cues.

In-store, consumers are rarely able to sample intrinsic cues and it is postulated that because of memory limitations respondents would be reliant upon extrinsic cues to supplement memory recall of intrinsic cues. Thus when categorising competing items from the same product field, memory search will be followed by an examination of a few cues regarded as having high predictive and high confidence value. This selective information will be processed and the items subsequently grouped. Chapter 2

identified marketers using branding, advertising and pricing to differentiate competing items. The rest of this section considers consumers use of these cues to group competing items, enabling predictions of perceived market structure to be made in sections 5.4 and 5.5.

4.2.1 The brand name as an informational cue

When evaluating products without being able to sample them, presence or absence of brand name serves consumers as the main informational cue and is therefore believed to be of prime importance when people categorise products. As this is an important consideration of this research, from which predictions will be made in chapter 5 about respondents' grouping of items, this section reviews people's preferences for seeking brand names as cues and the inferences they draw.

Jacoby et al (1977) showed that when respondents could choose any information from a board displaying packaging information about toothpastes to help decide which of a variety of toothpastes to select, brand name was the most frequently acquired cue. Those respondents choosing brand names as cues sought less information when selecting a toothpaste and were more satisfied than others. It would appear reasonable, as the authors suggest, that the importance of brand name is evidence for chunking. However as these researchers neither measured nor analysed the results by familiarity, the evidence is not conclusive

about chunking.

Kendall and Fenwick (1979) found by standing in 2 aisles in a grocery supermarket that 25% of shoppers selected items without any decision delay ("grabbers"), while the remainder spent some time examining packs before choosing ("lookers"). In store, when then showing respondents pack designs for a new bacon substitute, "grabbers" stated that the brand name was the most important information on the new pack, while "lookers" thought nutrition information was most important. This study tentatively suggests that for certain consumers brand name is an important cue. But respondents may be grabbers since they are very familiar with particular brands (routine problem solving) and it is questionable whether respondents classified as grabbers for a few groceries would exhibit the same behaviour when purchasing a new bacon substitute.

Park and Winter (1979) showed that when respondents had to make a decision about product quality and no intrinsic cues were available, brand name was the most frequently selected extrinsic cue. Jacoby et al (1971) found that respondents placed more reliance upon brand name than price information when evaluating quality.

Thus, from these studies there is evidence of the importance of a brand name. Further confirmation of this is found in section 4.2.2 which considers the image evoked through there being a brand name. The presence of a brand name allows consumers to draw inferences about products (eg

Allison and Uhl, 1964). It is also used as an indicator of product quality (Rigaux-Bricmont, 1981; Render and O'Connor, 1976; Gardner, 1971). Research from perceived risk (eg Zikmund, 1973) showed that consumers use brand names as relevant cues in their perception of the risk associated with products. By accepting that one of the components of perceived risk is uncertainty, it could be inferred that consumers place a high confidence value (in Cox's (1967a) sense) on brand name as an indicator of quality. Of relevance to this research Zikmund (1973) found that retailers' own labels were not consistently perceived as riskier than the equivalent branded items, due in part to the retailers' own label being "in itself a prominent brand name" (p223). Therefore, if consumers solely categorised items using perceived risk, this would imply brands and own labels being grouped together.

4.2.2 Brand/Store image as an informational cue

The association of an image with a brand or a retailer is another cue used by consumers when evaluating products. Sheth and Venkatesan (1968) postulated that one way consumers could reduce uncertainty is through reliance on brand image, which may create brand loyalty. Investigation of repeated selection of brands of hair spray confirmed the value of brand image as a risk reducer. The weekly meetings of a panel of students to answer questions about reasons for selecting each brand and information sources consulted, may have heightened their awareness of any

marketing of hairsprays over the 5 weeks' period of the research and they may have answered in a manner to suggest the rationality of their decision. Roselius (1971) tested 11 risk relievers used by consumers across 4 types of loss (time, hazard, ego and money). The strategy of buying a major, well known brand and relying on its reputation, ie "major brand image", consistently emerged across all 4 kinds of loss as the second most preferred risk reducer after "brand loyalty".

Store image appears to have less reliance placed upon it than does brand image. Roselius (1971) found that respondents evaluated store image as a less useful risk reducer than major brand image. Across time loss, ego loss and money loss it emerged as the third most preferred risk reducer, but for hazard loss it fell to fifth most preferred risk reducer. Confirming these findings, Taylor (1979) showed that while reliance on store reputation did act as a risk reliever, its importance was secondary to brand reputation.

Evidence exists of purchasers inferring quality perceptions of products from the retailer's image. Stafford and Enis (1969) and Szybillo and Jacoby (1974) found that undergraduates inferred quality perceptions from store image. Recognising the limitations of using students, Enis and Stafford (1969) replicated their study with housewives evaluating carpets, but found no significant effect from store image. This finding might be due to a

poor manipulation of low-high store image, since a professional carpet buyer recommended which stores to include. Wheatley and Chiu (1977), using an earlier group of respondents to identify low-high store image, found that housewives inferred carpet quality from store image in the expected manner.

Therefore, when consumers are faced with competing examples of the same product, their selective information search is likely to be based upon a search for brand name and/or the retailer's name on the own label and generic item. These attributes are likely to be sought because of their predictive value (Cox, 1967a). Using presence of brand/retailer names, consumers can access chunks in memory, interpret the information and then categorise the competing items.

4.2.3 Advertising as an informational cue

Research findings indicate that as an informational cue, advertisements are not as frequently utilised as other cues. Bucklin (1965) reported that across a wide range of products (excluding groceries and cars) consumers consulted advertisements for only 24% of the products and concluded that advertisements served a limited role as an information source. Katona and Mueller (1955) found that amongst durable goods purchasers, advertisements were a less frequently consulted source than word of mouth information, with only a third of the purchasers claiming to have

consulted advertisements. Arndt (1972) showed that among couples seeking a home, information was more frequently sought through word of mouth (54%) than through advertisements (37%). Thorelli (1971) found that amongst purchasers of large household items, word of mouth information followed by shopping were more frequently consulted sources than advertisements, which only 28% of purchasers used. Newman and Staelin (1973) report that consumers of durable goods sought information most frequently by visiting retailers, through word of mouth and then from advertisements. Confirming the lower importance of advertising as an information source, Kiel and Layton (1981) found car purchasers more frequently seeking information from personal sources than from advertisements.

Several reasons exist for the infrequency with which consumers claim to consult advertisements. The studies cited all suffer from a methodological weakness introduced by asking respondents to recall their last purchase of a major item and then to state the information sources consulted when buying this item. In some cases (Newman and Staelin, 1973; Thorelli, 1971) respondents were recalling events that occurred 12 months previously - a difficult task which is likely to be subject to error. All of these studies also ignore the way that advertising provides information via stored memory and no account has been taken of memory recall.

In the case of groceries, Bucklin (1969), obtaining weekly

data from housewife panel members, found they consulted a food advertisement about once every 5 shopping trips. This finding again shows limited claimed use of advertising, but is thought to underestimate the use of advertising by ignoring memory recall.

Cox (1967b) provides an explanation of when people are likely to use advertisements and word of mouth. Little effort is required to watch a TV commercial but consumers may doubt the competence (predictive value) or reliability (confidence value) of this source. Hence advertisements are most likely to be consulted when perceived risk is relatively low and the effort to obtain information from other sources is not justified. Consumers therefore, would be more likely to use advertisements as information sources when buying low cost grocery items. More effort is required to access word of mouth information which is perceived as being of high confidence value and high psychosocial predictive value but of a lower performance predictive value. On this basis word of mouth information is more likely to be sought when psychosocial risk is high enough to justify the effort of using this channel and when consumers are anxious to avoid mistakes in a situation of high perceived risk.

In the case of low cost, frequently purchased groceries, consumers show awareness of advertisements for brands they have purchased and shoppers with a high level of advertising recognition show a low level of in-store

information search (Cobb and Hoyer, 1985). These researchers also found that consumers' perceptions of the amount of advertising matched the actual advertising levels. Consumers' perceptions of brand quality has been shown to be influenced by their perceptions of the level of brand advertising. Woodside and Taylor (1977) report that the higher respondents' perceptions of advertising support behind brands, the higher was their perception of brand quality.

From this review it is postulated that when seeking information to group competing items in the same grocery market, people undertake some memory search for advertising, albeit more effort is directed at searching for brand name cues. Perception of the relative level of brand advertising reflects reality from which inferences are drawn about product quality. Recall of advertising is also subject to perceptual distortion. The processed data on advertising is then used, in conjunction with other data to categorise the competitive tiers.

4.2.4 Price as an informational cue

In section 2.6.4 it was noted that in an environment of increasing multiple retailer dominance there has been a narrowing price differential between brands and own labels in some markets. One of the informational cues associated with each grocery item is its price and if consumers place reliance upon this cue they may then infer some similarity

between brands and own labels in specific product fields. The literature reviewed in this section indicates that price is used as an informational cue, but generally not to the extent of brand name cues.

In experiments where price was the only cue available, respondents used this to evaluate product quality (eg Tull et al, 1964; McConnell, 1968; Peterson, 1970). Such a finding is not surprising since respondents had little else to aid their decision. When price was presented with other cues, conflicting results were reported about whether there was or was not a main or an interaction effect from price (eg Enis and Stafford, 1969; Gardner, 1971; Jacoby et al, 1971; Szybillo and Jacoby, 1974). There are several reasons for these unequivocal results as the remainder of this section will show.

The concept of chunking is one reason for the limited reliance upon price when assessing competing items. Amongst consumers familiar with a particular product, brand name will be used to access an information chunk in memory and hence, presence of price data will add little to that already perceived through chunking. As consumers become less familiar with the product, chunking from the brand name is less relevant and price may be a more important cue. Support for this is provided by Monroe (1976) who found that memory played a more dominant role in brand evaluation than price information for experienced consumers.

From Cox's (1967a) model of cue utilisation it follows that in a multicue environment consumers place greater emphasis upon cues with high predictive and high confidence values. Less reliance is placed upon price and more importance is attached to both brand name (eg Peterson and Jolibert, 1976; Jacoby et al, 1971; Monroe, 1973; Venkataraman, 1981) and intrinsic cues (eg Valenzi and Andrews, 1971; Szybillo and Jacoby, 1974). Thus the importance of intrinsic cues and the high information value of brand names result in consumers placing more reliance on these cues than price information. The limited reliance upon price was also shown by other work on risk. Roselius (1971) found that across 4 different loss types, "buy the most expensive brand" was consistently evaluated as the least preferred risk reliever.

McGoldrick and Marks (1986) believe that consumers are now less aware of grocery prices because of such factors as the abolition of resale price maintenance, inflation, changing pack sizes, increased price competition and special offers. Ellert (1981) reported that in excess of 40% of shoppers no longer try to keep track of grocery prices. Gabor and Granger (1961) found that across 7 packaged grocery products, 51% of respondents correctly recalled prices last paid and that price awareness varied by product (eg 79% correctly recalled tea prices, but only 35% correctly recalled breakfast cereal prices). More recently McGoldrick and Marks (1986) found that only 29% of shoppers were able to correctly recall grocery prices. However,

55% of consumers were able to recall the price last paid with an error band of 5% above or below the actual price. It is apparent that while there is poor accuracy of recall, consumers do show an appreciation of pricing. With the increasing perceived similarity of brands and own labels, they also reported that amongst consumers who were unaware of exact prices, there was a greater tendency to overestimate the price of own labels and underestimate brand prices. This implies that when price is used with other cues to assess the competitive tiers, the price component would be used by some consumers to group brands with own labels, but it is thought that consumers would place less weight on this than the other cues.

Monroe (1977) provides further insight into how consumers use the price cue. When presented with price information, people judge it by comparing it against perceptual memory of a previous price or some product of which they have had experience. Some notion of a fair price is used and consumers have a perceived range of acceptable prices.

The literature reviewed shows evidence of consumers making some use of price information, but with increased familiarity they are more likely to search for brand name to access chunks in memory. Consumers' recall of grocery product prices is subject to memory error and there is evidence of them perceiving smaller price differences between brands and own labels than actually exist. Thus when faced with competing items, price information search

might be used to supplement judgements being formed from other cues (eg brand name) to decide how to group these items.

4.2.5 The importance of specific cues in multicue situations

The studies reviewed show that presence of brand name serves as the prime determinant in evaluating a product. The brand name as an informational chunk enables consumers to store and access from memory numerous bits of information more efficiently. Pricing and advertisements provide information that further enables consumers to evaluate physical and symbolic elements of the product but these cues tend to be secondary to reliance upon brand name. Therefore, when categorising competing items, informational cues representing each item would be selectively sought and processed to decide how these should be grouped.

Characteristics specific to individual consumers affect the intensity of information search and the resulting interpretation. The remainder of this chapter will consider the impact of internal variables on information search and hence the resulting categorisation of competing items.

4.3 IMPACT OF PERCEIVED RISK ON INFORMATION SEARCH

It has been suggested by some researchers (eg Zikmund, 1973) that perceived risk is an intervening variable between perception of a product and the resulting information search behaviour. This section reviews the influence of perceived risk on information search and hence on the way consumers group competing items.

4.3.1 The concept of perceived risk

Bauer's (1960) seminal paper on perceived risk proposed that consumer behaviour be considered in terms of consumer risk taking. He suggested that purchasing involves risk in the sense that the consumer is uncertain about the consequences of a planned purchase which may have unfavourable outcomes. In these situations the consumer develops risk reducing strategies, for example buying only advertised brands. Bauer stressed that attention should be paid to perceived rather than objective risk, since consumers react to risk only as they subjectively perceive it.

Cox (1967c) conceptualised perceived risk as a function of two elements: consequences and uncertainty. Consequences relate to the resulting loss from an unfavourable purchase and uncertainty refers to the consumer's assessment of the degree of certainty that the consequences of the purchase will be unfavourable. Consumers do not continually strive

to reduce perceived risk. Instead they appraise buying situations in terms of their tolerance for risk. Until perceived risk is felt to have exceeded a tolerable level the consumer is unlikely to engage in any risk reducing behaviour.

It is thought that some people will perceive a level of risk associated with some grocery products that will exceed their normal tolerance level and risk reducing behaviour would then be undertaken (eg seek more information). Other respondents though may perceive the level of risk to be acceptable and would undertake no risk reducing activity. The difference in external information search between the low and high risk perceiver may then result in a different grouping of the competing items.

Bettman (1973) drew attention to perceived risk being partitioned into inherent risk and handled risk. He defined inherent risk as the latent risk that a product class holds for a consumer and handled risk as the level of conflict a product or product class induces when the consumer selects a brand in a particular buying situation. Handled risk encompasses the effects of brand information while inherent risk relates to perceived risk when the consumer has no information. This thesis concentrates upon frequently bought groceries, of which most people will have some experience and because of the frequent usage of these products, handled risk is being measured.

Overall perceived risk (inherent or handled) is believed to be composed of several risk types. Cox (1967b) identified a performance and psychosocial component of risk. Perry and Hamm (1969) conceptualised perceived risk as being a function of social risk and financial risk while Roselius (1971) identified 4 components of overall perceived risk based on different losses: time, hazard, ego and money loss. Jacoby and Kaplan (1972) proposed that overall perceived risk is a function of 5 types of perceived risk: financial, performance, physical, psychological and social risk. These risk components will be considered in more detail in section 6.5.3 when operationalising a measure of perceived risk.

The level of perceived risk varies by product and the importance of the different risk types in explaining overall perceived risk also varies by product (Derbaix, 1983; Kaplan et al, 1974; Zikmund and Scott, 1977; Jacoby and Kaplan, 1972). If consumers then perceive some groceries to induce a higher level of perceived risk than others, there is a greater likelihood of risk reducing activity occurring with riskier products.

4.3.2 Information search as a risk reliever

When shopping consumers can reduce perceived risk by either reducing the amount at stake (eg only buy when there are money back guarantees) or increase their feeling of certainty that the loss will not occur (eg undertake

information search). While studies have shown consumers attempting to "reduce the consequences" component, several researchers believe that consumers place greater emphasis upon "increasing confidence" when perceiving risk in a buying situation.

Shoemaker and Shoaf (1975) reported consumers using the reducing consequences risk reliever, "buy small pack" for new grocery products. Cox (1967c) doubted whether consumers frequently reduce the amount at stake since they may have difficulty modifying their goals in a short time and lowering their level of aspiration may decrease motivational drives. Roselius (1971) observed that across 4 loss types (time, hazard, ego, money), the preference ranking for risk relievers by consumers was consistently the use of "certainty relievers" over "consequences relievers". Derbaix (1983) also found from research on packaged groceries that there was a pronounced reliance placed upon increasing confidence. This thesis is based upon the assumption of consumers reducing uncertainty in a risky situation.

The majority of studies on perceived risk have concentrated on understanding how consumers reduce uncertainty (Gemunden, 1985). One way to reduce uncertainty is to seek more information. Evidence has been presented of those high in perceived risk seeking more information than those low in perceived risk (eg Sheth and Venkatesen, 1968; Hisrich et al, 1972; Capon and Burke, 1980; Deshpande and

Hoyer, 1983). Others, though, have not found a positive relationship between perceived risk and information search (eg Jacoby et al, 1978; Axelrad, 1980; Ring et al, 1980).

In a review of empirical studies concerned with perceived risk-information search, Gemunden (1985) showed that of 100 studies, 51 falsified the relationship. For routine decision problems the falsification rate was particularly high and Gemunden questioned whether purchasers in the routinised response stage perceive the level of risk to exceed the threshold of tolerance. Other reasons he suggests to explain these results are:

- Information search represents a cost which may not be justified by low cost items. Locander and Hermann (1979) note that for low cost, low performance risk items a "pick up and buy brand" strategy was most favoured.
- Where inter-purchase intervals are short, consumers can pull on memory as a preferred strategy.
- The information sources available are not searched by high risk perceivers since they are not thought to be trustworthy.
- Information search can increase rather than decrease perceived risk.

These conflicting results regarding information search at different levels of perceived risk, might under certain situations have some influence on consumers' perceptions of branded, own label and generic groceries. In section 5.5.4 this idea is further developed to make predictions

about perception of market structure based upon consumers' perceptions of risk.

4.4 INFLUENCE OF PRODUCT IMPORTANCE ON INFORMATION SEARCH

Product importance, as perceived by the consumer, is succinctly defined by Bloch and Richins (1983) as "the extent to which a consumer links a product to salient enduring or situation-specific goals" (p71). It is regarded as describing the consumer's awareness of the importance of a product in achieving specific goals. As section 3.4 observed, there is no consistency with which involvement is interpreted but product importance could be thought to be related to the idea of involvement. This is particularly so when considering the 2 component measure of involvement used by Lastovicka (1979), ie normative importance and commitment.

Bloch and Richins (1983) postulated that consumers would undertake more information search as their perception of product importance increased. Such a prediction would then imply that if there were different levels of importance perceived for a grocery product between 2 groups of consumers, because of the different levels of information search that would result, there would then be a different perception of market structure between these 2 consumer groups. While some evidence exists supporting the influence of product importance on increasing information

search, it is rather tentative as is shown.

Lastovicka (1979) found from regression analysis of several variables believed to influence the degree of extensive-routinised problem solving behaviour, that as product importance increased, respondents engaged more in extensive problem solving. While the direction of the relationship indicates that increasing product importance is associated with increasing information search, only 9.6% of the variance was explained by product importance. Bettman's (1973) model of inherent risk showed that importance of product was the dominant variable explaining inherent risk and that a positive relationship existed between product importance and inherent risk. Following the review of ways people reduce risk in section 4.3.2, it could be inferred that as product importance increases with perceived risk it should also be positively related to information search. Jacoby et al (1978) investigated the impact of respondents' perceptions of the importance of breakfast cereals on the extent of external information search. Respondents were classified as those who made a decision solely using a brand name and the remainder, who undertook a more detailed search, were classified as light, moderate or heavy searchers. Consumers rating the breakfast cereals as relatively unimportant made a selection decision on brand name alone, while those attaching some importance to the breakfast cereals (ie light, moderate and heavy searchers) sought information in addition to brand name.

Thus there is tentative evidence to suggest that product importance may encourage greater external information search and hence it may affect perception of the competitive tiers between product fields considered as important or unimportant. Predictions of perceived market structure based on this review will be considered in section 5.5.5.

4.5 INFLUENCE OF PRIOR EXPERIENCE ON INFORMATION SEARCH

The Howard and Sheth (1969) model views the consumer as learning about different competing offerings through repeated shopping experience. It predicts that the more experience consumers have of particular products, the less detailed their information search is likely to be. On the basis of this model those consumers with considerable experience of a grocery product are more likely to rely on memory search to evaluate and group competing items, while less experienced consumers are believed to undertake a more detailed external search. If this is so, then because of the different levels of information search between low and high experience consumers, different perceptions of market structure will result. This section reviews the relevant literature concerning the impact of familiarity on information search.

Three studies provide support for reduced information search at higher levels of product experience. Moore and Lehmann (1980) observed a decline in external information

search as bread purchasing experience increased. Sheth and Venkatesan (1968) found a negative relationship between experience and external search for hair sprays, and a similar relationship was reported by Lantos (1983) investigating shampoos. All of these research findings were based on longitudinal studies with subjects interviewed on a weekly basis over a period of between 5 to 9 weeks.

Jacoby et al (1978) investigated the impact of previous experience of breakfast cereals on external search using label information. When experience was defined either in terms of the number of brands which subjects recalled or the number of brands purchased, there was a significant positive relationship between experience and number of brands examined. This definition of experience also showed a non-significant negative relationship between experience and the number of information dimensions consulted. Several plausible reasons were given for these results:

- Purchasing experience might not necessarily lead to learning specific knowledge about labels since some label information might be perceived as not important enough to learn, or appear difficult to learn, or be too much to learn. Instead of specifics being learned, general impressions might be formed from labels.
- Even if consumers have learned information they may still feel the need for continued information search

as they believe that some attributes change over time, eg price.

- Previous experience may enhance involvement leading to a desire for increased information thus enabling the consumer to become a more sophisticated information seeker.

Possibly related to some of these reasons, Kendall and Fenwick (1979) found from in-store observations that there was a greater examination of label information on established groceries than on newly launched groceries. The results did not show purchasers' experience of the established or new groceries, and one can only make inferences about experience being lower for new grocery products.

Lastovicka (1979) found from interviews with housewives about their claimed shopping behaviour that as their product knowledge increased there was a greater likelihood of them undertaking more information search. Unfortunately, different measures of product familiarity were used between this study and the Jacoby et al (1978) study making comparisons of the findings difficult, albeit they both show an increase in external information search at higher levels of product familiarity.

The 3 studies just reviewed have shown that experience of grocery products influences the extent of external information search. The first 3 studies, showing a negative relationship between experience and external

search, are thought to be in conflict with the other studies reviewed, since no allowance has been made either for heightened attention to product information during the the studies or for any marketing activity that occurred at the time of these studies. With experience postulated to affect external information search, it is thought likely that the level of experience will consequently influence perception of market structure, an issue which will be considered further in section 5.5.6.

4.6 THE IMPACT OF DEMOGRAPHIC CHARACTERISTICS ON INFORMATION SEARCH

Several researchers have considered the way that individual differences between consumers might influence external search (eg Bettman, 1978; Newman, 1977). This section addresses the issue of education, sex, and age differences influencing search. The conclusions from these reviews are then used in section 5.5.7 to predict perception of market structure.

4.6.1 Level of education

When faced with competing items in a product field, of which the consumer has no experience, by seeking out the available information on the competing items, the consumer is then better able to make a purchase decision. But, as has been argued by Katona and Mueller (1955) and Newman and Staelin (1972), information search and processing depend

upon the consumer's ability, interest and motivation to undertake such tasks. These factors may be more apparent amongst more educated consumers and several studies have tested the influence of education level on information search. More has been published about high cost items, rather than packaged groceries, showing evidence of greater external search being undertaken by more educated consumers.

Evidence of more educated consumers seeking more information is reported by studies investigating household appliances (Katona and Mueller, 1955), major purchases (Thorelli, 1971), furniture and household appliances (Claxton et al, 1974), electrical appliances (Capon and Burke, 1980), creamers, lemonade, instant coffee and clothes dryers (Schaninger and Sciglimpaglia, 1981) and cars (Kiel and Layton, 1981). All of these studies except that of Schaninger and Sciglimpaglia (1981) suffer from respondents being asked to recall a purchase made as long ago as 2 years. Such a long time span would introduce memory bias and without further research it is unclear whether memory bias is constant across different levels of education.

Thus while a difference in external information search between people of different educational levels has been reported, only one study is able to support this finding without the problem of memory bias. It is surprising to see that the Schaninger and Sciglimpaglia (1981) study

reports a difference in information search between different educational levels for grocery products, since compared to the products investigated in the other studies, these are relatively simple items. The results may be due to the small non-representative sample (102 housewives from church affiliated social groups).

4.6.2 Sex of purchaser

Reflecting the increased frequency of grocery shopping activity amongst women, Alba and Chattopadhyay (1985) found brand recall of hair shampoos was greater amongst women than men, indicating more relevant information stored in memory. This would imply less external search by women. Lastovicka (1979) found that men claimed they would be more likely than women to seek product information when grocery shopping. Crosby and Taylor (1981) observed that women did not use information on carpeting to the same extent as men did. They postulated that this may be due to the roles played by each party when buying a carpet, with women more concerned with the matching of colours and men more interested in durability.

The studies reviewed here have shown a difference in search behaviour between men and women which may be related to differences in levels of purchasing experience for grocery products and traditional roles (eg carpet buying).

4.6.3 Age of purchaser

Research indicates that external information search activity decreases with age, influenced by increasing experience with age. Information search was found to be negatively associated with age for car buyers (Kiel and Layton, 1981). In an experiment where respondents had to choose a brand within specified product fields (creamers, instant coffee, lemonade, electric clothes dryer), Schaninger and Sciglimpaglia (1981) noted that older respondents processed less information and examined fewer attributes and alternatives than younger participants.

In a review of the information processing capabilities of elderly consumers, Phillips and Sternthal (1977) report evidence of an age-related decline in the speed with which elderly people process information. They compensate for their reduced learning ability by relying on greater experience to process less, but more important information. Through greater experience with age, the information chunks in memory would be more relevant than the less developed chunks of a younger and hence less experienced consumer.

These findings suggest that older people undergo less external search than younger people because of their greater experience enabling them to rely more on memory.

4.7 CONCLUSIONS

Through the way consumers interpret informational cues surrounding products, perceptions can be influenced by marketers. Marketing activity is sensed by consumers as signals to help evaluate competing offerings. With the reduced branding activity of some manufacturers and the increased branding of several multiple retailers behind their own label range, the way consumers place considerable reliance upon the presence of a "brand" name may result in a perception of similarity between brands and own labels in some product fields.

Secondary to seeking brand name information, consumers make use of advertising and pricing information to group competing items. Consumers show awareness of the relative advertising support behind brands and because of the changing balance of advertising expenditure between brands and own labels and the impact of perceptual distortion, they may develop a perception of brands and own labels different to the marketer. Correct recall of grocery prices is infrequently exhibited by consumers, but within a small error range they show an appreciation of prices. Perception of the 3 tiers presented to consumers is believed to be influenced by price information, but any effect is thought to be secondary to that introduced by the brand name.

The way that diverse consumer groups seek different levels

of information is believed to result in perceptions of the competitive structure of grocery markets varying between consumers. Some consumers may perceive a level of risk in excess of a tolerable level and the resulting different levels of information search between low and high risk perceivers may result in a different perception of the competitive structure of grocery markets. Other characteristics such as importance of the product, previous experience and demographic characteristics may influence information search and thus result in different market perceptions between different consumer groups.

This chapter has reviewed consumers' interpretations of the informational cues surrounding products, and the way external and internal variables influence information search. In the next chapter a framework will be established, building on this review, postulating how knowledge about information search might be used to predict perception of the structure of grocery markets.

CHAPTER 5

A CONCEPTUAL FRAMEWORK FOR ANALYSING CONSUMERS' PERCEPTIONS OF MARKET STRUCTURE

5.1 INTRODUCTION

The categorisation of competing items in a product field by consumers follows after they have undertaken some form of information search. A framework is presented in this chapter which, by focusing upon those variables believed to encourage or inhibit information search, can be used to predict consumers' perceptions of the competitive structure of grocery markets. Following Popper's (1972) critical rationalism approach, 8 main hypotheses are developed as conjectures to be tested.

The chapter starts by proposing that consumers perceive the competitive structure of markets in a different manner to marketers. The influence that 2 external variables (advertising and pricing) can have on consumers' perceptions of market structure is considered. The internal variables reviewed in chapter 4, along with belief in own labels being repackaged brands, are addressed and predictions of perceived market structure are postulated as a consequence of these variables influencing information search.

5.2 PERCEIVED MARKET STRUCTURE (HYPOTHESIS 1)

Marketers use of resources influences people's perceptions of market structure. By considering how the marketing mix

of brands and own labels has changed, an evaluation can be made of how consumers perceive the competitive structure of grocery markets.

In sections 2.5 and 2.6 it was shown that the balance of power had swung from the manufacturer to the retailer and in a climate of increasing multiple grocery retailer concentration, there had been a change in the use of marketing resources behind brands and own labels. In some sectors advertising support behind brands slipped, while retailer advertising increased, enhancing the image of own labels. Instances were reported both of the price differential and quality differences between brands and own labels narrowing. The distribution differences between brands and own labels have become less apparent as a result of multiple grocery retailers' expansion programmes. In view of these changes it could be argued that the public's perception of the differences between brands and own labels has narrowed. Thus in some product fields where marketing activity behind brands has fallen at the same time as retailer activity increased, some people may perceive brands and own labels as being part of the same tier, rather than being two separate tiers.

A comparison of the marketing mix for brands and generics shows very little similarity and hence it is predicted that people will perceive brands as being a different tier to generics.

A true generic grocery item would be one for which the

packaging would solely ensure product protection without any consideration of aesthetic appeal. The package would state the product it contained along with enough information to satisfy legal requirements. The only printing on the pack would be the one colour information printing. Without careful reading of the packs, the generics from one grocery retailer would be virtually indistinguishable from those of another grocery retailer. No promotional support would be given to any generic items.

In reality the "generic" groceries launched in the UK did not conform to the generic concept. The packaging was not designed just to protect the contents. Eye-catching multicolour packaging was used (eg yellow and black for Fine Fare; white, red and black for Argyll). Retailers' names were printed on the pack (albeit in small print) and for one retailer a brand name was displayed (BASICS from Argyll). Each retailer adopted a corporate pack design further emphasising the association of specific generics with certain retailers. Promotional packs of generics appeared (eg Fine Fare generic gravy flashed "15% extra free", BASICS aluminium foil flashed "10% extra free") along with a small amount of advertising support (McGoldrick, 1984a). As evidence of this attempt by some retailers to encourage consumers to associate certain generics with specific stores, Allan (1981) explained:

"Incidentally I deliberately said brands for two reasons. First of all we have more than one brand, Yellow Pack as well as Fine Fare Brand. Secondly we see both of these product ranges as Brands adding value to the shopping experience Fine Fare customers get at Fine Fare." (p9)

In terms of the extrinsic cues considered, generics may be perceived as closer to own labels rather than being perceived as a separate tier, albeit they were differentiated from own labels by their lower prices and poorer quality. In this author's view, it is thought that since people place greater reliance upon presence of brand name as an informational cue, generics will be perceived as being dissimilar to own labels, particularly since a more detailed search is required to find the "brand name" on generics.

Consideration of the concept of perception, as presented in section 3.3, provides theoretical support for consumers not categorising competing items in the same manner as marketers. When people concentrate upon grouping items they would actively seek information. Due to perceptual selectivity and perceptual distortion, only a proportion of the information provided by marketers and retailers will be received for processing and some of this may be twisted to make it consistent with consumers' prior beliefs. Some of the cues used to evaluate similarity will have greater emphasis placed on them, since they are believed to be more important indicators of similarity. For certain informational cues, the differences between the packs being examined may be below the "just noticeable level" and consequently these differences will not be noticed

From the marketing mix analysis of the competitive tiers and by considering the process by which people group

competing items, the following hypothesis is put forward to be tested:

HYPOTHESIS 1

People do not perceive the structure of packaged grocery markets in the three tier manner assumed by marketers (ie brands, own labels, generics).

5.3 EXTERNAL-INTERNAL VARIABLES INFLUENCING PERCEPTION

A consideration of those variables that influence information search enables a theory to be developed which predicts people's perceptions of market structure. The detail and inferences drawn from information search can be considered as being influenced by variables external to consumers (eg advertising) and variables internal to consumers (eg perception of advertising).

A problem faced by this research was the choice of a particular type of involvement model (as reviewed in section 3.4) which could be used to understand consumers' information seeking and processing when categorising the competing items. From the Engel et al (1986) definition of involvement, presented in section 3.4, involvement is affected by the stimulus within a specific situation. The products investigated are frequently bought packaged groceries, the purchase of which is often a low involvement situation. Yet these buying situations can become high involvement situations (for example when doing the shopping for someone else, when buying the item

for a special event, etc) and as Belk (1975) reported the situation influences the information search process. To assess how consumers group the competing items in each packaged grocery product field, a high involvement situation was created by asking them to complete a questionnaire that required them to seek information from a photograph showing 8 or 9 competing items in a particular product field. As a high involvement situation has been created by the measuring instrument, this thesis is based upon a high involvement model of consumers actively seeking information to categorise competing items.

The proposed theory is based upon an information processing model of people actively seeking information from memory and the external environment. The review in section 3.5 indicated that the depth of external search is generally limited for packaged groceries. This is not believed to invalidate the proposed theory since as sections 3.5 and 3.6 reported:

- a large proportion of information may be held in memory
- people may gain sufficient information by consulting only a few sources (eg brand name)
- studies based on counts of information sources ignore the quality of these sources
- people have finite cognitive capabilities and too much information impedes decision making (Jacoby et al, 1977).

A person's perception of market structure can be measured,

on an "elementistic" basis, by them stating to what degree each competing item in a product field possesses certain characteristics. Perceptual distances between each item can then be calculated over each attribute to show the respondent's overall perception of market structure. Evidence for consumers evaluating products on the basis of their constituent parts was presented in section 4.2. This approach contrasts with Gestalt psychology, which views each of the competing items as indivisible wholes. As Palmer (1977) observed though, both the elementistic and holistic perspectives have "elements of truth" (p442). For example, a product has certain properties evaluated by consumers using individual elements of the marketing mix, while as a whole the product is perceived by consumers as having a brand image. In view of people's ability to differentiate single aspects of competing items, the perspective of a person's perception of a product being composed of its individual parts was adopted.

5.4 THE INFLUENCE OF EXTERNAL VARIABLES ON PERCEPTION

The use people make of different informational cues to form a perception, depends upon the confidence value and predictive value (Cox, 1967a) they believe the cues represent. Section 4.2 showed that the main cue used was reliance upon brand name, but use is also made (albeit not to the same extent) of advertising and pricing information. A consideration of the influence of advertising and pricing should, therefore, enable predictions of perceived market

structure to be made. In this section the effects of actual advertising and actual pricing differences are considered and within section 5.5 perceived advertising and perceived price differences are considered along with the other internal variables.

5.4.1 Effect of actual advertising support (Hypothesis 2A)

Successful brands, as section 2.2.2 explained, are supported by above average levels of advertising which are used to communicate the brand's positioning and to reinforce a brand personality. Yet as section 2.6.2 observed, advertising support for some brands during the 1970's and early 1980's was cut, while at the same time retailer advertising support increased, with multiple retailers trying to differentiate themselves on a platform not solely reliant upon low price. One consequence of this would have been a weakening personality of some manufacturers' brands at the expense of the competing own labels.

When examining competing items in the same product field, people would be likely to search the packs for any "brand" name information. Through the "brand" name as a cue, a chunk of information would then be interrogated in memory. Where brand advertising had been maintained or increased, a strong brand personality would be stored in memory. Further memory search, accessing another chunk through the own label name, would reveal a distinct personality for an

own label item. Consequently, it is thought that brands and own labels will be perceived as dissimilar when brand advertising has been maintained or increased. Where there has been a reduction in brand advertising a less distinct brand personality would be stored in memory and it is more likely that people will perceive brands and own labels as similar.

Just as the presence of a "brand" name on brands and own labels would enable an inference to be drawn about "brand" personalities, so the much more detailed search to find any form of branding on the generic packs would imply how dissimilar generics are to own labels and brands. This would be reinforced by recall of very low levels of advertising activity for generics.

To test this proposition the following hypothesis is advanced:

HYPOTHESIS 2A

Where actual advertising support for branded packaged groceries has been maintained or increased, people are likely to perceive a 3 tier market (branded; own label; generic). Where actual advertising support for branded packaged groceries has been reduced, people are likely to perceive a 2 tier market (branded and own label; generic).

5.4.2 Effect of actual price differences (Hypothesis 3A)

Price information, as was explained in section 4.2, is believed to be a secondary information source. It is thought that price cues will be used by people to moderate their views about brands and own labels, which were originally formed from inferences using "brand" name cues. A more detailed search is required to find any form of "brand" name on the generics than on the other 2 tiers and some people may then perceive them as being "no name" items. The inference drawn from the absence of a "brand" name on the generics will always result in them being perceived as a distinct tier, regardless of the price difference between them and own labels.

Where a large price difference exists between the competing items, "brand" name cues would first be sought. Further information sought on the price of the items would suggest to respondents a quality difference between brands and own labels (assuming a price-perceived quality relationship) and it is thought that this would reinforce their perception of brands and own labels being dissimilar.

Should a small price difference exist between the competing items, people would infer a small quality difference between brands and own labels. The initial perception of brands and own labels formed from "brand" name cues would then be moderated by the small price difference and small perceived quality difference. In this situation it is

thought likely that people will perceive brands and own labels as similar items.

The following hypothesis is therefore suggested:

HYPOTHESIS 3A

The larger the actual price differential between the brands, own labels and generics in the same product field, the more likely respondents are to perceive a 3 tier market consisting of pure brands, pure own labels and pure generics. The smaller the actual price differential, the more likely that the 2 tier structure will be brands and own labels versus generics.

5.5 THE INFLUENCE OF INTERNAL VARIABLES ON PERCEPTION

The remainder of this chapter considers the influence that those variables internal to people can have upon information search.

5.5.1 Effect of perceived advertising support (Hypothesis 2B)

Research reviewed in section 4.2.3 indicated that people's perceptions of advertising activity behind brands broadly reflected reality. It was also noted in section 4.2.3 that the more advertising people perceived for branded groceries the higher the quality level they inferred.

This perceived advertising-perceived quality relationship and the search for "brand" name via chunks in memory, enabling recall of "brand" personalities, (section 5.4.1) leads to the following hypothesis:

HYPOTHESIS 2B

Where people perceive that advertising support for branded packaged groceries has been maintained or increased, they are likely to perceive a 3 tier market (branded; own label; generic). Where people perceive reduced advertising for branded packaged groceries, they are likely to perceive a 2 tier market (branded and own label; generic).

5.5.2 Effect of perceived price differences (Hypothesis 3B)

The review in section 4.2.4 indicated that there was uncertainty amongst consumers about their perception of grocery prices. It also showed that within a 5% error band above or below the actual product price, just over half the respondents interviewed by McGoldrick and Marks (1986) correctly recalled grocery prices. It is therefore postulated that people's perceptions of the price differences between brands, own labels and generics would generally reflect actual price differences. Following reasoning similar to that developed in section 5.4.2, the following hypothesis is proposed:

HYPOTHESIS 3B

The greater the perceived price difference between the most expensive and the least expensive competitive

offering, the more likely people are to perceive a 3 tier market (branded; own label; generic). The smaller the perceived price difference between the most expensive and the least expensive competitive offering, the more likely a 2 tier market will be perceived (branded and own label; generic).

5.5.3 Belief in own labels being repackaged brands (Hypothesis 4)

It was reported in section 2.6.3 that in some product fields, quality differences between branded and own label groceries narrowed over time. Studies considered in section 3.2 showed that consumers recognised the increased quality levels of own labels and that an increasing proportion of people believe own labels to be little more than well known brands repackaged for retailers. A parallel situation has occurred in America where Patti and Fisk (1982) report consumers believing that "store brands are often the Siamese twins of manufacturers' brands" (p92).

Belief in own labels being produced by manufacturers of the equivalent branded goods would increase the likelihood of people perceiving a similarity between branded and own label groceries. This leads to the following hypothesis:

HYPOTHESIS 4

The greater people's belief that own labels are produced by major manufacturers of branded goods in

the same product field, the more likely that branded and own label goods will be seen as similar offerings.

5.5.4 Impact of perceived risk (Hypothesis 5)

Where grocery purchasers believe the level of perceived risk to have exceeded a tolerable level, section 4.3 showed that they undertake action to reduce perceived risk. Consumers can reduce perceived risk by reducing either the amount at stake or their uncertainty, the latter being the more frequently followed strategy. One way of reducing uncertainty is to obtain more information. However, as section 4.3.2 indicated there are equivocal findings about whether there is a positive relationship between perceived risk and information search.

The stance taken in this research is that, for some people, grocery products induce a level of perceived risk greater than their tolerable level and they will seek information to reduce this. People high in perceived risk will undertake a more detailed information search, while those low in perceived risk will undertake a superficial external search. Since the high risk perceivers have acquired more information about the competing items than the low risk perceivers they will be more likely to perceive differences between the competitive tiers. The following hypothesis is advanced to be tested:

HYPOTHESIS 5

The greater the degree of perceived risk associated

with buying an unknown brand in a particular product field, the more likely people are to exhibit greater perceptual differences between the different competitive tiers.

5.5.5 Perception of product importance (Hypothesis 6)

It was suggested in section 4.4 that as consumers' perceptions of product importance increased, so their likelihood of undertaking a more detailed information search might also increase. It would follow that, due to the difference in information search between the low and high product importance perceivers, a difference in market perception would result. The following hypothesis is put forward to be tested:

HYPOTHESIS 6

The more important the product is to people, the more likely it is that they will display a greater degree of competitive differentiation within the same product field.

5.5.6 Effect of prior experience (Hypothesis 7)

The review in section 4.5 showed people's information search for a particular product being influenced by their previous experience with that product field.

From the Howard and Sheth (1969) model, it is believed that people with more experience of a specific product will be

less likely to undertake a detailed external search when forming a perception of the competitive items in that product field. Their brief external examination will most likely incorporate a search for presence or absence of brand name. This would enable them to access, via "brand" names as chunks, relevant information stored in memory. By then being able to recall the results of previous experience, these people will be more likely to perceive differences between the competitive offerings.

Those who have less experience of a particular product field would, from the Howard and Sheth model, engage in a more active external information search. They are likely to place more reliance upon presence or absence of brand name. When trying to evaluate the competing items, the cycling between external information and memory (to interpret it) would be of little help since, with limited experience, there would be little of direct relevance stored in memory. It is therefore thought likely that those with limited experience would be less discriminating between the competitive tiers.

The following hypothesis is advanced:

HYPOTHESIS 7

The more experience people have of a product field, the more likely they are to perceive differences between the competitive offerings in that product field.

5.5.7 Demographic influences on market perception
(Hypotheses 8A, 8B, 8C)

Level of education could be viewed as being indicative of the person's ability to search and process information about a product. The review in section 4.6.1 indicated that more information was sought by more educated respondents. These findings, though, were predominantly based on complex products.

It is thought that a display of low cost, packaged grocery items can be effectively judged by people from all educational levels since the products are regularly purchased items that make few technical claims. If these claims cause confusion, product trial should provide learning. On the basis of these points the following hypothesis is to be tested:

HYPOTHESIS 8A

People's perceptions of the competitive structure of packaged grocery markets are not influenced by their level of education.

The sex of the person was found to have an impact on the level of information search, as was discussed in section 4.6.2. One of the reasons suggested for this was the different levels of grocery purchasing experiences between men and women. Pursuing the same argument as that described in section 5.5.6 it would then follow that men would perceive packaged grocery markets in a different manner to women. This will be tested by:

HYPOTHESIS 8B

Mens' perceptions of the competitive structure of packaged grocery markets are different to those of women.

The person's age, as considered in the review in section 4.6.3, was found to influence information search. Generally the older the person, the lower the external information search. It is thought that older people need to search fewer informational cues since, through greater experience, they have developed more relevant chunks in memory. Younger people would have less relevant material in memory and would undergo a more extensive information search. Thus from these considerations the following hypothesis is advanced:

HYPOTHESIS 8C

People's perceptions of the competitive structure of packaged grocery markets are influenced by their age.

5.6 CONCLUSIONS

Based upon the changing use of marketing resources behind branded and own label packaged groceries following the introduction of generics, it is argued that people perceive the competitive structure of specific packaged grocery markets in a manner different to the marketer. Perceptions are formed through seeking and processing information, thus by considering those factors which influence information search and processing, a theory has been developed to suggest how perceptions of the

competitive structure of markets might vary under different conditions. A series of hypotheses has been proposed as conjectures to be tested and the next three chapters describe how these were tested.

CHAPTER 6

RESEARCH DESIGN

6.1 INTRODUCTION

To test the hypotheses developed in chapter 5, a research methodology was developed which will be considered in this and the subsequent 2 chapters. The present chapter concentrates upon explaining how the 6 packaged grocery markets, (along with the competing items), were selected and how the dependent and independent variables were operationalised. The next 2 chapters explain how a postal survey was used to collect the data and shows the data analysis procedure employed.

To provide a rigorous test for the proposed theory it was decided to test it in 6 separate grocery product fields. The first part of this chapter describes the criteria stipulated for choosing the product fields and shows how MEAL data helped identify the 3 reduced and 3 increased advertising support markets. Selection of the competing items within these product fields is also considered.

Perception as the dependent variable was operationalised on an elementistic basis and the procedure to identify the key attributes describing each competing item is explained. The process of selecting consumer relevant attributes and reducing the list of attributes to between 8 to 10

statements was not based upon the subjective view of marketers, but instead resulted from consumer interviews and subsequent data analysis. To ensure the attributes were those normally used by consumers, repertory grids were employed. The large number of attributes elicited from the repertory grids were reduced by undertaking a further series of structured interviews. These showed, for each product field separately, the degree of correlation between the attributes. By examining the correlations between attributes, in conjunction with principal component analysis, lists of between 8 to 10 attributes were obtained, which enabled people's perceptions of market structure to be validly measured.

The final part of this chapter explains the operationalisation of the independent variables used in research.

6.2 SELECTING GROCERY MARKETS FOR INVESTIGATION

When selecting packaged grocery markets for investigation, several criteria had to be met, ie:

(i) 6 product fields were required of which 3 had to show a long term reduction in advertising spend and 3 to have shown long term evidence of either constant or increasing advertising spend. It was felt that this design would provide a realistic test of the impact of actual and perceived advertising activity.

(ii) Each product field had to consist of a minimum of 3

branded, 3 own label and at least 2 (preferably 3) generic versions. This stipulation was to provide a good test for the homogeneity of clusters.

(iii) Some of the product fields had to show a well differentiated price difference between the competing tiers and others a less differentiated price difference.

(iv) The products had to provide good test conditions for the remaining hypotheses.

Media Expenditure Analysis Limited (MEAL) data was used as the source for the annual advertising spend, as reported in the Fourth Quarter MEAL Digests. While recognising the limitations of MEAL data (eg advertising spend based on rate card, reports are based on press and TV), it was still felt that this should provide a sufficiently good guide to any trends. This research had to assume that campaigns of the same level of media support achieved the same level of creativity, impact, communication and memorability.

Annual advertising spend was collected separately for those packaged grocery markets reported by MEAL, from 1972 to 1984 inclusive. The data was deflated using the Advertising Association index of media rates - discounted basis (Waterson, 1984). Graphs were drawn of deflated media spend against time for each product field and to better identify trends, 3-year centred moving averages of the deflated data were also drawn. When this graphical analysis was undertaken in March 1985, the Advertising Association had not published a media inflation figure for

1984 and an estimate was made based upon a conversation with an advertising agency (DDB). More recent analysis based upon an updated Advertising Association deflation index (Waterson, 1986) showed few problems using an estimated media deflation figure.

Inspection of the graphs showing deflated media spend from 1972 to 1984 did not produce any markets where there had always been either decreasing, or static or increasing media support. In the bleach, toilet paper and washing up liquid markets, there had been a general trend of increasing advertising support which was apparent across all 3 of these markets from 1978. By contrast in the aluminium foil, household disinfectant and kitchen towels markets, advertising activity was generally in long term decline. A further characteristic of these products, shown in table 6-1, is that the 3 products showing evidence of advertising support all had media spends in 1984 in excess of £1.2m (at 1970 prices), while the 3 products exhibiting falling media spend all had media expenditure in 1984 of less than £0.16m (at 1970 prices). Figures 6-1 to 6-6 show for these 6 product fields changing advertising activity from 1972 to 1985 using the recent Advertising Association index of media rates (Waterson, 1986).

Questions during repertory grid interviews focusing on these 6 products confirmed their suitability by the reactions provoked amongst respondents (eg some products

were perceived to produce a higher level of risk than others, etc). Store visits around the Hertfordshire area, where interviews would take place, showed that the majority of the competitive versions in these 6 markets were stocked. The competitive tiers in the washing up liquid market showed a clear price differentiation, while in the kitchen towels market price differentiation was less evident, as will be shown in section 9.6. As the selection criteria were met by these 6 products it was decided that they would be the focus for this research.

<u>Product Field</u>	<u>Classification Based on long term trends</u>	<u>Deflated Media Spend (1970 Prices)</u>	
		<u>1984</u>	<u>1985</u>
		£ '000	£ '000
Bleach	Increased Advertising Support	1,954.8	2,128.1
Toilet Paper		1,358.6	1,233.5
Washing Up Liquid		1,221.4	1,016.3
Aluminium Foil	Reduced Advertising Support	156.0	28.7
Household Disinfectant		41.3	26.5
Kitchen Towels		91.3	141.1

Table 6-1 The six product fields investigated

MEAL advertising spend figures for 1985 were published after the quantitative survey was undertaken and an updated analysis of the advertising activity for these 6 product fields was undertaken. Generally the underlying trends in advertising activity seen in figures 6-1 to 6-6 still support the products chosen.

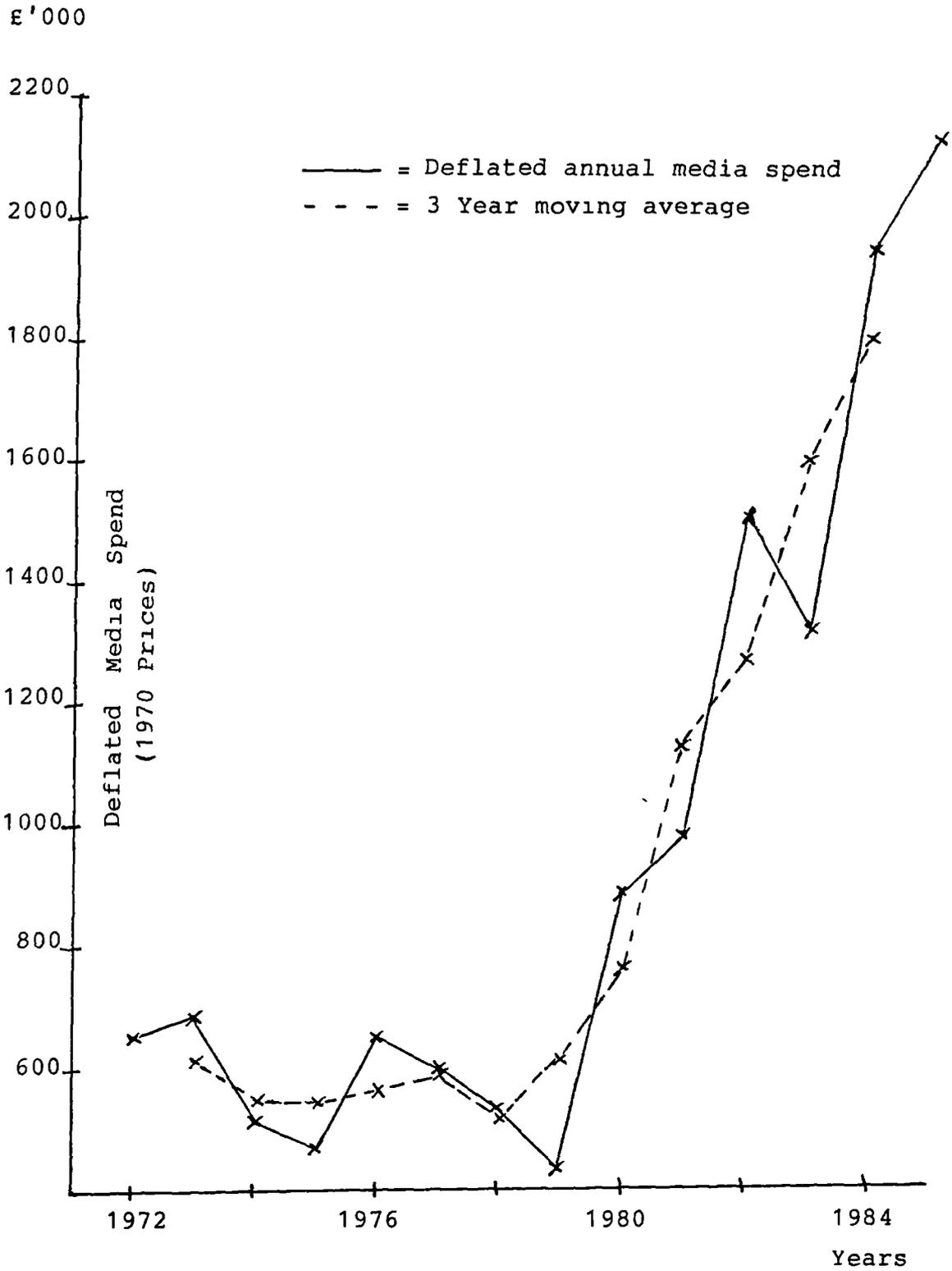


Fig. 6.1 Bleach: Changes in Advertising Spend

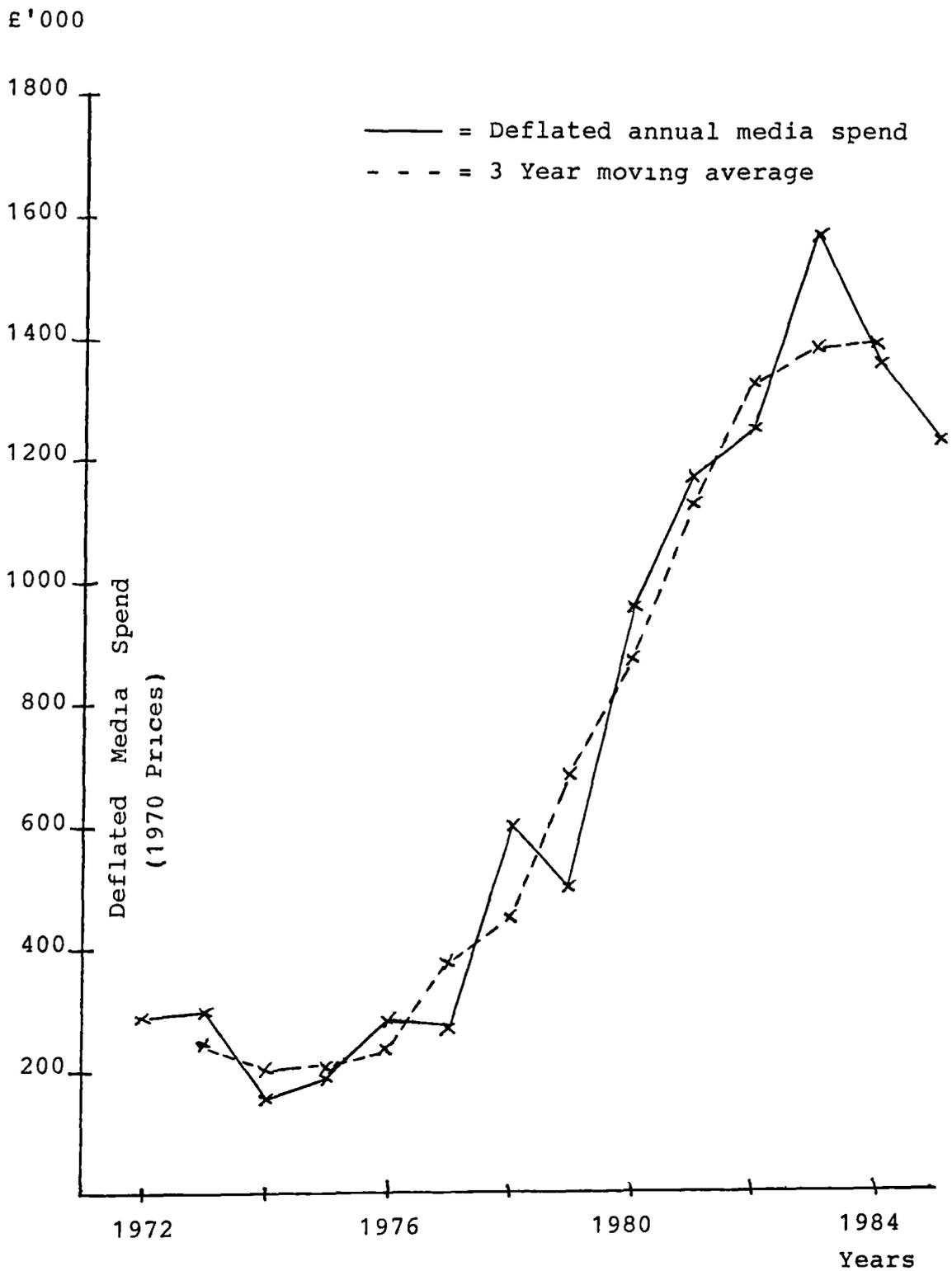


Fig. 6.2 Toilet Paper: Changes in Advertising Spend

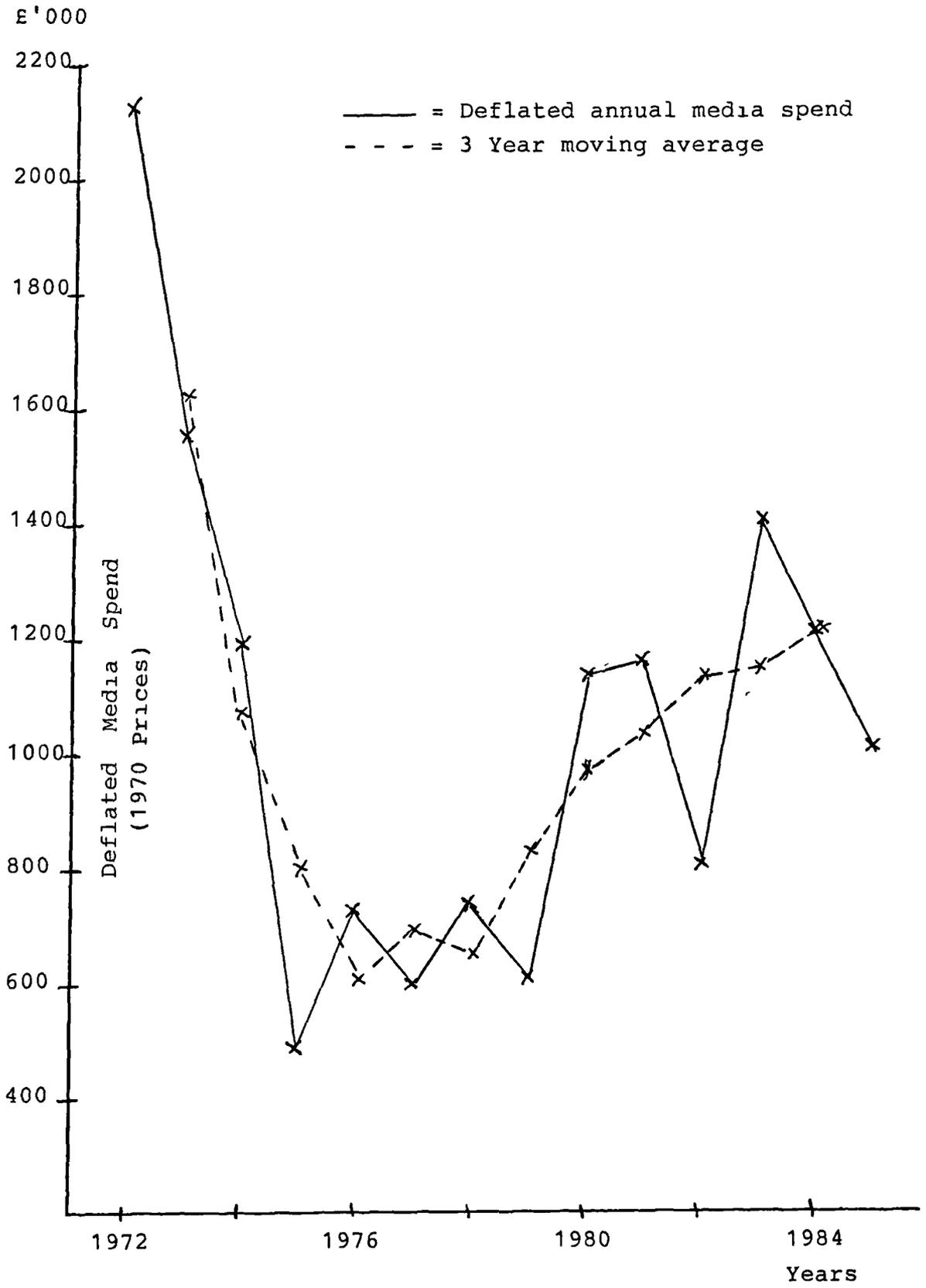


Fig. 6.3 Washing Up Liquid: Changes in Advertising Spend

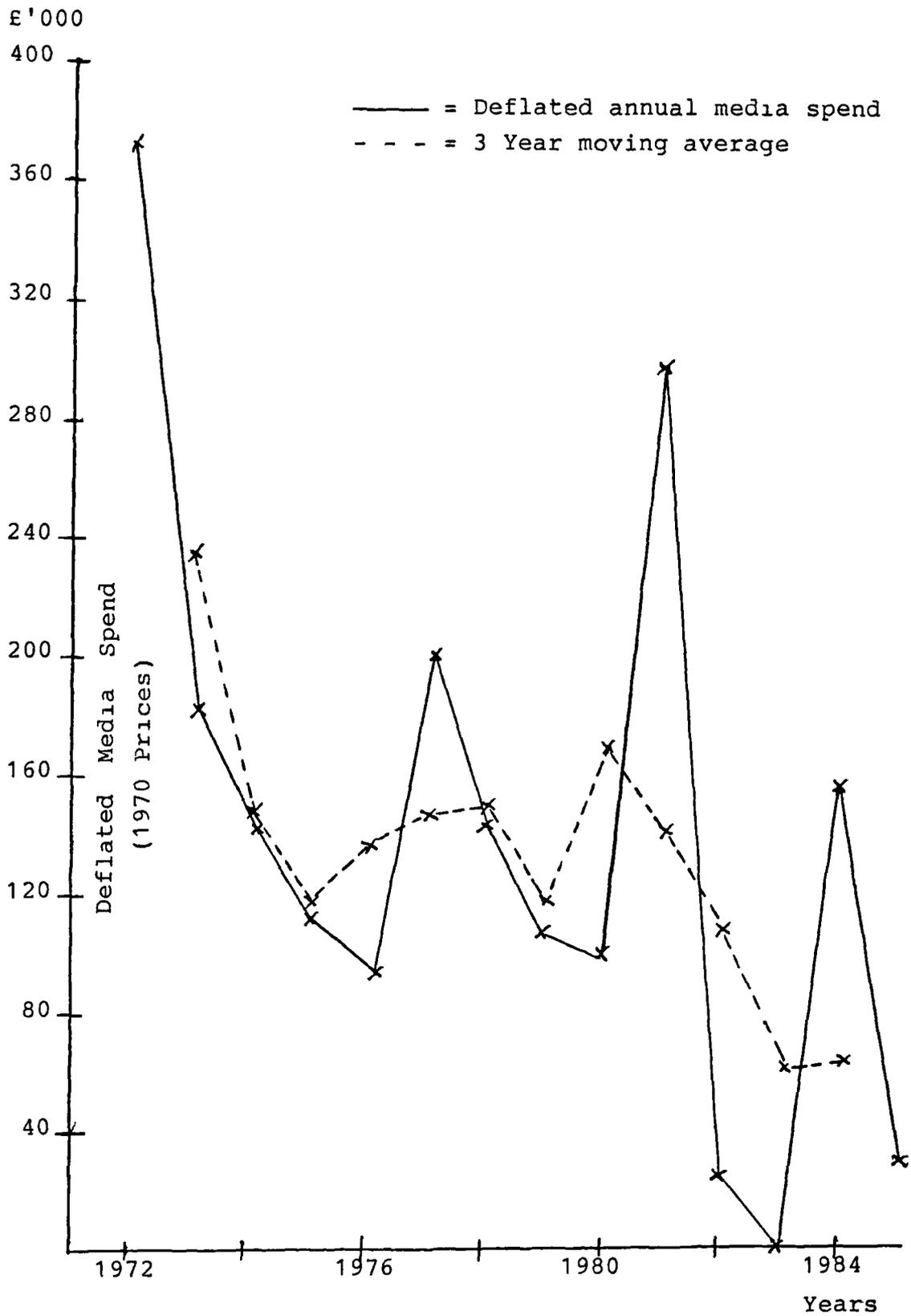


Fig. 6.4 Aluminium Foil: Changes in Advertising Spend

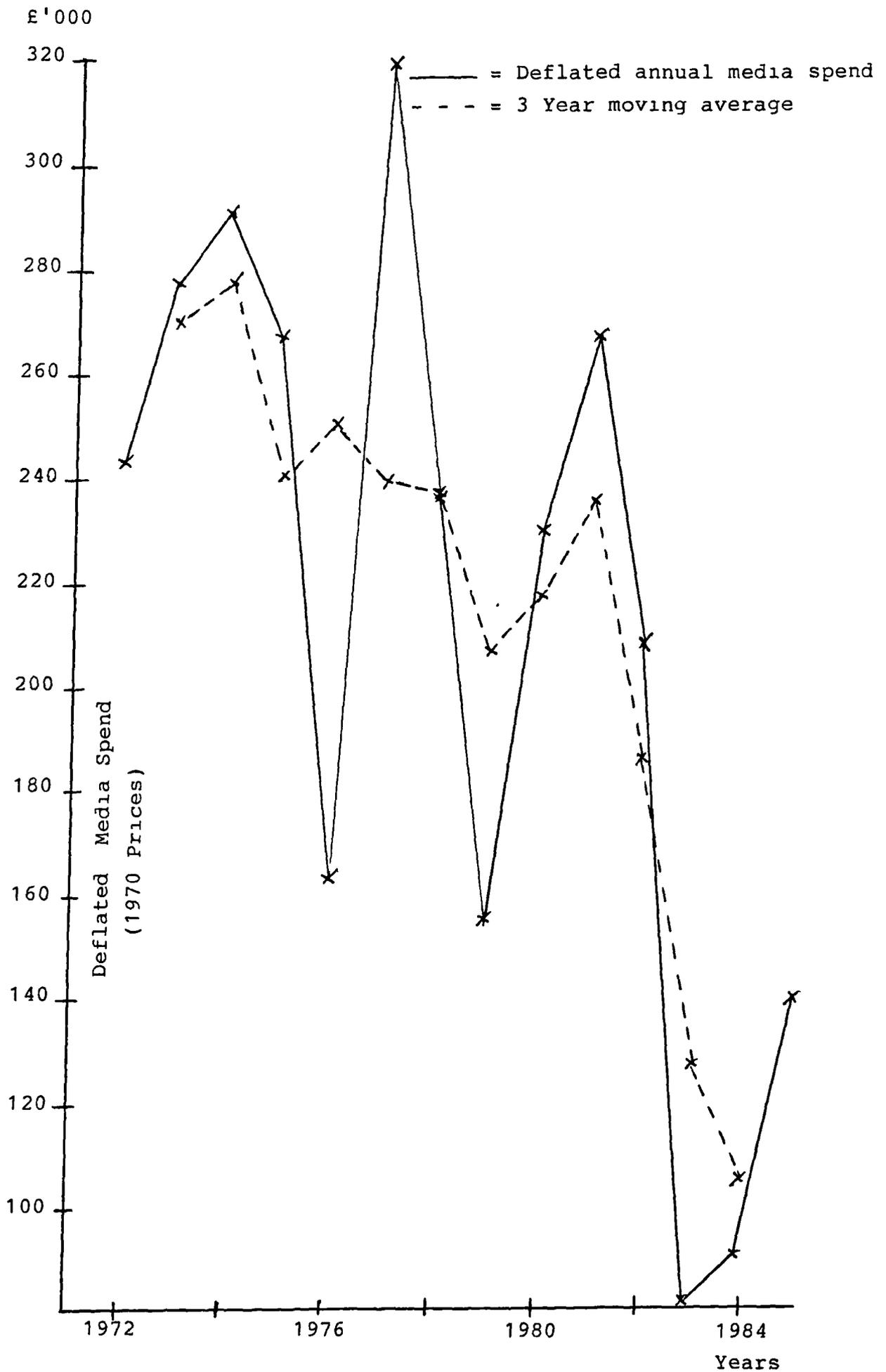


Fig. 6.5 Kitchen Towel: Changes in Advertising Spend

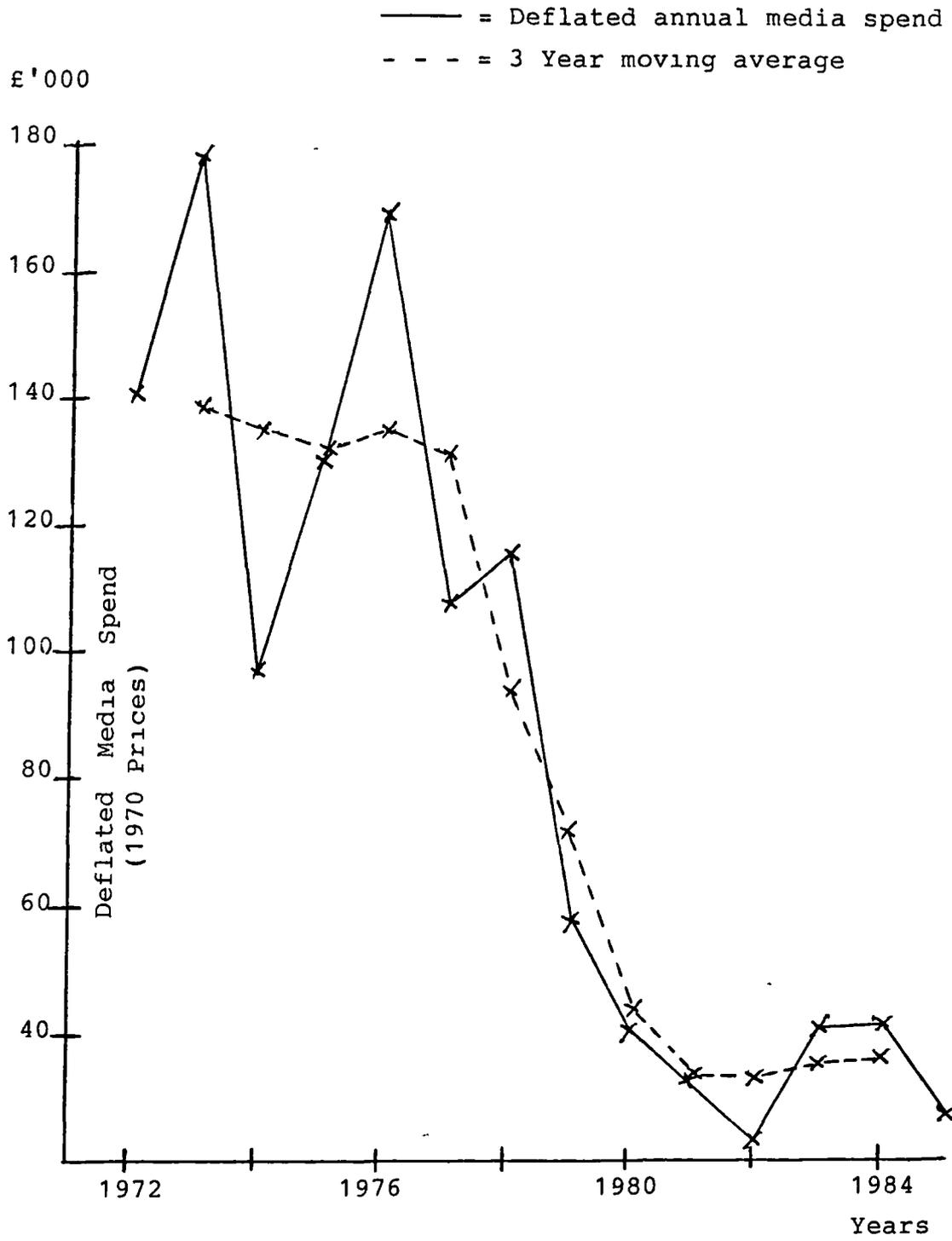


Fig. 6.6 Disinfectant: Changes in Advertising Spend

6.3 CHOOSING COMPETING ITEMS FOR EACH PRODUCT FIELD

To evaluate the homogeneity of the clusters perceived by respondents, several examples from each of 3 tiers were required. The number of items within each product field had to be kept to a manageable number to encourage respondents to participate. As the first stage of the fieldwork was based around repertory grids (as will be explained in section 6.4.1), guidance on the number of items was provided by the experience of other researchers. Pope and Keen (1981) recommended that between 8 to 15 items be used in repertory grid tests. It was therefore decided to use 3 branded, 3 own label and 2 (3 if sufficient examples existed) generic versions in each product field throughout this research.

Within each of the product fields the 8 (or 9) competing offerings were selected for the repertory grid tests after visiting multiple grocery retailers in the Hertfordshire and North London area, ie stores most likely to be used by the interviewees. Care was taken to ensure that in each product field similar examples were chosen (eg if toilet papers then all examples should be white papers). In some markets this proved impossible (eg attempting to find examples of kitchen towels that had no border patterns). Where possible, similar pack sizes were sought, but in some markets this was not always possible. Own label examples were used from Sainsbury, Tesco, Fine Fare and International (fieldwork being conducted prior to this

store becoming part of the Gateway chain). Generic examples from International, Tesco, Fine Fare and Presto (Argyll) were used (all being sold at the time of fieldwork).

During the repertory grid interviews and the subsequent interviews to reduce the number of attributes, the items shown in Appendix 1 were used. By the time this preliminary work had been completed, market developments (eg International withdrawing its generic range) necessitated more up to date examples. Store visits were undertaken shortly before the start of the quantitative survey in several major grocery retailers in and very close to Hertford where the quantitative survey took place. From these store visits 3 examples of branded items were bought for each product field, representing the most frequently seen branded items. None of the branded packs displayed promotional offers. Only 2 brands of aluminium foil could be found around Hertford (Alcan Bacofoil and Hygex). The only other brand besides Alcan Bacofoil with an advertising presence was Snappies which was obtained from a store outside the Hertford area.

Three different own labels were obtained for each product field, ideally trying to find equivalent pack sizes and consistency of product content (eg all rolls of toilet papers to be white). In some product fields this proved impossible (eg trying to get similar pack sizes of disinfectants or sufficient examples of kitchen towels

which were plain white) and this criteria had to be relaxed in a few instances. Across the 6 product fields, own labels from Fine Fare, International (at the time of fieldwork not associated with Gateway), Sainsbury and Tesco were used, ensuring that a good spread of multiple grocery retailers had been incorporated.

Where possible 3 generic items per product field were sought, but in the bleach and disinfectant market only 2 generic versions existed. Those multiple grocery retailers selling generics at the time of the quantitative survey, from whom generics were bought, were Fine Fare, Presto and Tesco. Where a retailer sold a generic item relevant to this study, only one pack size was sold and that had to be used. Appendix 2 lists the competing items used on the quantitative study.

6.4 OPERATIONALISING PERCEPTION OF MARKET STRUCTURE

As was explained in sections 4.2 and 5.3 this research is based upon the assumption of people perceiving competing items as arrays of informational cues. People select cues that they believe have high informational values. Over each of these cues, evaluations are made of the degree of similarity between competing items which enable people to group the items according to their degree of similarity.

The attributes that people, rather than marketers, believe to be important when judging competing items were

identified using the repertory grid technique. A subjective decision was not taken about which attributes should be included, but instead consumers were approached and dimensions they considered important were identified. This technique suffers from the problem of producing a large number of attributes. To encourage a large proportion of people approached to evaluate the competing items without fatigue, the number of attributes elicited from the repertory grids must be reduced. Recognising that the number and types of attributes used by respondents can influence the resulting categorisation (Everitt, 1986), a consumer orientated procedure, based upon a further series of structured interviews with attribute-brand batteries, was undertaken to reduce the number of attributes. Thus the process both of identifying consumer relevant attributes and reducing these to more manageable lengths focused primarily upon consumers' comments rather than marketers' views.

This section describes how the repertory grid technique was used to generate the original lists of attributes and how these were subsequently reduced to between 8 to 10 attributes. As will be shown in Chapters 7 and 8, a large number of respondents were then able to evaluate the competing items with these attributes. By calculating distances in attribute space between the items, measures of similarity were obtained showing how consumers grouped the items in each product field.

6.4.1 Attribute elicitation with the repertory grid

The main methods to identify dimensions consumers use to distinguish between competitive offerings are essentially unstructured methods (eg group discussions, depth interviews) and structured methods (eg subjective judgement, elicitation techniques). Since subjective judgements (eg Hirschmann et al, 1978) introduce bias by imposing the investigator's perspective, this approach was rejected. Group discussions and depth interviews have the advantage that by encouraging consumers to discuss brand characteristics in detail, consumer relevant attributes are elicited. Nolan (1971), Cowling (1973) and Norris (1982) point out weaknesses using these procedures to elicit attributes (eg the need for considerable administering and interpretation skill, inhibiting effects of groups, excessive probing encouraging respondents to think more deeply than normally, the obtrusion of a tape recorder, etc). In view of these weaknesses and the fact that elicitation techniques have considerable advantages, as will be shown, these methods were not used.

Nolan (1971) identified 5 elicitation techniques to identify the dimensions of competitive offerings, ie free association ("What comes into your mind when you think of -----?"), evaluative ("What do you like about ----? What do you dislike about ----?"), one versus the rest ("How is it different than ----?"), paired comparisons ("In what ways do this pair of ---- differ?") and repertory grids

("Please tell me a way in which two of these --- are like each other but different from the third"). With less researcher interpretation needed, these 5 techniques are regarded as being more objective (albeit personal experience showed the need for some interpretation) and elicited attributes in consumers' terminology (again with some researcher intervention needed). Uses of the repertory grid technique in marketing are reported (eg Sampson, 1978; Riley and Palmer, 1975; Frost and Braine, 1967) and since this technique has the further advantage that it is underpinned by theory (personal construct theory) it was used to elicit the dimensions on which people assess competitive offerings.

To appreciate the underlying theoretical assumptions of repertory grid techniques, some consideration is given of Kelly's personal construct theory (eg Kelly, 1963; Bannister, 1977). Kelly adopts the view of "man as a scientist", where individuals mentally follow the methodology of scientists by attempting to understand, predict and control their environment through construing it and then reacting to the consequences of their resulting expectations. People are believed to behave in an anticipatory (rather than reactive) manner, anticipating events through a conceptual framework based upon constructs. A construct is a bi-polar dimension which a person uses to classify 2 items as being similar, yet contrasting with a third, and which enables the person to distinguish between further items. Each person has a

system of constructs which they use to understand their environment and predict events.

Kelly derived a series of postulates about the nature of constructs. Three of these are of particular value in the design of repertory grid tests as shown:

(1) People differ from each other in their construction of events. From this postulate it follows that to obtain a full list of attributes, several, rather than one individual, need to be interviewed. For this research a target of approximately 15 interviews per product field was thought to be sufficient to obtain a spread of responses and as table 6-2 shows, between 13-18 interviews in each product field were achieved, resulting in a total sample of 95 respondents.

<u>Product Field</u>	<u>Number of Interviews</u>	<u>Fieldwork</u>
Washing Up Liquid	16 [16 women]	Feb-Apr 1984
Aluminium Foil	15 [12 women, 3 men]	Oct 1984
Kitchen Towels	18 [17 women, 1 man]	Nov 1984
Disinfectant	13 [12 women, 1 man]	Nov-Dec 1984
Toilet Paper	18 [13 women, 5 men]	Nov-Dec 1984
Bleach	15 [15 women]	Jan 1985

Table 6-2 Repertory grid interviews

(2) Each construct has a limited range of convenience, ie it operates within a given context and there are a finite number of items to which it can be applied. It follows

from this postulate that if people have to rate items on constructs which they had just suggested, a code "not applicable" is needed. For example when considering different types of disinfectants a respondent may have stated the construct "this is a dark disinfectant - this is a light disinfectant", which they can use to distinguish between disinfectants in clear but not opaque packaging.

(3) A person's construction system varies according to their experience with a particular product. Experience of products shows people how realistic their hypotheses about outcomes were and enables them to revise their constructs to better predict outcomes. To take account of this postulate, it is thought that by administering repertory grids to 15 people for each product field, a spread of product experience levels would result.

From personal construct theory Kelly developed the repertory grid technique to identify individual's construct systems. The application of repertory grids to this research is next described.

6.4.2 Administering repertory grids

For each of the 6 product fields, householders visually older than 18 in the Hertfordshire/North London area were approached. Provided they had done their grocery shopping in a multiple or Co-operative retailer within the past 4 weeks and were unknown to the interviewer, they were asked if they would participate in an interview in their home,

making it clear the interview would last about 35 minutes. To reflect shopping behaviour, women were primarily sought but a minority of men were also interviewed. Interviews were undertaken by the researcher, marketing students (BTEC/DMS) and a psychology undergraduate placement student working for a year with the researcher. All of the interviewers were given training by the researcher. The use of these trained interviewers was not thought to be detrimental since as Norris (1982) observed "No greater abilities are required from fieldworkers using grids than those needed to conduct interviews" (p3). All of the interviewers were older than 18.

Originally for the washing up liquid and aluminium foil interviews, a much stricter recruitment criterion was imposed, ie they must have shopped in the past 4 weeks in at least one multiple retailer where generic groceries were sold and shopped in at least one other multiple or Co-operative grocery retailer within the past 4 weeks and recognised at least one of 6 generic grocery products in a 7 inch x 5 inch colour photograph. It was felt that this recruitment criteria was too strict on a study which, by its nature, introduced a high rejection rate. Consequently the recruitment criteria was relaxed to its current form. An analysis of the questions on shopping experience and awareness of generics showed an acceptable spread of respondents.

Kelly's original repertory grid technique has since taken

on numerous forms (Fransella and Bannister, 1977). In this study the stimuli ("elements") were packs of competing items which were used to elicit attributes ("constructs"). Following personal construct theory, the elements were chosen to ensure their relevance to the respondent. This was catered for by the 6 product fields representing frequently bought items and through stipulating that respondents must have done their grocery shopping in multiple or Co-op outlets.

For a particular product field, 3 of the competing items were chosen according to a pre-determined random selection procedure, ensuring identical triads were not repeated. These were placed on a table in front of the respondent who was asked "Please tell me one way in which two of these are alike and different from the third". On a grid was recorded, in the respondent's words, the way 2 of the items were similar ("emergent pole") and the third dissimilar ("implicit pole"). Participants had now revealed their first construct. The 3 examples were removed and a further 3 items from the same product field were placed close to the respondent to elicit another construct. The interviewers were instructed to encourage respondents to think of different constructs rather than repeating earlier constructs. This process was repeated until no further constructs could be obtained. An example of the repertory grid questionnaire used is shown in Appendix 3.

An analysis of each participant's completed grid showed

that participants often repeated some of the constructs that they had stated earlier in their interview. Where a respondent had repeated a construct during their interview, the construct was only counted once for analysis. Table 6-3 shows the average number of different constructs given by each respondent and the total number of different constructs elicited for each product field. Feedback from the interviewers showed that respondents found the task to be quite demanding, with some unable to state more than about 4 constructs. Even though the interviewers received training, on debriefing some explained how challenging they found the technique to administer and spoke about often having to encourage respondents to think about new constructs. To some extent this is reflected in the number of different constructs elicited per interview. The aluminium foil interviews were undertaken by a rather determined placement student who achieved just over 15 statements per respondent, while the more reserved DMS students doing the kitchen towels interviews only obtained about 5 constructs per respondent. Experience of this technique suggests that it is best administered by interviewers who can hold respondents attention for some time without themselves feeling either strain or the temptation to finish the interview before all possible constructs have been exhausted.

<u>Product Field</u>	<u>Average number of different constructs per person</u>	<u>Total number of different constructs elicited</u>
Bleach	10.7	72
Toilet Paper	9.7	74
Washing Up Liquid	7.1	60
Aluminium Foil	15.5	84
Disinfectant	8.5	53
Kitchen Towels	4.7	43

Table 6-3 Number of constructs elicited

Depending on the product field, between 43 to 84 different constructs were elicited. It is unreasonable to expect respondents to evaluate each of the 8 or 9 competing items in a particular product field on all of the attributes elicited and section 6.4.3 explains how the number of attributes were reduced.

In the early stages of this research, exploratory work was undertaken using repertory grid data as the input for principal component analysis, to observe how people categorised competing items. Several weaknesses with this approach were discovered and it was decided not to use this method as a means of identifying respondents' grouping of competing items. The reader interested in learning about the experience gained from using repertory grids as a cluster analysis tool is referred to Appendix 4.

6.4.3 Reducing the number of attributes

To increase the likelihood of respondents completing an evaluation of the competing items on each attribute, the dimensions of each grid need to be kept to a minimum and yet still reproduce a true overall picture. The number of competing items on each grid is fixed at either 8 or 9, depending on the product field, and any changes must come from reducing the list of attributes. Guidance is provided by the earlier work using repertory grids. From the data in table 6-3 respondents overall used approximately 9 different constructs to form judgements, suggesting that 9 relevant attributes should produce a realistic assessment. Wolfe (1984) reported that to avoid poor completion rates through respondent fatigue, semantic attribute-brand batteries should not exceed 20 attributes for 4-5 brands. On this basis for 8-9 brands no more than 11 attributes should be included. From this it would appear wise to develop attribute lists for each product field of between 9 to 11 statements.

When considering which attributes to include in the attribute-brand batteries, attention was paid to Everitt's (1986) observation that the selection of attributes influences the resulting cluster structure. Nolan (1971) recommended that the number of attributes be reduced either by using only those statements mentioned by the majority of the sample or only one of the several constructs that correlate with others. Since a very low number of

respondents completed the repertory grids, the first suggestion was not followed. Consideration of the extent to which each attribute overlaps (correlates with) other attributes is a better approach. For this purpose examination of the attribute correlation matrices and principal component analysis are ideal devices. This approach has been successfully applied in cluster analysis by others (eg Doyle and Saunders, 1985).

For each product field the different constructs were first reduced by ignoring the more trivial, descriptive statements (eg pack has computer coding printed on it, sizes are shown in both metric and imperial, print on pack is in capital letters, etc). In a few instances the original constructs were not very clear and an attempt at interpretation was undertaken. It is recognised that this reduction and interpretation process is subjective and may have introduced a small investigator effect.

The revised list first produced for washing up liquid was viewed as being quite detailed and covered many aspects of the elements of the marketing mix. The reduced list of attributes for the other product fields did not include a few statements that were elicited in the washing up liquid interviews (eg comments about advertising) which, in the investigator's judgement, should have been present. Where some aspects of the marketing mix in a particular product field had not been elicited, yet had been stated in another product field, it was decided to include the appropriate

statements (eg "this has been advertised", "this is made by a well known manufacturer"). As table 6-4 shows, no more than 4 statements were added to any of the product fields. It was thought that, with an average of 15 interviews per product field, some constructs might have been missed, but could be compensated for by examining the total number of pooled constructs. It is shown later in this section that where any statements were added, no more than one of these additions were present in any one of the final attribute-brand batteries. Table 6-4 summarises this reduction process and Appendix 5 lists the selected attributes (phrased as they were on the attribute-brand batteries).

<u>Product Field</u>	<u>Original number of statements</u>	<u>Reduced number of statements</u>	<u>Number of statements added</u>
Bleach	72	23	4
Toilet Paper	74	23	3
Washing Up Liquid	60	29	0
Aluminium Foil	84	19	1
Disinfectant	53	21	2
Kitchen Towels	43	20	2

Table 6-4: Reducing the attributes (first stage)

To find the correlations between attributes in each product field, further interviews were undertaken with a target of 15 interviews per product field. It was thought that 15 respondents should provide a sufficient spread of experience for each product field. Respondents, who were

individually interviewed, were shown the 8 or 9 competing items in a product field and were asked, using a 5 point scale, how much they agreed or disagreed with each statement describing each of the 8 or 9 items on display. The polarity of the attributes varied within each battery to encourage respondents to think about their evaluations (Wolfe, 1984).

All of the competing items used for this wave of interviews were the same as those in the repertory grid tests, as was the recruitment criteria. It was made clear that the interviews would last at least half an hour. To reflect grocery shopping behaviour, women were primarily sought but a minority of men were also interviewed.

In-home or in-office interviews were undertaken in Hertfordshire and North London by marketing students (BTEC/DMS) and a psychology undergraduate placement student. All were older than 18 and had been given interviewing training by the researcher. None of the respondents were known personally by the interviewers. To reduce the problem of high contact rates, for the washing up liquid and two-thirds of the aluminium foil interviews, clerical and administrative staff at different sites of Middlesex Polytechnic (not the Business/Management site at Hendon) were interviewed. Table 6-5 gives details of the 91 interviews achieved.

<u>Product Field</u>	<u>Number of Interviews</u>	<u>Fieldwork Dates</u>
Bleach	15 [15 women]	Feb-Mar 1985
Toilet Paper	15 [12 women, 3 men]	Apr-May 1985
Washing Up Liquid	16 [15 women, 1 man]	Jan 1985
Aluminium Foil	15 [13 women, 2 men]	Jan 1985
Disinfectant	15 [14 women, 1 man]	May 1985
Kitchen Towels	15 [13 women, 2 men]	Apr-May 1985

Table 6-5: Attribute reduction interviews

6.4.4 Correlation techniques to reduce dimensionality

Each of the attribute-brand batteries was aggregated within each product field separately and the correlations between attributes calculated. Principal component analysis of the attribute correlation matrices provides a guide to reduce the number of attributes, as has been shown by Jeffers (1967) and Jolliffe (1972, 1973). In this research, principal component analysis was used to identify the components which explain a high proportion of the variance, and to highlight the high loading attributes on these components. Using the rule "only select those attributes with high loadings on the first few components" could result in the few attributes selected for a component doing little more than stating the same underlying variable in a different manner, while other attributes are omitted. Were this to be followed, it could affect the clustering of items, since a weighting of attributes would have been

introduced and as is explained in section 8.4.1, it was decided not to apply an a-priori weighting of attributes during cluster analysis. An example of this problem is shown later in this section. Instead, those attributes characterising the first few components were considered in terms of their correlations with each other and then a decision was taken about which ones to select, as will be shown.

When deciding how many components to select, Cattell (1978) argued from extensive empirical work that, selecting the number of components solely on the basis of their eigenvalues being greater than 1, is an unreliable approach. He showed that it is better to extract too many rather than too few components and this advice was adopted. Rummel (1970) suggested several methods to decide how many components to extract and 3 of these were jointly used, ie (i) Scree test. A graph of the proportion of variance explained by each unrotated component was drawn. Where the decreasing negative slope first levelled off and the incremental difference between successive components became similar, a possible solution for the number of components was suggested.

(ii) Interpretability. If the scree test indicated 3 components should be extracted, a principal component analysis based upon 3 components was undertaken and after an orthogonal rotation (Varimax), the meaning of each component was considered. To ensure a sufficient number of components were extracted, further principal component

analyses were completed stipulating that extra components be extracted until the full number of components was reached. The meaning of the rotated components for each separate extraction was considered and the extraction that provided the most meaningful components was considered a possible solution.

(iii) Discontinuity. A sharp fall in the variance explained by each component indicated that components subsequent to the discontinuity were of minimal value.

Using the BMDP suite of programs (Dixon, 1983) an R-type principal component analysis based upon the attribute correlations in each product field was undertaken and a decision taken about the number of components to be extracted. Apart from the kitchen towels and disinfectant data (where 4 components were extracted), 3 components were found to be suitable solutions for each product field. Table 6-6 shows that for each of the products, the first 3 components account for a large proportion (at least 84%) of the total variance. Appendix 6 details for each product field graphs of the scree test and for each extracted component, the high loading attributes on these rotated components.

<u>Component</u>	<u>Bleach</u>	<u>Toilet</u> <u>Paper</u>	<u>Washing</u> <u>Up</u> <u>Liquid</u>	<u>Alum</u> <u>Foil</u>	<u>Disinf</u>	<u>Kitchen</u> <u>Towels</u>
<u>% variance explained by each rotated component</u>						
1	43.1	53.8	51.2	43.2	39.8	42.2
2	42.0	24.6	26.7	33.6	37.6	26.7
3	9.7	13.2	6.3	16.2	15.7	17.3
4	N/A	N/A	N/A	N/A	5.0	9.5
	-----	-----	-----	-----	-----	-----
	94.8	91.6	84.2	93.0	98.1	95.7

Table 6-6: Explaining power of each component

The loadings of the attributes on each of the rotated components were examined and attention focused on those with loadings greater than approximately 0.8. From the correlation matrix, the correlation of the large loading attributes with other attributes was found. Some of these attributes not only correlated strongly with each other, but appeared to be saying the same thing. For example, on the first component of washing up liquid, the loadings of "this is not a plain pack" and "this is not cheaper labelling" were 0.97 and 0.94 respectively, and the correlation between these two attributes was 0.93. High loadings were used to identify useful attributes, but where there was a high correlation between attributes which logically described the same variable, only one of these was selected. Alternatively when high loadings indicated a potential attribute which examination of the correlation matrix showed to be little related to any other attributes, this attribute was selected due to its high information content.

Some degree of intuition was also used in selecting attributes following Jolliffe's (1972) observation that "many methods are possible for deciding which variables to reject, but in practice, experience and intuition often play a part in selection" (p160). When several attributes had high loadings and correlated strongly with each other, statements that had earlier caused respondent irritation were ignored. The occasional highly descriptive statement which had little evaluative value, and which also caused respondent irritation was ignored (eg for washing up liquid "this has a lot of white on the pack" or "this shows the price"). The statement "this represents good value for money" was not included since with different pack sizes on view, some respondents tried, with difficulty, to calculate prices in terms of costs for a standard pack size and became confused.

The choice of attributes was also influenced by plans to show photographs of the competing items in the quantitative study. For example, some of the bleach packs carried a lot of information on the reverse of the packs, yet the photographs only showed the front. The statement "this pack gives a lot of information" was a potential candidate for inclusion on the bleach battery. As this attribute correlated with other attributes which were to be included, it was not selected.

Initially 8 attributes were selected in each product field, since Jolliffe (1972) found that the number of attributes

could be reduced by more than half without appreciably altering the results. As a guide to the suitability of the reduced attributes, a visual comparison was made of how well the reduced data represented the full data. This was done by plotting the component scores for each of the 8 or 9 competing items on the first 2 components (since they accounted for a high proportion of the variance), using an R-type principal component analysis of the complete attribute correlation matrix. This map (1 for each of the 6 products) was taken as the standard against which any maps calculated from a reduced list of attributes were compared. Generally the 8 reduced attributes for each product field reflected, reasonably well, the relative spatial positioning of the competing items. To see whether any improvements were possible, several other attributes were added, following the selection procedure described, and with each addition new maps were drawn.

Minimal changes resulted and the lowest number of attributes that adequately represented the full list were selected. Appendix 7 shows the maps based upon the complete and reduced list of attributes. Depending on the product field, between 8 to 10 attributes were finally selected. Chapter 7 describes how, using a postal questionnaire, respondents completed an attribute-brand battery using the reduced number of attributes identified in this section. All respondents received a 6 inch by 4 inch colour photograph showing the items that needed to be assessed. Section 7.2 provides more details about the

photographs.

A summary of the attributes respondents use to assess competing items in each product field is shown in table 6-7. An analysis of these comments shows the reliance respondents place on product related comments, with 73% of the total number of comments across the 6 product fields describing this element of the marketing mix. In particular, packaging cues and brand names were the most frequently sought information cues, reinforcing the review in section 4.2 of the way respondents interpret products as arrays of cues.

	Bleach Paper	Toilet Liquid	Wash Up Liquid	Alum Foil	Kitchen Towels	Disinf	Total Comments
Comments relating to:							
<u>Product</u>							
Packaging	1	3	3	3	3	4	17
Branding	2	2	2	2	2	1	11
<u>Physical attributes</u>							
Physical attributes	2	2	3	-	1	2	10
Quality	1	-	-	1	-	-	2
<u>Promotion</u>							
Familiar/ well known	1	-	1	1	1	1	5
Has been advertised	1	1	-	1	-	-	3
<u>Place</u>							
Bought in bigger shops	1	1	1	1	1	1	6
<u>Price</u>							
Looks economy product	-	1	-	-	-	-	1
Total number of statements	9	10	10	9	8	9	55

Table 6-7: Summary of attribute statements

As perceived market structure is the focus of this research, the next 6 pages show question 5 from each product field's questionnaire, detailing the attribute-brand batteries. The process by which the results from the attribute-brand batteries enabled perception of market structure to be calculated is described in section 8.4.

Q5. Below is a list of statements some people have used to describe bleaches. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 8 bleaches.

When assessing each particular product on each statement please use the codes below to record your answer.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>							
	A	B	C	D	E	F	G	H
This bleach is sold in shops near my home	5	3	5	3	1	4	2	4

As she strongly agreed with this statement describing products A and C she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>							
	A	B	C	D	E	F	G	H
This looks familiar								
This is a supermarket brand								
This is a multi-purpose bleach								
This is a branded product								
This is a thick bleach								
This bleach container looks easier to hold								
This can only be bought in the bigger shops								
This is poor quality								
This has been advertised								

For your convenience the assessment codes are shown again below.

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

Q5. Below is a list of statements some people have used to describe toilet paper. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 9 toilet papers.

When assessing each particular product on each statement please use the codes below to record your answers.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This toilet paper is sold in shops near my home	5	3	5	3	1	4	2	4	5

As she strongly agreed with this statement describing products A, C and I she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This is a plain pack									
This has been advertised									
This can only be bought in the bigger shops									
This is poor quality packaging									
This is a branded product									
This looks an economy type product									
This is soft paper									
This has a larger number of sheets per roll									
This is a supermarket brand									
This is the standard size pack									

For your convenience the assessment codes are shown again below.

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

Q5. Below is a list of statements some people have used to describe washing up liquids. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 9 washing up liquids.

When assessing each particular product on each statement please use the codes below to record your answers.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This washing up liquid is sold in shops near my home.	5	3	5	3	1	4	2	4	5

As she strongly agreed with this statement describing products A, C and I she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This is a plain pack									
This looks as if it will get the dishes clean									
This is a well known name									
This is a supermarket brand									
This is an attractive pack									
This would smell fresh									
This would catch my eye on the shelf in a shop									
This is a branded product									
This is from the bigger shops									
This is a concentrated washing up liquid									

For your convenience the assessment codes are shown again below

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

Q5. Below is a list of statements some people have used to describe aluminium foil. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 9 aluminium foils.

When assessing each particular product on each statement please use the codes below to record your answers.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This aluminium foil is sold in shops near my home	5	3	5	3	1	4	2	4	5

As she strongly agreed with this statement describing products A, C and I she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This is a branded product									
This is an attractive pack									
I would feel confident cooking with this									
This is a supermarket brand									
This has been advertised									
This looks cheap packaging									
This can only be bought in the bigger shops									
This is a colourful pack									
This looks familiar									

For your convenience the assessment codes are shown again below

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

Q5. Below is a list of statements some people have used to describe kitchen towels. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 9 kitchen towels.

When assessing each particular product on each statement please use the codes below to record your answers.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This kitchen towel is sold in shops near my home.	5	3	5	3	1	4	2	4	5

As she strongly agreed with this statement describing products A, C and I she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>								
	A	B	C	D	E	F	G	H	I
This would catch my eye on the shelf in a shop									
This has a larger number of sheets per roll									
This can only be bought in the bigger shops									
This packaging is good quality									
This is a branded product									
This looks familiar									
This is an attractive pack									
This is a supermarket brand									

For your convenience the assessment codes are shown again below

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

Q5. Below is a list of statements some people have used to describe disinfectants. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 8 disinfectants.

When assessing each particular product on each statement please use the codes below to record your answers.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>							
	A	B	C	D	E	F	G	H
This disinfectant is sold in shops near my home	5	3	5	3	1	4	2	4

As she strongly agreed with this statement describing products A and C she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>							
	A	B	C	D	E	F	G	H
This is a convenient size								
This is a well known name								
This is a supermarket brand								
It is easy to pour disinfectant out of this container								
This would catch my eye on the shelf in a shop								
This disinfectant would smell of pine								
This is a flimsy container								
This will kill more germs								
This can only be bought in the bigger shops								

For your convenience the assessment codes are shown again below

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

6.5 OPERATIONALISING THE INDEPENDENT VARIABLES

To operationalise the independent variables, the methods used by other researchers were considered and where possible, a similar approach followed. By trying to follow previously accepted conventions, this research should not suffer from the weaknesses, identified by Jacoby (1978), Foxall (1980b) and Wolfe (1984), of using different measuring procedures that then negate any possibility of comparing results with other studies.

6.5.1. Product experience

Three scales were developed to measure respondents' experience of the competing items ie prompted awareness, prompted buying experience of any of the items displayed in the relevant photograph and grocery retailer most often used. By using 3 measures that address different dimensions of experience, a more complete evaluation of the impact of experience can be placed on the findings (cf Jacoby, 1978).

There is an accepted tradition of measuring experience in terms of awareness and previous purchasing behaviour (eg Monroe, 1976; Jacoby et al, 1978; Newman and Staelin, 1972). Occasionally some researchers have introduced different measures of experience (eg Bucklin (1966) defined this in terms of prior knowledge about product features) but as these studies are in the minority, experience was

operationalised in what appears to be a conventional manner. Specifically, experience was measured by asking respondents which of the competing items in the photograph they had ever seen before, which they had ever bought before and which grocery retailer they used most often.

By considering the distribution of respondents according to the number of items ever seen and then number of items ever bought in a specific product field, 4 categories of experience were developed for each of these 2 experience measures. To ensure sufficient people per experience category, for each index of experience, respondents were divided into 4 approximately equal groups termed low, medium, high or very high experience. In the case of grocery retailer used most often, 4 retailers were predominantly mentioned (Fine Fare, Sainsbury, Tesco and Waitrose) and the relevant respondents were classified into 1 of these 4 groups.

6.5.2 Product importance

Several approaches to measuring product importance have been reported. Katona and Mueller (1955) measured this in terms of the item's price. This procedure was not followed as importance encompasses more than just a cost element. Consumer behaviour research studies have tended to use measuring instruments which ask directly how important the items are. Assessing product importance using an absolute measure (eg "this is of considerable

importance to me"), as used by Dash et al (1976), was rejected in preference for a relative measure (eg ranking products in order of importance). By requiring respondents to rank products in order of importance, a fixed environment has been stipulated, unlike the approach of Dash et al ("Compared to other things or subjects that interest you, how important to you is ----?), which suffers from allowing respondents to develop their own environmental setting. Bettman (1973) measured product importance by asking respondents to consider pairs of products, from which they selected the more important of the pair and then rated how much more important the first item was than the second. With up to 9 items, this would involve 36 evaluations, which was regarded as being too tedious a task for respondents.

Of the relative measures, that developed by Jacoby et al (1978) was viewed as being the most realistic. Respondents were presented with a list of 10 commonly purchased grocery items, that they had to imagine they had run out of, and were asked to rank the order in which they would replace the items. The higher the rank ordering of the item the more motivationally salient it is and hence the greater its importance.

This instrument would appear to have face validity, but there was some doubt about whether it measured urgency, particularly when the item list included toilet paper. To tone down any inferred element of urgency, a revised

approach was developed ie

"Imagine that a check of groceries within your home revealed that while you still had enough of the products shown, you would soon run out of these products. In what order would you replace these products?"

To test the validity of this measure, 20 householders in Hertfordshire were presented with a list of 9 items and were asked this question in a personal interview. The rank ordering of replacement across the group as a whole was calculated.

A further way of measuring product importance may be through the idea of products the respondent could do without. Consequently a further measure of product importance was devised, ie

"If you had to do without some of the items shown, which one of these would you be most likely to do without? And which one would you be next most likely to do without?" etc

Another 20 householders in Hertfordshire were personally interviewed and with the same 9 items were asked the revised question. The rank ordering of the second group as a whole was calculated and the ordering reversed to allow comparison with the first approach. A high degree of similarity in rank ordering across the two measuring instruments was noted, the largest difference in rank being only 2 for one of the items. A coefficient of rank correlation between the 2 approaches was calculated as

being 0.93. From this, it was felt that the proposed measure was validly measuring product importance.

Jacoby et al (1978) made no stipulation about the items to be included on the item list, other than they should all be commonly purchased groceries. The list used in this study included the 6 products under investigation plus 3 other groceries (tea, sugar and margarine). Nine, rather than 10 items, were used to reduce respondent fatigue and to enable respondents to be classified into 3 groups according to whether they ranked the item among the first 3 for replacement (high importance), in the 4th to 6th rank position (medium importance), or in the 7th to 9th rank position (low importance).

6.5.3 Perceived risk

Several methods have been used to measure perceived risk, but there does not appear to be a universally accepted approach (eg Gemunden, 1985). In 1973, Zikmund noted "it is extremely difficult to find a good measure of perceived risk" (p103) and after several further papers critical of the lack of a standard measure (eg Bettman, 1975; Kaplan et al, 1974), Pras and Summers (1978) reported "---- a general agreement on a precise conceptual and operational definition has yet to emerge". (p429).

Bauer's (1960) seminal paper on perceived risk did not address the practicality of measurement and several methods

emerged. One approach followed Bauer's comments about perceived risk being a 2 dimensional concept consisting of uncertainty and consequences. Measurement of these two components have been used to estimate perceived risk (eg Cunningham, 1967; Hisrich et al, 1972; Schaninger, 1976; Horton, 1979). The weaknesses of this approach are that several conceptualisations of the components of perceived risk have been used (eg Bettman, 1975), there is disagreement about whether to use an additive or multiplicative model and little attention has been paid to the weighting of the components of perceived risk. Exploratory interviews in this study used the Cunningham (1967) wording to measure perceived risk, but operationalising the consequences component, using the idea of danger associated with a product, caused considerable respondent irritation. In view of all these weaknesses, this approach was not employed.

Some researchers (eg Woodside, 1972; Peter and Tarpey, 1975; Pras and Summers, 1978 - all of whom considered high involvement items) developed instruments that involved respondents evaluating the probability of certain events occurring (eg probability of different types of loss occurring as a result of a purchase). This methodology does not appear relevant to this research for low cost, frequently bought groceries.

As was discussed in section 4.3.1, perceived risk is believed to be composed of several risk types (eg financial

risk, physical risk, etc). Some researchers developed measuring instruments where respondents stated what degree of risk they perceived on each risk type (eg Perry and Hamm, 1969; Axelrad, 1980) and by combining these individual measures arrived at an index of risk. Others explained the concept of risk to respondents in terms of its components and then asked for their overall perception of risk (eg Kaplan et al, 1974; Taylor, 1979). The first of these two approaches is a more tedious task and introduces the problem of how scores on different types of perceived risk are to be combined, an issue ignored by Axelrad (1980). The latter approach appears to be a better method since it is a less tedious task for respondents, clarifies what is meant by risk and has been shown to be a valid measure (Jacoby and Kaplan, 1972; Kaplan et al, 1974).

The original work undertaken by Jacoby and Kaplan (1972) showed that 5 risk types (financial, performance, physical, psychological and social) explained an average of 74% of the variance in overall perceived risk taken across 12 products. Surprisingly the time risk type, identified by Roselius (1971) had not been included. Building on this approach, a question to measure perceived risk was developed which included these 5 risk types plus the time risk type. In exploratory research the 6 types of risk were explained to respondents, who were then asked for their overall view on the risk they would feel choosing a brand of a particular product from a number of brands that

they had never used before. The question was understood, but the inclusion of psychological risk ("the risk of the brand not fitting in with the image we might have of ourself") caused respondent irritation. Of the low involvement products considered by Jacoby and Kaplan (1972) the psychological risk type was generally the least important variable. Consequently it was decided that the psychological risk type would be omitted when explaining risk.

Having explained to respondents the 5 different risk types associated with buying an unknown brand, they were asked to state the overall level of risk they would feel buying an unknown brand in the product field that their questionnaire focused upon. A 5 point scale (very high risk through to very low risk) was employed.

6.5.4 Level of education

Different approaches to assessing level of education have been employed. Some have categorised level of education according to the type of institute attended (eg Thorelli, 1971; Arndt, 1972). With the differences in education system between the UK and other countries and the changes in the UK over the past few years (eg Grammar School, Secondary Modern, Comprehensive) this method was not followed. Another method employed is that of asking respondents about their educational qualifications (eg Newman and Staelin, 1972). This approach necessitates a

greater degree of interpretation at coding, is less appropriate for a postal survey because of the occasional need for probing and was felt to be obtrusive. A more appropriate approach was felt to be the accepted use of terminal educational age (Wolfe, 1984).

6.5.5 The other independent variables

Perceived price differences between the cheapest and most expensive items were evaluated using the widely accepted semantic differential scale (Chisnall, 1986; Oppenheim, 1979). Respondents were asked to consult their photograph and to then tick the statement best describing their opinion about the size of the price difference between the cheapest and the most expensive items on display. A 5 point scale was originally used (very large price difference through to a very small price difference), but piloting showed the need to include "no difference in price".

Perceived advertising support for each product field as a whole was asked using a 5 point semantic differential scale. A 5 rather than 7 point scale was used since Morton-Williams (1978) reported this to be easier for respondents to understand.

Belief in brand manufacturers producing own labels was evaluated by asking respondents to look at 3 coded items in a colour photograph showing 8 or 9 competing items in that

product field. They then stated how likely or unlikely they thought it was that these 3 items had been made by major manufacturers of branded goods. As chapter 7 explains, a postal survey was used to collect the data and a limitation of this method is that some might have read the questionnaire through before completing it. To avoid drawing respondents' attention to own labels as a category, this question was placed towards the end of the questionnaire, but it is thought that some people may have been influenced by this question when completing the attribute-brand battery.

Respondents' sex and age were asked using direct questions. By employing the electoral register for sampling purposes and with the covering letter asking that the questionnaire be completed by the person who mainly does the grocery shopping, it was thought very unlikely that any one would be under 18 (as proved the case upon receipt of all the replies). To allow for this possibility a category "younger than 18" was included. A series of age bands were specified on the questionnaire, following the recommendations of Wolfe (1984), and respondents were asked to tick the age group to which they belonged.

6.6 CONCLUSIONS

To provide a rigorous test for the hypotheses developed in chapter 5, several important criteria were identified for product fields to satisfy and 6 were selected which met

these stipulations, bleach, toilet paper, washing up liquid ("increased advertising support") and aluminium foil, household disinfectant, kitchen towels ("reduced advertising support"). Depending on the product field, either 8 or 9 competing examples of brands, own labels and generics were chosen to represent that product field.

Perception of market structure, as the dependent variable in this research, was operationalised by asking respondents to assess each of the competing items in a particular product field on a series of attributes. Repertory grids were used to elicit consumer relevant dimensions. A large number of attributes were obtained and these were reduced by first eliminating the more trivial, descriptive statements. Further interviews were then used to identify the extent to which attributes were related to each other. By examining the correlations between attributes and using principal component analysis, between 8 to 10 attributes were selected which would enable respondents' perceptions of market structure to be measured.

The independent variables were operationalised by considering other researchers' methods, facilitating the comparison of this study with other published research. Where several methods for operationalising the variables existed, an argument was developed to support a particular approach. In the case of product importance, the measure recommended was shown to have construct validity.

CHAPTER 7

DATA COLLECTION FOR THE QUANTITATIVE STUDY

7.1 INTRODUCTION

This chapter is concerned with detailing the data collection process. Following the way that the dependent and independent variables were operationalised in the previous chapter, it was thought that sufficient data could be collected using a postal survey. To ensure a high level of response, this chapter reviews the experience of other researchers and explains how the postal survey was subsequently designed.

The basis on which an estimate was made of the contact sample is explained. Using the electoral register for Hertford, the application of a systematic sampling procedure to identify the contact sample is described. The mechanics of the mail out and the decision about when to send the follow-up letter are shown, as is a brief analysis of the response rate achieved.

7.2 PRESENTING THE COMPETING ITEMS TO RESPONDENTS

To ensure respondents have sight of the competing items in each product field, they were sent a 6 inch by 4 inch colour photograph showing the relevant 8 or 9 competing items. The research was based around the assumption that

by seeing a photograph of particular items familiar to respondents, this would evoke recall of each item's characteristics. There are limitations introduced by using photographs. Only the front of the packs could be shown, respondents were unable to gain information through touching the items and on some packs, where detailed information was in small print, the photograph made it difficult for some respondents to read the pack information. On balance it was felt that the practical advantages of using photographs compensated for some of the limitations. Appendix 8 shows the 6 photographs used in the postal survey.

All of the items were photographed standing on the same blue base against the same blue background. Items were non-systematically positioned to ensure that examples representing a particular tier were never grouped together. To enable respondents to refer the items in the photograph to a particular part of the attribute-brand battery, codes A to I were stuck to the competing items which conformed to the "brands" column headings on the attribute-brand battery. All of the codes for the photographs were black letters on a white background, affixed in such a way that as little of the pack as possible was obscured.

To test the hypothesis relating to price perception, any price labels stuck on by the store merchandisers were removed. Those occasional items that had a price printed on the pack were left with their prices showing since this information represented an integral part of the packaging.

A decision was taken not to show the price of each item since this would invalidate any measure of price perception and would also increase the artificiality of the research. It is rare for consumers to be faced with such a large number of competing items in the same product field and to show prices may exaggerate perceptual differences, particularly since consumers are usually unsure of precise product prices (McGoldrick and Marks, 1986).

7.3 THE DATA GATHERING PROCESS

The postal survey was undertaken in Hertford since householders had relatively easy access to multiple grocery retailers selling generics and own labels. At the time of fieldwork, Fine Fare and Waitrose were the main multiple grocery retailers in Hertford, a large Tesco was situated 3 miles away in Ware and both Sainsbury and Presto stores were to be found 8 miles away in Harlow.

With the postal survey planned to start on the 28th August 1985, store visits were completed between 15th -24th August 1985 to collect actual product prices. Based on visits to Co-op, Fine Fare, International, Liptons, Sainsbury, Tesco and Waitrose, the average price of each item shown in the photographs was obtained. The price of Snappies aluminium foil was found from Asda in High Wycombe. Average prices are shown in Appendix 2.

Three alternatives are available to obtain a large sample

of respondents to test the hypotheses: telephone interviews, personal interviews and a postal survey. Telephone interviews were rejected since they would restrict the sample to telephone subscribers and are an expensive alternative. Personal interviews have advantages, eg explaining any areas where respondents may be confused, enabling the questionnaire to be administered in the order stipulated without respondents reading ahead, etc. The main disadvantage is that they are considerably more expensive than a postal survey. There are several advantages and disadvantages of postal surveys (Erdos, 1970; Kanuk and Berenson, 1975; Moser and Kalton, 1981; Hoinville et al, 1982) but within the context of financial constraints this method was felt to be a good procedure to validly ascertain a large sample's replies to the questionnaires. The reasons for adopting a postal method and any limitations introduced are considered.

The proposed questionnaire for this study was based upon a relatively low number of questions (12), all of which are pre-coded and there were no complicated routing procedures. The early stages of this research had produced small attribute-brand batteries and only for the question concerning the battery was an explanatory section needed. All of these aspects make the postal method an ideal procedure.

There are several advantages of postal surveys. Respondents can complete a postal questionnaire at their

own pace without feeling a need to rush in the presence of an interviewer. There is no interviewer bias, problems of non-contact due to the respondent not being at home when the interviewer calls are avoided and all neighbourhood districts can confidently be reached at the same time.

The postal method is considerably cheaper than personal interviews. The cost of completing this postal survey, which resulted in 1065 returned questionnaires after 1 reminder letter, was just under £1,000. It was optimistically estimated that to complete the study using a market research agency's interviewers would cost approximately £4,450 (assuming a daily charge rate of £50 for which 12 interviews could be completed).

There are limitations associated with a postal survey. With insufficient planning, response rates can be low. There are cases reported though, of diligent planning resulting in response rates in excess of 80% (eg Kanuk and Berenson, 1975; Moser and Kalton, 1981). Low response rates increase the likelihood of there being a bias in the data, since the replies received might differ from those that would have resulted if the non-respondents had replied. To reduce such bias, attempts should be made to attain high response rates using such techniques as enclosing pre-paid envelopes and following up with reminder letters (Blumberg et al, 1974), as will be considered in section 7.3.2.

There is no guarantee that respondents will not read all of the questions in advance of answering the first question and some may answer questions out of sequence. After respondents complete the battery (question 5) they are later asked (question 8) to consider whether branded goods manufacturers made 3 of the coded items in their photograph (ie own labels). If respondents first read the questionnaire through they may have a slightly higher awareness of own labels as a category, which in turn might influence their response to the attribute-brand battery.

Even though the covering letter asks that the person who mainly does the grocery shopping should complete the questionnaire, there may be a minority who ignore this. Any vague answers given cannot be further questioned (unless the respondent is approached again); thus when a question is malcompleted, this respondent is effectively lost.

Recognising the limitations of the postal method, it was thought to be a particularly useful way to conduct the large sample phase of this research and was consequently employed.

7.3.1 Developing the questionnaire

Advice on designing a postal questionnaire was consulted from several sources (Hoinville et al, 1982; Moser and Kalton, 1981; England, 1978; Erdos, 1970) from which a

first draft was produced. To reinforce the fact that the questionnaire was to be completed by the shopper who normally did the household shopping, the questionnaire opened with the first question asking about the grocery retailer most frequently used.

Care was taken to ensure that the appearance of the questionnaire made it look easy to complete and that it was attractive. As part of this aim, no column punching codes, to facilitate later data processing, were included. The questionnaire was not compressed, since previous research (Scott, 1961) does not support the proposition that shorter questionnaires achieve a higher response rate than longer ones.

Unambiguously phrased questions using simple words were employed and clear instructions were shown. As there is a learning process associated with completing postal questionnaires, easy questions that were thought to be more interesting were placed early in the questionnaire, with the more difficult battery question towards the middle. In an attempt to reduce possible bias on the attribute-brand batteries, the order in which the attributes were presented was reversed for half of the sample (ie versions A and B).

To reduce any difficulties respondents might have with the postal questionnaire and to determine what they understood from each question, pilot interviews were undertaken.

Twelve householders were asked to read the proposed covering letter (as will be considered in section 7.3.2) and to complete the questionnaire, imagining they were alone. While they were doing this they were observed and after they had finished were debriefed by the researcher. From their comments, changes were made which were tested until the questions were understood and respondents were able to successfully complete the questionnaire. Observation showed that the questionnaire took between 15 to 20 minutes to complete.

The 4 page questionnaire was produced as 2 double sided pages that were stapled together. An alternative presentation was to photo-reduce each page, such that a 4 page booklet type questionnaire on one sheet of A4 was available. Respondents reaction to the booklet was less favourable, since they felt it was difficult to read and looked more complex. Consequently, the booklet style was rejected. Appendix 9 shows the postal questionnaire used for one of the product fields - the only difference between product fields was the attribute list used in question 5 (shown in section 6.4.4) and the order in which they were presented (versions A and B).

7.3.2 Achieving a high response rate

To achieve a high response rate the experience of other researchers was considered and as many features as possible were included.

All questionnaires were accompanied by the relevant photograph and a covering letter. This explained the purpose of the survey, gave an assurance of confidentiality and stated why the respondent should reply. The form of this letter followed recommendations from Erdos (1970) and Hoinville et al (1982), except that respondents were not told how they were selected for fear of introducing a "Big Brother" syndrome. The letters were printed on Hatfield Polytechnic headed paper, since the limited research reported by Kanuk and Berenson (1975) indicated that this may help achieve a better response. Linsky's (1975) review of the effectiveness of personalising letters, by addressing respondents personally and signing each letter, indicated an equivocal result. This may be due to certain groups fearing loss of anonymity (eg the lottery winners of Andreasen, 1970). The view was adopted that, if respondents thought some effort had gone into the letter, this might encourage their participation and there was unlikely to be any topic over which fears of anonymity would reduce response. All letters began with a personal, handwritten salutation and were signed using blue ink to make this more apparent. Appendix 9 shows the covering letter used. Likewise, each envelope was handwritten and was addressed to potential respondents by name. Respondent's christian and surnames were used throughout without any reference to their title.

Minimal differences were expected using second rather than first class postage to mail the questionnaires (McCrohan

and Lowe, 1981) and to reduce cost, second class postage was used. All out going envelopes had a stamp rather than being franked following research by Peterson (1975). Included with the questionnaire was a second class business reply paid envelope to encourage a higher response (Ferriss, 1951). It is interesting to note that Harvey (1986) found no significant difference in UK response rates when using a second or first class stamp on the reply envelope.

Follow-up letters are a powerful means of increasing the response rate (Moser and Kalton, 1981; Kanuk and Berenson, 1975) and by recording the serial numbers of all returned questionnaires, those who had not replied were identified and were sent a follow up letter. Amongst professionals VonRiesen (1979) found a significantly higher response rate if a further questionnaire was included with the reminder letter, while amongst consumers Etzel and Walker (1974) found no significant differences in response rates. As this study is directed towards consumers it was decided only to send a reminder letter. This again was personalised using Hatfield Polytechnic headed paper. The respondent's name and address were handwritten on an envelope to which was affixed a second class stamp. Appendix 9 shows the reminder letter sent out.

The decision as to when the reminder letters should be sent out was taken based upon a graph of the daily cumulative responses. When returns started to dwindle the reminder

letters were sent (Blumberg et al, 1974; Hoinville et al, 1982). The "rule of thumb" suggestions of some researchers (eg Nichols and Meyer, 1966; Etzel and Walker, 1974) were not applied, since these appear to be specific to certain samples and are based on their views about respondents likelihood of replying.

7.3.3 Sampling procedure

To identify respondents' grouping of items, a hierarchical clustering algorithm was used (as described in section 8.4.4). This is not founded on statistical theory and evaluating the similarity-dissimilarity between the clustering schema exhibited by different groups of respondents was based upon examining the composition of the clusters. The sample size consequently was not formulated on the basis of the degree of precision required, but instead upon the need for sufficiently large sub-groups within the total sample. It was thought that a minimum of 100 interviews for each product field, ie a minimum total sample of 600, should enable the hypotheses to be tested.

A pessimistic view about the response rate was that it might be as low as 30% and that 10% of the returned questionnaires might be unusable due to completion errors. Guided by Hoinville et al (1982), it was envisaged that a 20% response rate might be achieved prior to a reminder letter, with a further 10% replying after the reminder

letter. On these assumptions, it was decided to approach 2,200 householders.

The 1985 electoral register for Hertford formed the sampling frame. A probability sampling method (systematic sampling) was used to select potential respondents. The total number of people listed in the 13 non-rural polling districts was calculated and a sampling interval computed to select the required number of people. This was done by first dividing the eligible number of voters by the required sample size. To ensure each address had the same probability of selection, regardless of how many electors were listed at that address, this figure was initially going to be divided by 2.2 (assumed to be the average number of electors per address), but instead was divided by 2.5 to allow for the exclusion of establishments such as hospitals. By then, using the method of firstings (Hoinville et al, 1982) the probability of a household being selected was independent of the number of electors listed at each home. With an electoral population of 17,290 and a sample requirement of 2,200 a sampling interval of 3.12 was required. A sampling interval of 3 was initially applied to generate a sample slightly larger than that required, on the basis that it was easier to apply a further interval to systematically reject any excess, as proved necessary.

The starting point on the first polling district was found by selecting a card from a hat containing 3 cards, numbered

1, 2 and 3. The selection procedure was then employed, imagining the 13 polling districts to represent one continuous list of electors. Preference was given to selecting women, if both sexes were listed at a household, to reflect grocery shopping activity. Where no women were listed the man was selected.

A contact sample of 2,196 householders was identified. A systematic procedure was then employed to ensure that the distribution of product fields and A/B versions of the questionnaires (ie order in which the attributes were shown) introduced no bias. Between 365 to 367 questionnaires per product field were sent out, of which half were version A and half version B. The order in which the first 6 questionnaires was to be allocated to the first 6 households was randomly decided and this order was maintained throughout the sample. The first 6 product field questionnaires were all version A, the next 6 were version B, etc. An analysis of the questionnaires sent out showed that each individual polling district had an equal proportion of the 6 product field questionnaires, which were equally balanced by version A and version B.

Strictly speaking, the sampling procedure and allocation of questionnaires was not random, since the selection of respondents and allocation of questionnaires depended upon both the selection of previous householders and the previous allocation of questionnaire type. While this is a limitation, the procedure does produce a more even spread

of the sample over the population list than would simple random sampling (Moser and Kalton, 1981).

7.3.4 Response level achieved

The postal survey was ready for mailing by July 1985 but was held back for fear of school holidays slightly reducing the response rate. The 2,196 questionnaires were sent out on Wednesday 28th August 1985. As can be seen from figure 7-1 the daily response rate had started to slow down by Friday 7th September. With confirmation of this reduced response rate seen on Monday 9th September (12 days after the first mail out), the follow up letters were sent that day to the 1,560 householders who had not replied. When the reminder letters were sent a 29.0% response rate had been achieved from 636 respondents. After the reminder letters were sent a further 429 replies were received (a further 19.5% response) giving a total response of 1065 questionnaires, or 48.5% of the total number approached. With 37 questionnaires later returned as "moved/demolished/deceased" the effective response rate was 49.3%. It was felt that this was sufficient to minimise the problem of response bias. By Friday 4th October 1985 the daily response had virtually stopped and analysis began. Only 8 further questionnaires were received after this cut off point.

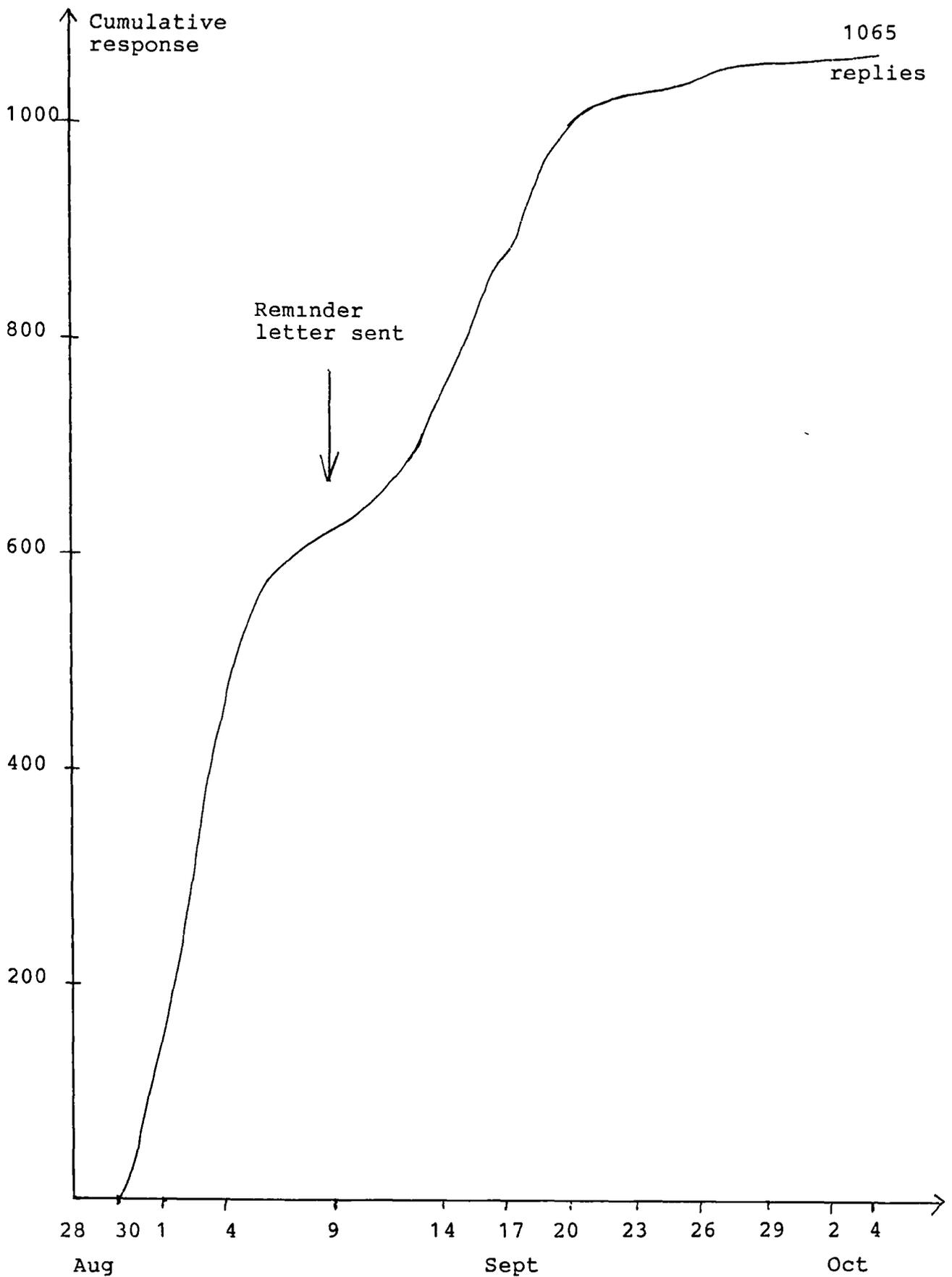


Fig 7-1: Cumulative response to the postal questionnaire

Table 7-1 shows the response levels within product field analysed by the reminder letter. At the 0.05 significance level the null hypothesis that response to the follow up letter is independent of the product field was rejected, using a chi-square test. A more pronounced response to the follow up letter was seen amongst people returning aluminium foil questionnaires than in the other product fields. This may reflect the extremely low level of interest in aluminium foil, it being ranked as the least important item by the total sample. An analysis of product importance ranking and the level of response by product field showed little other similarity, apart from the aluminium foil result.

	Number sent out	Returns without reminder	Returns after reminder	Total Returns
Aluminium Foil	367	82	82	164
Bleach	365	117	74	191
Disinfectant	367	101	77	178
Kitchen Towels	366	106	70	176
Toilet Paper	366	110	60	170
Washing Up Liquid	365	120	66	186
TOTAL	2196	636	429	1065

Table 7-1: The impact of the reminder letter

7.3.5 Data processing of the questionnaires

returned completed questionnaires had their results transferred to coding sheets. These were given to a full-time data input operator at the Hatfield Polytechnic Computer Centre who created a data base on a DEC 1091 computer. Using the SPSS statistical package (Nie et al, 1975), frequency tables were produced and as explained in

section 8.4.7, this was used in conjunction with a specially written FORTRAN program and CLUSTAN to undertake cluster analysis.

7.4 CONCLUSIONS

This chapter has shown how a postal survey was used to collect data from a large number of respondents, to test the hypotheses developed in chapter 5. Based on the assumption that, by seeing a colour photograph of the competing items in a product field recall of each item's characteristics would be evoked, all of the questionnaires were accompanied by the appropriate 6 inch by 4 inch colour photograph. The survey was completed in Hertford, using examples in the 6 product fields that were available from multiple grocery retailers either in or near Hertford.

A postal questionnaire and covering letter were produced and amended on the basis of pilot interviews. The letter, printed on Hatfield Polytechnic headed paper, was personalised by addressing each respondent individually and signing all of the letters. Householders all received a covering letter, questionnaire, colour photograph and a second class business reply paid envelope. The out-going envelope had the householder's name and address handwritten and carried a second class stamp.

Using a systematic sampling procedure with the Hertford electoral register, 2,196 householders were approached.

On 28th August 1985, questionnaires were sent and 12 days later, when the response rate had slowed down, personalised reminder letters were sent out in hand addressed envelopes carrying a second class stamp.

An effective response rate of 49.3% was achieved (1065 questionnaires), sufficiently large to reduce response bias. The replies were recorded on coding sheets which a full-time data input operator at the Hatfield Polytechnic Computer Centre used to create a data base on a DEC 1091 computer. The data base was ready for computer analysis and the next chapter describes the data analysis procedure.

CHAPTER 8
DATA ANALYSIS PROCEDURE

8.1 INTRODUCTION

Having explained in the previous chapter how data was collected from a large number of householders, this chapter focuses upon the technique used to calculate the way various groups of respondents categorised the competing items.

The first part of this chapter explains why cluster analysis was chosen as the technique to measure respondents' grouping of items. A weakness of cluster analysis is the lack of a universally accepted definition of a cluster and it is shown why single link cluster analysis was used to define a cluster. Before a cluster analysis procedure can be used, a series of decisions have to be taken, ie whether to apply an a-priori weighting of attributes, what measure of similarity-dissimilarity to use, whether to standardise the data, what clustering algorithm to use, how to interpret and compare clustering schema, and how valid and reliable are the resulting clusters. These issues are considered in this chapter along with an explanation of the computational method employed to test the hypotheses developed in chapter 5.

8.2 MEASURING RESPONDENTS' CATEGORISATION OF ITEMS

The more widely used procedures to assess how people group competing items are cluster analysis, Q-type principal component analysis, multidimensional scaling and discriminant analysis. This section explains why cluster analysis was selected and the more interested reader is referred to Appendix 10 which shows why the 3 other methods were rejected.

Cluster analysis is widely used in marketing (Saunders, 1980; Punj and Stewart, 1983). It shows how competing items are allocated to previously undefined groups, such that items in the same group are in some sense similar to each other (Everitt, 1979). Sokal and Sneath (1963) were the pioneers in numerical taxonomy precipitating a considerable volume of research (eg Cormack, 1971; Anderberg, 1973; Everitt, 1986). Cluster analysis begins with a matrix showing how someone assessed j competing items on k attributes. The data matrix might first be standardised and is then transformed into a $j \times j$ matrix of similarities or distances, to which a clustering algorithm is applied and clusters calculated.

An advantage of cluster analysis is that no a-priori statement is required about groups into which items are to become members, unlike assignment techniques such as discriminant analysis (Gower, 1975). A further strength of cluster analysis is that if a hierarchical clustering

algorithm is used, as will be explained in section 8.4.4, the evolutionary clustering process can be seen, rather than only the final clustering picture (cf principal component analysis).

The stated purpose of cluster analysis, its starting point of no a-priori groupings, the voluminous literature on it, its wide use in marketing and the detail of the evolutionary process, make this the most applicable technique for this research. Weaknesses associated with cluster analysis are the lack of a standard definition of a cluster (to be considered in section 8.3) and the identification of clusters when there are no natural clusters (Arnold, 1979). Section 3.2 indicated that there should be natural groupings amongst the competing items in each market and this weakness is not thought to be a problem.

8.3 CLARIFICATION OF THE TERM "CLUSTER"

The purpose of cluster analysis is aptly summarised by Klastorin (1983) as being "to classify units (whether persons or objects) so that there is a greater similarity between units within groups than between units in different groups" (p92). But the problem with cluster analysis is that there is no universally accepted definition of a cluster (Everitt, 1986). Consequently a multitude of methods exist (eg Punj and Stewart, 1983; Cormack, 1971), each satisfying a different criterion about what

constitutes a cluster.

Not surprisingly, different clustering algorithms produce different clustering schema from the same data (eg Blashfield, 1976; Mojena, 1977). Thus some clarification of what is understood by a cluster is necessary.

Cormack's (1971) review suggests a cluster as being a grouping of items that display internal cohesion and are externally isolated from other items. The evolutionary process of brands, own labels and (to a lesser extent) generics is characterised by each of these tiers adapting certain characteristics from other tiers. Comments about internal cohesion are accepted as an important characteristic of clusters. However, there is little in this suggestion that allows for the concept of one internally cohesive group of items in attribute space (eg brands) being weakly connected to a few items that connect over a short distance to another large, internally cohesive group (eg own labels).

Everitt (1986) describes natural clusters as continuous regions of attribute space containing a high concentration of items separated from other such regions by areas containing a relatively low concentration of items. This is regarded as being a better concept of a cluster since it accepts the idea of continuous, rather than discrete, distributions of items. With Everitt's concept though, there is no statement about the clustering criteria that

would need to be met to identify a natural cluster.

The single link algorithm comes closest to being the most relevant definition of a cluster for this research. This defines a cluster as a group of items in which every member of the group is more like at least one other member of the group than it is to any member of another group. As explained in section 8.4.4, this definition of a cluster has the characteristic of "chaining" which allows for internally cohesive groups of items to be weakly connected to other groups.

8.4 DEVELOPING A CLUSTER ANALYSIS PROCEDURE

Having stated what is understood by the term cluster, a series of decisions need to be taken before cluster analysis can be undertaken. These issues will be considered in this section.

8.4.1 A-priori attribute weighting

Following Sokal and Sneath's (1963) arguments, none of the attributes received any a-priori weighting. Some of the reasons for this are:

(i) When deciding how to weight attributes, it is wrong to use criteria which presuppose the existence of certain clusters. Attributes exhibited by clusters cannot be pre-specified, since to know if they characterise certain clusters, confirmation of the existence of these clusters

is needed and in advance, this is not known.

(ii) This research is unaware of any standard rules stating the importance of any one attribute in a specific product field. Furthermore, to impose any a-priori weighting would reduce the generality of these findings.

(iii) The applied weighting can only be based on an intuitive judgement of what is important. This would differ between researchers and increases the chance of obtaining cluster structures which reflect the researcher's, rather than the consumer's, view.

In conclusion this research will not apply any a-priori differential weighting to the attributes, however there may be a case for later applying a weighting, through standardisation, which will be considered in section 8.4.3.

8.4.2 The measure of similarity/dissimilarity

Three categories of similarity/dissimilarity measures are used in cluster analysis ie:

- association measures
- correlation measures
- distance measures

There is no standard as to which measure should be used (Dillon and Goldstein, 1984) and the choice of measure can influence the cluster structure (Edelbrock, 1979; Green and Rao, 1969). This section justifies why Euclidean distances were selected.

Many different association coefficients exist, each based

on a different matching criterion. They are most appropriate when the data is nominally scaled, which was not the case in this research. For the same data set Everitt (1986) shows that the different association coefficients are not monotonic in the sense that if all the values for pairs of competing items on one association coefficient are ordered so they form a series arranged in increasing or decreasing value, the values for the individual pairs taken by another association coefficient will not be in increasing or decreasing order. In view of these points association coefficients were not used.

Correlation coefficients were rejected due to their weaknesses, as will be shown. Sokal and Sneath (1963) regard correlation coefficients as being superior to association coefficients since the magnitude of mismatches between items is taken into account by the formula which considers deviations from a mean. This can be viewed as being a weakness since each item is being averaged over disparate attributes, and for this reason several authors condemn this measure (eg Minkoff, 1965; Jardine and Sibson, 1971). When concern centres around the similarity of the shape of 2 competing items' profile on a series of attributes (not the case in this research), regardless of their profile levels, the correlation coefficient is ideal. This introduces another weakness since all that is required for perfect correlation is that one item's scores on a series of attributes be linearly related to a second item's score on the same attributes (Dillon and Goldstein,

1984). This can lead to situations when a visual examination of the score of 3 items (A,B,C) on several attributes would lead one to expect for example A and B to have the highest correlation, but the correlation coefficient working on linear relations would show a different pair to have the highest correlation (Eades, 1965).

When trying to understand the meaning of the value of a correlation coefficient between items further problems emerge (Fleiss and Zubin, 1969). A correlation coefficient of zero between two competing items presents difficulties since we do not talk about the independence of competing items. Nor can this be interpreted as meaning the items are dissimilar, since this is what a correlation coefficient of minus 1 means. Also as Bailey (1974) observed if, for example, a correlation coefficient of 0.9 exists between 2 attributes, it is possible to talk about 81% of the variance in one attribute being explained by the other attribute. But as competing items are not normally viewed as possessing variance, it is strained to talk in these terms.

A policy of selecting correlation coefficients because of other researchers' comparative results is regarded as being a weak procedure. There must be some rational basis for selection, other than it happens to work. With a firm reason for choosing a measure, there is a logical basis to analyse unexpected results rather than having to admit to

little more than surprise. Also some of the findings are only useful if the researcher has a data set similar to that tested by others. Thus Edelbrock's (1979) finding that correlation measures produced more accurate clusters than Euclidean distances, is best applicable when the researcher knows he has a data set similar to that generated by Edelbrock. One reason for this result was that the data set had several items that scored at the extremes of the attribute scales (ie were outliers). Since Euclidean distances are sensitive to outliers, they would not have been clustered until quite late in the process.

Distance measures are widely used in cluster analysis (Everitt, 1986). The most widely used distance measure is Euclidean distance (Sherman and Sheth, 1977). The Euclidean distance between 2 competing items a and b in attribute space is defined as

$$\Delta_{ab} = \left(\sum_{k=1}^K (X_{ak} - X_{bk})^2 \right)^{\frac{1}{2}}$$

where X_{ak} is the value of item a on attribute k. Rohlf and Sokal (1965) explain that as the number of attributes increase so Δ_{ab} tends to increase. To compare distances based on differing numbers of attributes, as is necessary in this research, the average distance should be used, ie

$$d_{ab} = \left(\frac{1}{K} \sum_{k=1}^K (X_{ak} - X_{bk})^2 \right)^{\frac{1}{2}}$$

where K represents the total number of attributes in a product field.

It is the belief of this study that a distance measure has

considerable strengths over the previous two measures reviewed. Unlike correlation coefficients they are invariant under alterations in the direction of coding of attributes (Minkoff, 1965), and are easier to interpret since:

- a value of zero means that 2 competing items' profiles on the same attribute are identical
- more information can be conveyed by talking about one item's profile being for example 3 times as far from a standard as is a second profile (Fleiss and Zubin, 1969)
- the greater the disparity between items, the greater the distance separating them.

This measure is not without problems, eg the measuring scale influences the magnitude of the scores and scores on disparate attributes are combined to form a distance. Another weakness is that if the attributes over which the items were scored are correlated, no correction is made for interdependencies. In this research though, the variables were selected using both a principal component analysis and by examining variables' inter-correlations; therefore this is unlikely to be a major problem.

In conclusion a review of the strengths and weaknesses of the 3 main similarity-dissimilarity measures led to a preference for Euclidean distance measures. For computational ease, the average squared distance was employed.

8.4.3 Standardisation

To transform an attributes by "brands" matrix to a matrix showing the distance between "brands", it is necessary to amalgamate in some way each of the competing items scores on all of the diverse attributes. But the distance matrix is affected by:

(i) different scales may have been used for each of the attributes

(ii) the attributes are non-comparable; thus is it meaningful to combine scores on pricing with packaging?

(iii) for some attributes the full width of the scale may have been used by respondents assessing competing items, while for other attributes only a narrow part of the scale might be used.

The first point is not an issue in this research since a 5 point Likert agree-disagree scale was used for each attribute. To overcome the last 2 problems some researchers (eg Wishart, 1978) recommend reducing all attributes to a standard form to enable a more logical combination of item scores on attributes. Such a decision cannot be taken lightly since the attributes are likely to show different distribution characteristics and standardisation may change the intrinsic relationships between scores across all of the attributes for a particular item (Edelbrock, 1979).

Most reports on clustering, showing how an individual assessed items on attributes, standardise the scores by

subtracting the mean of the attribute from each item's score on that attribute (ie shifting the origin in attribute space) and then divide by that attribute's standard deviation (calculating the attribute's standard deviation across all of the competing items). The new scores on an attribute then have a mean of zero and a standard deviation of one. When calculating distances, deviations as a proportion of standard deviations are then considered, which is viewed as being a more logical basis for calculation.

To allow a more just basis for calculation of the distances between "brands", the scores of the "brands" on each attribute need to be standardised. In this research 3 dimensions are involved, ie people, "brands" and attributes. The number of "brands" and the number of attributes were fixed in advance of the postal survey. The only sampling that was done was amongst the people dimension and it is this dimension that shows the variations in scores. Some of the attributes will have a wide range of scores on them for some people assessing particular "brands", while for other people these attributes will have a narrow range of scores for the same "brands". To adjust for the variations in scores introduced by the people dimension, the scores need to be standardised across people by employing the following formula:

$$Z_{ijk} = \frac{X_{ijk}}{S_{.jk}}$$

where Z_{ijk} = standardised score for person i assessing competing item j in a specific product field, on attribute k

X_{ijk} = raw score of person i assessing competing item j in a specific product field, on attribute k

$S_{.jk}$ = standard deviation across the respondents for brand j and attribute k in a specific product field.

The best estimate of $S_{.jk}$ is found from using the pooled across brands variance. Recognising that the standard deviation is the square root of the variance, $S_{.jk}$ is found as:

$$S_{.jk} = \left(\frac{1}{J} \sum_{j=1}^J \sigma_{.jk}^2 \right)^{\frac{1}{2}}$$

where

$$\sigma_{.jk}^2 = \frac{1}{N-1} \sum_{i=1}^N (X_{ijk} - X_{.jk})^2$$

J = total number of "brands" in a product field

N = total number of people assessing a product field

Thus the standardised squared distance between competing items a and b for person i is

$$\frac{1}{K} \sum_{k=1}^K (Z_{iak} - Z_{ibk})^2$$

where K = total number of attributes for a particular product field

In this reseach, each person's scores from the attribute-brand batteries was first standardised and then converted to a standardised squared distance matrix. For the group of people selected, their standardised squared distance matrices were added together and an average matrix calculated. The average standardised squared distance between competing items a and b for a group of M people who are a part of the sample of N people assessing the same product field was calculated as

$$\frac{1}{M} \sum_{i=1}^M \frac{1}{K} \sum_{k=1}^K (Z_{iak} - Z_{ibk})^2$$

Rohlf and Sokal (1965) and Edelbrock (1979), found that for their particular data, minimal differences occurred in the clustering process, regardless of whether standardised or raw data was used. For each of the 6 product fields separately, perception of market structure was found using standardised, then raw data. A comparison of the way that the clusters had formed using either standardised or raw data showed there to be virtually no difference. In the bleach and disinfectant clustering schema, the order in which the items had merged was unaffected by whether raw or

standardised data was used. In the 4 other product fields, at only 1 level of the clustering process had the order of items merging shown any difference between standardised and raw data, and by the next level of clustering the structures became identical. A small scaling difference in terms of the distances at which items clustered was noted. As further evidence of similarity, the cophenetic correlation (section 8.4.5) between the standardised and raw clustering schemas for each of the 6 product fields was 0.99. While there was such a high degree of similarity using raw and standardised data, it was thought to be more correct to continue using standardised data.

8.4.4 Choice of a clustering algorithm

There are many clustering algorithms, each satisfying a different definition of a cluster. Section 8.3 explained that the single link method defines a cluster in terms that best meet the perspective of this study, which was one of the reasons for selecting it. This section further justifies the choice of single link.

In the broadest terms, there are two main classes of cluster analysis:

(i) Hierarchical methods where, over a series of separate clustering cycles, the evolution of clusters is shown. In agglomerative hierarchical methods, items are successively amalgamated into clusters. The most similar items become

cluster members in the early cycles while the least similar items cluster in the last cycle. Divisive hierarchical methods operate by successively dividing the total group of items until eventually each item is in its own separate group.

(ii) Non-hierarchical methods where the user only sees the final grouping of items.

For more detail about clustering algorithms the reader should consult Everitt (1986), Anderberg (1973) and Cormack (1971). This research used a hierarchical method because of the ability to see the order in which items clustered. It suffers from the problem that if an item was initially poorly classified, it cannot be reallocated at a later stage.

An agglomerative rather than divisive technique was used, since the latter suffers from two main problems. First, the large number of ways of dividing the items imposes restrictions on the number of clusters that can be considered (Dillon and Goldstein, 1984). Second, there is no universal measure of homogeneity. These issues biased the choice towards the agglomerative techniques, which are more frequently employed than the divisive methods (Blashfield and Aldenderfer, 1978) and have been the subject of considerable investigation (eg Cunningham and Ogilvie, 1972; Kuiper and Fisher, 1975; Edelbrock, 1979; Milligan and Isaac, 1980).

The 4 more popular agglomerative hierarchical methods (Blashfield, 1976) are single link, complete link, average link and minimum variance. Williams et al (1971a) show that the single link method is "space contracting" ie as cluster membership increases, the space containing the items contracts since the clusters appear to approach unclustered items. Items not already clustered are more likely to join an existing cluster, rather than forming a new cluster with other unclustered items. This property leads to the characteristic of "chaining" where, instead of the clusters being compact points in space, they appear to resemble "serpentes" or "amoeboids" (Bailey, 1974). By contrast, complete link methods dilate space in the sense that as clusters grow they move away from unclustered items which are more likely to form new clusters rather than add to existing items, while average link methods conserve space. For this reason Lance and Williams (1967) reject single link. Jardine and Sibson (1968) point out that it is misleading to refer to chaining as a defect of single link; it is simply a description of what this method does. As was pointed out in section 8.3, because of the evolutionary process of the 3 tiers in packaged groceries, any clustering would be more likely to exhibit some form of chaining, for which reason single link was selected.

Some researchers (eg Jardine and Sibson, 1968; Fisher and van Ness, 1971) list mathematical criteria that clustering methods must meet to warrant their selection. One of the problems with this is that there is no agreement about

which criteria are important, eg Williams et al (1971b). This approach was not a major consideration in the selection of single link, albeit single link performs well on the criteria stipulated by both Jardine and Sibson (1968) and Fisher and Van Ness (1971).

Empirical studies comparing the performance of various clustering algorithms were not used as a basis for selection. These studies are useful in providing information about the characteristics of different techniques, but their findings are specific to the multivariate distributions on which they were tested.

The single link method used operates as follows (Johnson, 1967):

- (i) The starting point is that each of the j items form their own separate j clusters.
- (ii) From an examination of the inter-item distance matrix, the two items (a,b) with the smallest separation are combined into the same cluster, leaving $j-1$ clusters.
- (iii) A new distance matrix is computed, defining the distance between the new cluster (a,b) and any other item c as $\min (d_{ac}, d_{bc})$.
- (iv) From the new distance matrix those "items" are combined that exhibit the lowest separation, this being either 2 new items or a new item merging with the cluster formed at (ii).
- (v) The stages (iii) and (iv) are repeated until all j items are united in 1 cluster.

The resulting hierarchical clustering schema is displayed on a dendrogram, ie a hierarchical tree showing the distances at which each of the clusters formed. At the base of the dendrogram the items are displayed as separate clusters and working up the dendrogram the distances at which the items form clusters can be seen. An example of a dendrogram is shown in figure 8-1 which is discussed in section 8.4.5. In the bottom diagram, by working up the dendrogram it can be seen that items 4 and 6 first form a cluster, to which item 1 subsequently becomes a member. By continuing to work up the dendrogram to the dotted line it can be seen that the 3 clusters perceived by respondents are items 1,4,6,3,7 as one cluster, item 2 as a second cluster and items 5 and 8 as another cluster.

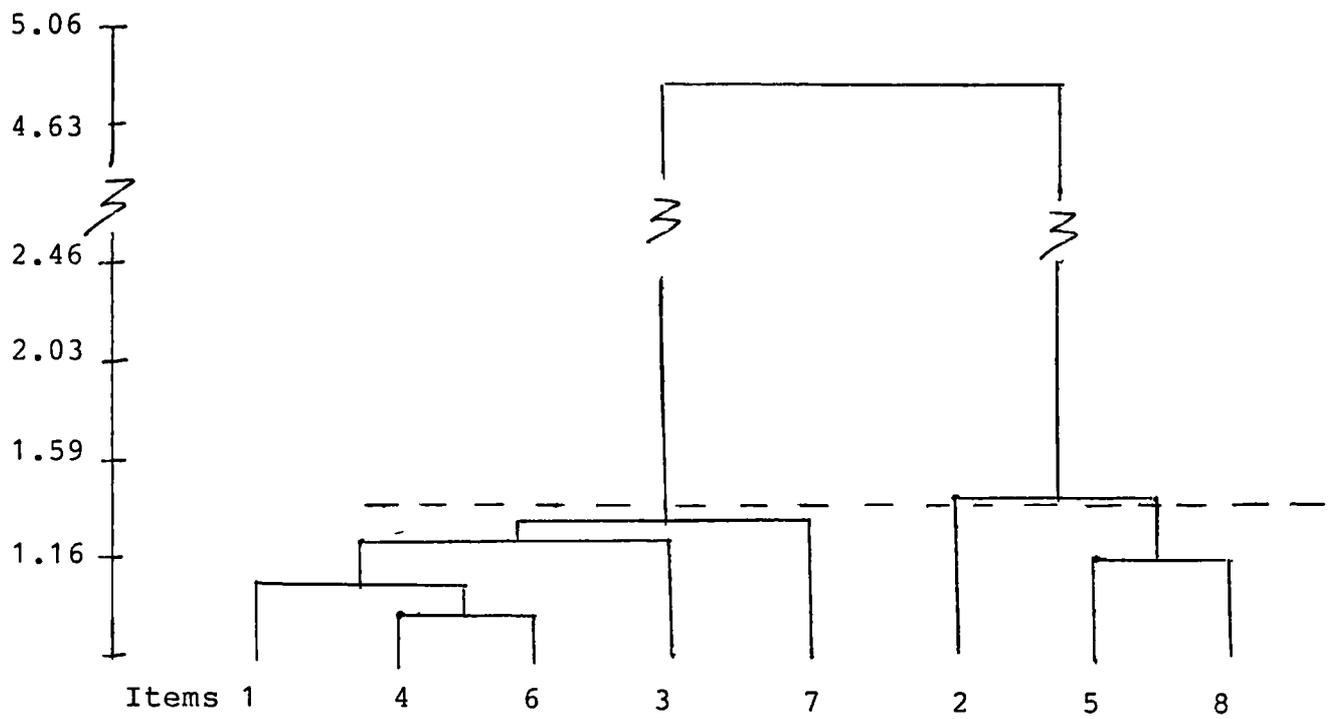
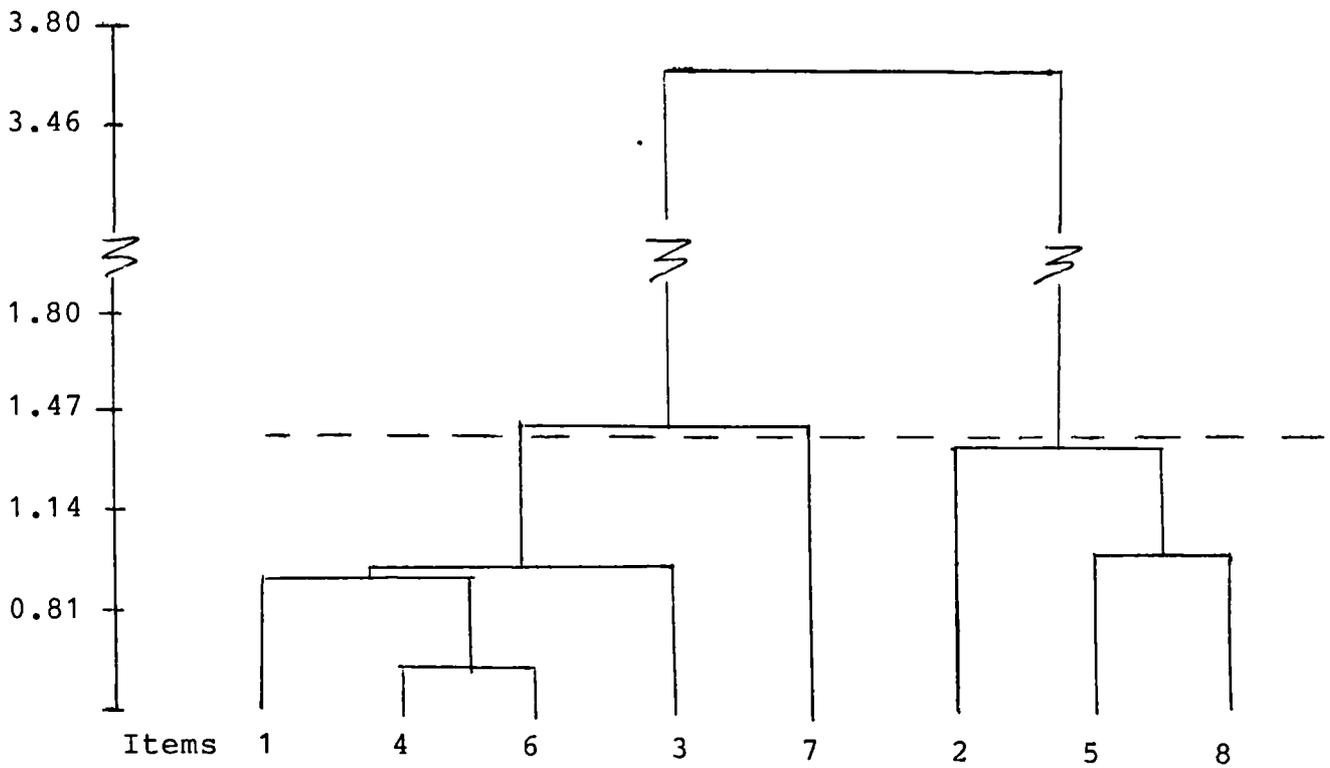


Figure 8-1 The 2 split half dendrograms for respondents completing the bleach questionnaires.

8.4.5 Interpreting and comparing clustering schema

When developing the hypotheses in this thesis, it was thought that a test could be used to determine the number of clusters respondents perceived, noting the cluster composition from the dendrogram. A more thorough review of the cluster analysis literature revealed no accepted solution as to the most appropriate number of clusters (Rao and Sabavala, 1981; McClain and Rao, 1975; Milligan and Mahajan, 1980). Several reasons exist for this. The single link technique is not built on any formal statistical framework, and the definition of a cluster is unique to this technique. Problems of identifying the sampling distribution of the inter-item distances and developing a flexible test procedure have impeded any progress (Lennington and Flake, 1975). Gower (1975) suggested a possible test, whereby the levels at which clusters form are plotted against the number of clusters and the point where a sharp change in gradient occurs is indicative of the number of clusters. This approach was rejected since Everitt (1979) reported problems in interpreting the graphs. Mojena (1977) developed a rule based upon the distribution of the fusion levels at which the items form clusters. The mean and standard deviation of the cluster fusion levels are calculated and the number of clusters present is that for which the value of the fusion distance exceeds a level specified by the mean fusion level plus a multiple of the standard deviation (the value of the multiple being specified by the researcher).

After some experience of this approach it was rejected since it has no theoretical basis and as Mojena (1971) stated, it was developed on the basis that it "appears to give good results" (p68).

As this thesis is concerned with testing predictions about perceived types of market structure, the testing procedure was developed by examining the way that the 3 and 2 cluster structures evolved on each dendrogram. All of the dendrograms were inspected and a schema was developed to classify each dendrogram according to the composition of clusters at the 3 cluster level. Thus a 3 cluster structure of the form (3 brands), (3 own labels), (3 generics) was classified as a type 1 structure, while a structure (3 brands), (2 own labels), (3 generics + 1 own label) was labelled a type 2 structure. Section 9.3 details the cluster types, but it is interesting to note that the 314 dendrograms could be classified at the 3 cluster level into 20 types. For each product field separately, the hypotheses were then tested by comparing the composition of the 3 clusters exhibited by the different consumer groups. Further guidance was provided by considering cluster compositions at the 2 cluster level.

As a further aid in assessing the degree of similarity between dendrograms, the cophenetic correlation coefficient was used. This was developed by Sokal and Rohlf (1962) and is accepted as an objective way of comparing hierarchical structures (Cormack, 1971). The inter-item

distance matrices of the 2 dendrograms being compared are each strung out in the form of a single file and the product moment correlation coefficient calculated, this figure being referred to as the cophenetic correlation coefficient. This coefficient was used for guidance, rather than reliance, since it gives an indication of the similarity of the structures in terms of the distances at which the levels of the dendrograms occur, but may conceal small differences in terms of the compositions of the clusters. As an example figure 8-1 shows the dendrograms for the split-half tests amongst respondents completing the bleach battery. The cluster composition at the 3 cluster level for each dendrogram (ie below the dotted lines) are:

(1,4,6,3) (7) (2,5,8) = top dendrogram

(1,4,6,3,7) (2) (5,8) = bottom dendrogram

The cophenetic correlation coefficient between these 2 dendrograms is 0.9956 indicating a mirror image, yet the composition of the clusters at the 3 cluster level is different between the 2 dendrograms.

8.4.6 Validity and reliability issues in cluster analysis

Jacoby (1978) implores consumer researchers to show both the validity of their measuring instruments and the reliability of their findings. Three types of validity have been identified by Nunnally (1978) and each of these will be considered in the context of the clustering

structures before the topic of reliability is addressed.

One aspect of validity discussed by Nunnally (1978) is that of content validity, ie how adequately was the specified domain of content sampled. Section 6.4 has shown that a rigorous procedure was used to identify the salient attributes. A thorough representation of the competing items was achieved since all of the generics available were included, own labels from the major multiple chains were selected and the branded examples were selected on the basis of field visits. In terms of the sampling of householders, section 7.3.3 showed that a good representation of householders in Hertford was achieved. Therefore in terms of content validity, a valid approach to cluster analysis was followed.

A second type of validity is that of predictive validity, ie how useful is a measuring instrument in predicting a form of behaviour that is external to the instrument. This is not an issue since the purpose of this research was to measure perception of market structure rather than to make predictions.

The third type of validity is that of construct validity, ie does the instrument validly measure that which it claims to measure. To evaluate the validity of the cluster structures, several other clustering algorithms were applied to the same data, an approach recommended by several researchers (eg De Sarbo, 1982; Everitt, 1986;

Doyle and Saunders, 1985). The problem with this approach is that since each algorithm is based on a different concept of a cluster, employing several clustering algorithms to the same data will not necessarily produce similar results (eg Mojena, 1977). Recognising this limitation, complete link, average link and minimum variance were used on the same data. This was undertaken across each of the 6 product fields separately and the results are shown in Appendix 13.

The extent to which the resulting clusters can be replicated, ie show some degree of reliability, was assessed by using the accepted split half method (eg Funkhouser, 1983; Mezzich, 1978; Dillon and Goldstein, 1984). In each product field respondents were randomly split into two equally sized groups and each subjected to single link cluster analysis. Dendrograms between both samples in each product field were then compared. This is a guide to reliability, since this method could be assessing how well the random divider matched the respective halves (Nunnally, 1978). Another method was also used to assess reliability. As chapter 9 shows, none of the independent variables identified in hypotheses 2 through to 8C, nor version of battery (A or B), nor speed of replying, affected perception of market structure. The reliability of the clusters at hypothesis 1 were then assessed by considering the frequency with which the clusters from the analysis variables matched those at hypothesis 1 for each product field. The results are

presented in Appendix 13.

8.4.7 Computation

Following the return of the questionnaires, 6 data files were created on a DEC 1091 computer, each file containing the results of the completed questionnaires for a specific product field. Throughout this research each of the 6 product fields were analysed separately and only those batteries (question 5) that were fully completed were subjected to cluster analysis.

A FORTRAN program was written which first rotated the version B batteries so that in each product field the attribute ordering was the same (ie version A). This program then standardised each respondent's agreement-disagreement scores for the attribute-brand batteries, as described in section 8.4.3. Each standardised score matrix was then converted to a squared Euclidean distance matrix showing the separation between competing items, using the formula

Squared distance between competing items a and b as seen by person i over a total of K attributes = $\frac{1}{K} \sum_{k=1}^K (Z_{iak} - Z_{ibk})^2$

The hypotheses of interest are to be tested by comparing the hierarchical clustering structures exhibited by different groups of respondents. Therefore, for each group of respondents identified, the average hierarchical

clustering structure was required. To calculate this, the "SELECT IF" procedure in SPSS was used to identify respondents of interest (eg all those who rated a product as being of high importance). For those M individuals of interest, their standardised squared Euclidean distance matrices were aggregated and the mean standardised squared Euclidean distance matrix was calculated by a FORTRAN program using the formula

Average standardised squared distance between competing items a and b as seen by the \bar{M} respondents in a particular group = $\frac{1}{\bar{M}} \sum_{i=1}^M \frac{1}{K} \sum_{k=1}^K (Z_{iak} - Z_{ibk})^2$

The average standardised squared distance matrix for each particular group was then ready for single link cluster analysis. The BMDP suite of computer programs (Dixon, 1983) were considered as a possible analysis package, but when compared with the CLUSTAN package (Wishart, 1978), this latter package was found to be superior. Since CLUSTAN is a more comprehensive package and is widely accepted by researchers (Everitt, 1979) it was used. The average standardised squared distance matrix for each particular group formed the input file for the single link algorithm and using CLUSTAN, the cluster analysis computation was undertaken.

8.5 CONCLUSIONS

This chapter has shown why cluster analysis was selected to measure respondents' grouping of competing items.

Clusters, in this research, were defined by the single link algorithm. The clustering procedure adopted was characterised by:

- no a-priori weighting of attributes
- squared Euclidean distances were used as the similarity-dissimilarity measure
- standardised rather than raw scores were used
- the single link agglomerative hierarchical clustering algorithm was implemented
- standardised scores and distance computations were undertaken by a specially written FORTRAN program, using SPSS to select individuals belonging to specific groups. The CLUSTAN suite of programs was used for the cluster analysis.

Any similarity in perception of market structure between different groups of respondents was investigated by considering cluster compositions at different levels of the dendrograms. The approach used to measure perception of market structure was shown to have content validity. By assessing the clustering schema obtained from other cluster algorithms on the same data, construct validity was measured. The reliability of the clusters was measured using the split half method.

CHAPTER 9
RESEARCH FINDINGS

9.1 INTRODUCTION

In chapter 5 a theory of how consumers might perceive the competitive structure of grocery markets was developed, which was tested using the data collected from the postal survey. This chapter considers the experimental results for each of the 8 hypotheses to see whether or not they are refuted.

The chapter opens with a brief overview of the sample's characteristics and provides an explanation of the comparison procedure used to test each of the hypotheses. This is primarily based upon a visual comparison of the dendrograms at the 3 and 2 cluster level, in conjunction with a classification schema to represent the different types of clusters seen at the 3 cluster level. The results relating to each hypothesis are considered separately.

9.2 SAMPLE DETAILS

This section provides only brief details of the sample, since more detail is shown in later sections relating to each hypothesis.

In total 1,065 questionnaires were returned, as earlier

shown in table 7-1. At the 0.05 significance level, there were no significant differences in the response levels between product fields. Of the returned questionnaires 742 were perfectly completed (69.7%). There were no differences between the product fields in terms of the level of badly completed replies ($p < 0.05$). To operate from as large an effective sample as possible, each hypothesis was tested using those respondents who had correctly completed the attribute-brand battery and the question specific to the independent variable of interest.

To balance any order effect from the list of attributes on each battery, 2 versions of each questionnaire were used (A and B) reversing the order of presentation of the attributes. An analysis of the returned questionnaires (table 9-1), indicates that at the 0.05 level there was no significant difference between the proportion of version A and version B questionnaires received in each product field.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Base: Total Replies	191	170	186	164	176	178
	%	%	%	%	%	%
Version Returned						
A	52.4	50.0	48.4	53.0	47.2	52.8
B	47.6	50.0	51.6	47.0	52.8	47.2
	-----	-----	-----	-----	-----	-----
	100.0	100.0	100.0	100.0	100.0	100.0

Table 9-1: Version of the questionnaire returned

9.3 COMPARISON PROCEDURE AND FORMAT OF ANALYSIS

To assess the similarity of market perception between different groups of respondents, a classification of dendrograms at the 3 cluster level was developed. Of 314 dendrograms, representing perceptions of the different groups of respondents selected to test the hypotheses, at the 3 cluster level these could be classified into 20 dendrogram types, as shown in table 9-2. Thus, if the composition of the 3 clusters exhibited by a group of respondents was (3 brands), (3 own labels), (3 generics), this was referred to as a type 1 dendrogram. The tables in this chapter displaying respondents' perceptions of market structure at the 3 cluster level do so in terms of the 20 dendrogram types.

The analysis and presentation of results relating to each hypothesis follow a similar format. All tables showing an analysis by product field always present the 3 increased advertising support products first, then the 3 reduced advertising activity products. Hypotheses 2 to 6 inclusive are each considered in terms of a macro and then a micro analysis. For the macro analysis, the 6 product fields were ranked on the basis of a particular characteristic (eg level of perceived risk aroused by each product field). By comparing the overall perceptions of each product field, the effect of a particular characteristic was assessed. At the micro analysis level, perceptions of the different groups of respondents within and between each product field were considered.

<u>TYPE</u>	<u>3 CLUSTER COMPOSITION</u>
1	(3B), (3OL), (3G) = (3B), (3OL), (2G) for 8 examples
2	(3B), (2OL), (3G + 1OL) = (3B), (2OL), (2G + 1OL) for 8 examples
3	(2B), (1B), (3OL + 3G) = (2B), (1B), (3OL + 2G) for 8 examples
4	(3B), (3OL + 1G), (1G)
5	(3B), (2OL + 3G), (1OL) = (3B), (2OL + 2G), (1OL) for 8 examples
6	(1B), (2B + 1G), (3OL + 2G)
7	(2B), (1B + 3OL), (3G)
8	(3B), (3OL + 2G), (1G)
9	(3B), (3OL + 1G), (2G)
10	(1B + 1G), (3OL + 2B + 1G), (1G)
11	(3B + 1OL), (2OL + 1G), (2G)
12	(3B + 1G), (2OL), (2G + 1OL)
13	(2B), (1B + 2OL), (3G + 1OL)
14	(2B), (1OL), (3G + 2OL + 1B)
15	(1B), (2B + 2OL), (3G + 1OL)
16	(3B + 2OL), (1OL), (3G)
17	(3B), (2OL + 1G), (2G + 1OL)
18	(2B), (1B + 2G), (3OL + 1G)
19	(2B), (2OL + 1G), (1OL + 1G + 1B)
20	(3B + 3OL + 1G), (1G), (1G)

NOTE

B = Brand
OL = Own Label
G = Generic

Table 9-2: The 20 dendrogram types

9.4 HYPOTHESIS 1 (PERCEIVED MARKET STRUCTURE)

People do not perceive the structure of packaged grocery markets in the three tier manner assumed by marketers (ie brands, own labels, generics).

If this hypothesis were to be disproved, a type 1 dendrogram showing a pure branded, a pure own label and a pure generic cluster at the 3 cluster level should be seen across each product field. An examination of table 9-3, based upon all who correctly completed the attribute-brand battery, shows that in only the washing up liquid product field was a type 1 structure seen. Across the remaining product fields, 4 other types of market structure were perceived at the 3 cluster level. More detail about perceived market structure can be seen in Appendix 11 showing the dendrograms for the 6 product fields. Thus the experimental evidence supports hypothesis 1.

Product	Sample size	3 Cluster composition	Dendrogram type
Bleach	148	(3B) (30L+1G) (1G)	4
Toilet Paper	129	(3B) (20L+3G) (10L)	5
Washing Up Liquid	144	(3B) (30L) (3G)	1
Aluminium Foil	135	(3B) (20L) (3G+10L)	2
Kitchen Towels	130	(2B) (1B) (30L+3G)	3
Disinfectant	143	(3B) (30L+1G) (1G)	4

B = Brand; OL = Own Label; G = Generic

Table 9-3: Perceived market structure at the 3 cluster level

At the 3 cluster level, there is evidence of respondents perceiving branded items as being dissimilar from own labels and generics. A clear branded cluster virtually always appears, except in the kitchen towel results, but even here 2 of the clusters are different branded versions and again none of the brands merge with the retailer labels.

Confirmation of brands being perceived as a category distinct from retailer labels (own labels and generics) is seen at the 2 cluster level in table 9-4. Across all 6 product fields respondents always grouped the branded items together as one cluster and regarded own labels and generics as being similar members of a second cluster.

Product	Sample Size	Advertising Activity	2 cluster composition
Bleach	148	Increased	(3B) (30L+2G)
Toilet Paper	129	Advertising	(3B) (30L+3G)
Washing Up Liquid	144	Activity	(3B) (30L+3G)
Aluminium Foil	135	Reduced	(3B) (30L+3G)
Kitchen Towels	130	Advertising	(3B) (30L+3G)
Disinfectant	143	Activity	(3B) (30L+2G)

B = Brand; OL = Own Label; G = Generic

Table 9-4: Perceived market structure at the 2 cluster level

The fact that the washing up liquid results at the 3 cluster level are exactly as marketers would have expected provides support for the technique being a sensitive

measure. This is further reinforced by the 2 cluster results for all 6 product fields being meaningful. The reader interested in seeing how respondents assessed each of the items on each attribute and hence how the items group on single dimensions is referred to Appendix 15.

Hypothesis 1 is supported. In terms of a 3 tier structure, rarely do consumers perceive the competitive structure of markets as would marketers. Brands were always perceived as being distinct from own labels and generics. This finding at the 2 tier level was reported in the USA by Hawes and McEnally (1983) and Wilkes and Valencia (1985). It would appear that since the generic concept in the UK had not been fully enacted (eg coloured packs, some evidence of branding (BASICS), promotional support) respondents associated generics and own labels as being similar.

9.5 IMPACT OF ADVERTISING ON MARKET PERCEPTION

This section considers any effect that actual or perceived advertising might have on perception of market structure.

9.5.1 Hypothesis 2A (Actual advertising support)

Where actual advertising support for branded packaged groceries has been maintained or increased, people are likely to perceive a 3 tier market (branded; own label; generic). Where actual advertising support for branded packaged groceries has been reduced, people are likely to perceive a 2 tier market (branded and own label; generic)

If hypothesis 2A is supported, then at the 3 cluster level, in all 3 of the long term advertising supported products respondents should perceive 3 pure clusters. Furthermore, at the 2 cluster level across all 3 products where advertising has been curtailed, respondents should perceive brands and own labels as one cluster with generics as the other cluster. Inspection of tables 9-3 and 9-4 shows that hypothesis 2A is refuted.

Among the 3 advertising supported products, only in the washing up liquid product field do respondents perceive pure branded, pure own label and pure generic clusters. Regardless of whether the product fields experienced long term increased or decreased advertising support, at the 2 tier level respondents in each product field saw brands as one cluster and own labels plus generics as the other cluster.

9.5.2 Hypothesis 2B (Perceived advertising support)

Where people perceive that advertising support for branded packaged groceries has been maintained or increased, they are likely to perceive a 3 tier market (branded; own label; generic). Where people perceive reduced advertising for branded packaged groceries, they are likely to perceive a 2 tier market (branded and own label; generic).

As was explained in section 8.4.5, when developing hypotheses 2B and 3B, it was thought that a test could be

used to evaluate the number of clusters respondents perceived. No acceptable test exists and instead hypotheses 2B and 3B were tested by examining the composition of the clusters.

Using a 5 point scale, respondents were asked whether they thought that their product field as a whole had been advertised a lot or a little. Table 9-5 displays perceptions of advertising activity. Consideration of the summary statistic, mean advertising perception, shows that in terms of the 2 way classification of products (increased or decreased advertising), respondents' perceptions of media activity matched reality. These findings confirm the research earlier reported in section 4.2.3 showing that perception of advertising reflects reality. As table 6-1 in section 6.2 showed, in 1985 the 3 increased advertising support sectors received in excess of £1m advertising (at 1970 prices), while the reduced advertising product fields had a maximum support of £.14m (at 1970 prices).

Surprisingly, household disinfectants were incorrectly rated as receiving more advertising than the 2 other reduced advertising products. An explanation for this might be that while the photographs were based on household disinfectants, respondents might have interpreted disinfectants in the wider sense of household plus antiseptic disinfectants (eg including such brands as Dettol). Advertising spends (at 1970 prices) for household and liquid antiseptic disinfectants were £0.11m

in 1984 and £0.15m in 1985. Figure 9-1 shows that, historically, household and liquid antiseptic disinfectants have received more advertising support than aluminium foil or kitchen towels (figures 6-4 and 6-5). It should be noted from figure 9-1 that the broader interpretation of disinfectants still results in this being categorised as a product field experiencing long term reduced advertising activity.

		Bleach Paper	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of respondents		147 %	126 %	141 %	132 %	129 %	139 %
Perceived advertising							
A lot	(5)	11	6	14	0	2	4
	(4)	22	16	23	1	4	12
	(3)	55	52	47	21	47	44
	(2)	10	21	14	59	33	35
None	(1)	1	4	3	19	15	4
		---	---	---	---	---	---
		100	100	100	100	100	100
MEAN ADVERTISING PERCEPTION (based on 1-5 scale)		3.31	3.02	3.32	2.04	2.44	2.77

Table 9-5: Perceived advertising support

(based on all correctly completing the battery and the advertising question)

Since perception of the product fields in terms of increased or decreased advertising matched reality, and since hypothesis 2A was refuted, then at the macro level hypothesis 2B is also refuted..

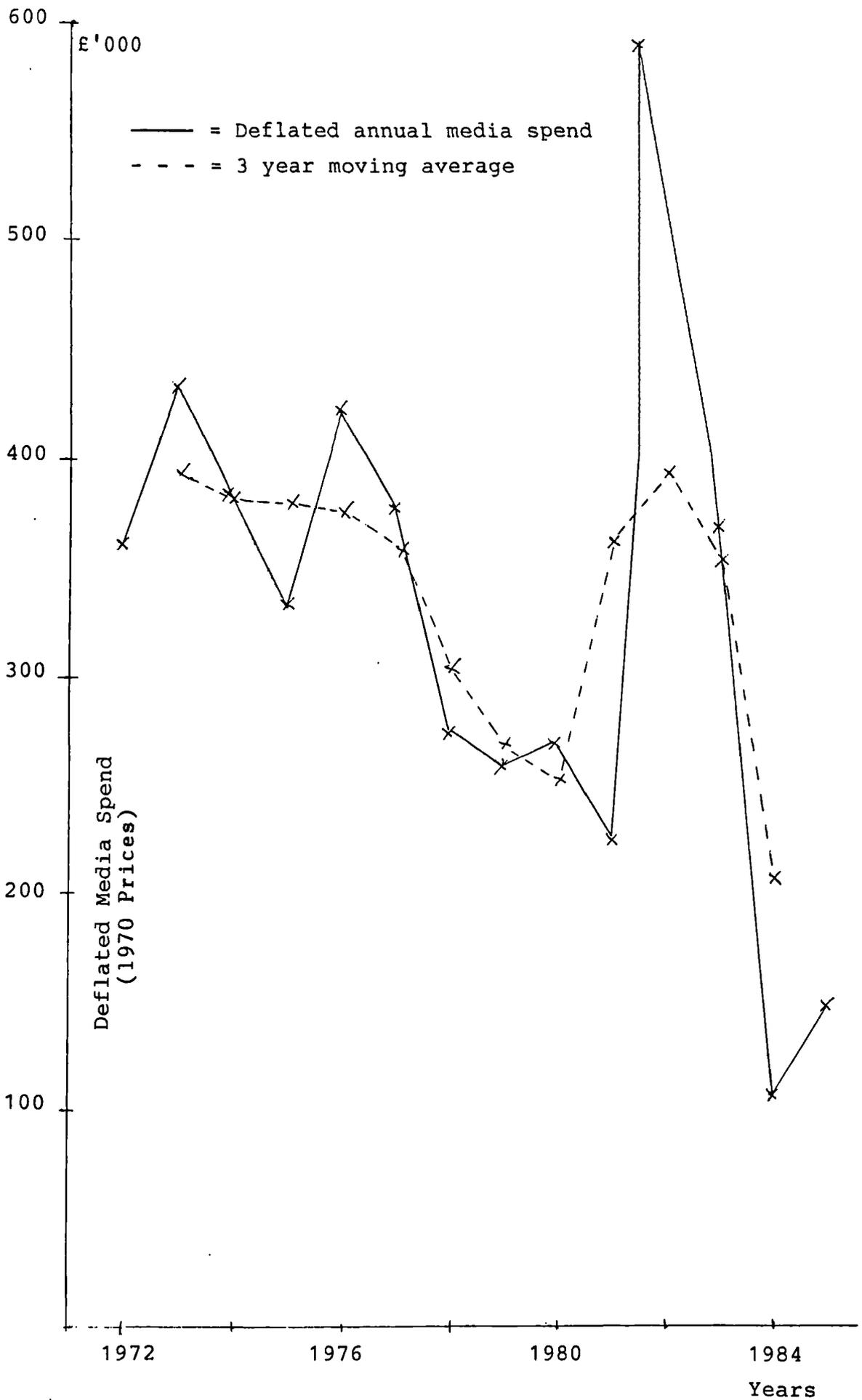


Fig 9-1: Household and Liquid Antiseptic Disinfectants: Change in Advertising Spend

Hypothesis 2B can be tested at the micro level by categorising respondents according to their perception of advertising activity and seeing whether different groups of respondents perceive the structure of product fields in the same manner. Testing can then be done by considering perceptions of market structure within each product field and also across each product field. If hypothesis 2B is correct, those respondents perceiving a large amount of advertising should exhibit a type 1 dendrogram (brands; own labels; generics) and those perceiving a small amount of advertising should not exhibit a type 1 dendrogram.

Table 9-6 shows a within product field analysis of perceived market structure. At the 3 cluster level, this analysis refutes hypothesis 2B, since type 1 dendrograms were not recorded in every product field by all those perceiving a large amount of advertising. Contrary to hypothesis 2B, within each product field there is a considerable consistency of perceived market structure across the different levels of perceived advertising activity.

	Bleach Paper	Toilet	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Dendrogram type:						
Perceived advertising						
(A lot)	5	4	9	1	*	7
	4	4	8	1	6	3
	3	4	5	1	2	3
	2	3	3	1	2	3
(None)	1	19	5	1	2	3

* : No respondents in this cell

Table 9-6: Perceived market structure analysed by perceived advertising support (3 cluster)

At the 2 cluster level a within product field analysis also refutes hypothesis 2B. The predicted 2 cluster structure (brands and own labels versus generics amongst those perceiving limited advertising activity) was never observed. Furthermore, in 5 of the product fields there was a remarkable degree of consistency of perceived market structure across different levels of perceived advertising activity. In the disinfectant, washing up liquid and toilet paper samples, all respondents, regardless of their perception of advertising activity, grouped the items as pure brands versus retailer labels (own labels plus generics). Amongst bleach respondents, 4 of the 5 groups also saw this product field structured as pure brands versus retailer labels, while the 2 respondents perceiving no advertising activity saw the 2 tiers being (2 brands) and (1 brand + 3 own labels + 2 generics).

Only in the kitchen towels and aluminium foil product fields (table 9-7) were people less likely to perceive the 2 clusters as pure brands versus retailer labels, albeit amongst the kitchen towels respondents, 4 of the 5 groups saw the same market structure. At the 2 cluster level, when testing each hypothesis at the micro level, the kitchen towel and aluminium foil perceptions less frequently conformed to the pure brands versus retailer label structure. Appendix 14 considers this in more detail.

Perceived Advertising	Aluminium Foil		Kitchen Towels	
	2 cluster compositions			
(A lot)	5	*	(2B) (1B+3OL+3G)	
	4	(1B) (2B+3OL+3G)		(2B) (1B+3OL+3G)
	3	(3B+2OL) (1OL+3G)		(2B) (1B+3OL+3G)
	2	(3B) (3OL+3G)		(3B) (3OL+3G)
(None)	1	(2OL) (3B+3G+1OL)		(2B) (1B+3OL+3G)

* = No respondents, B = Brand, OL = Own Label, G = Generic

Table 9-7: Perceived market structure analysed by perceived advertising (2 clusters)

Hypothesis 2B was evaluated across the 6 product fields by considering the frequency of a type 1 dendrogram occurring. At the 3 cluster level, it predicts that amongst those perceiving high levels of advertising a type 1 dendrogram should frequently occur and as perception of advertising decreases so the type 1 dendrogram should less frequently occur. The results in table 9-8 do not support hypothesis 2B since the expected distribution is not seen.

Perceived Advertising	Number of product fields where a type 1 dendrogram occurs	
(A lot)	5	1
	4	2
	3	1
	2	1
(None)	1	2

Table 9-8: Frequency of a type 1 dendrogram emerging (3 clusters) across the 6 product fields

Hypothesis 2B predicts that at the 2 cluster level, with low levels of perceived advertising activity, a low frequency of pure branded versus pure retailer label clusters should occur across the 6 products. The results in table 9-9 do not conform to the predicted pattern and again hypothesis 2B is rejected.

Perceived advertising		Number of product fields showing pure branded versus pure retailer label clustering
(A lot)	5	4 (excluding aluminium foil since no one in this cell)
	4	4
	3	4
	2	6
(None)	1	3

Table 9-9: Frequency of pure branded versus pure retailer label structure (2 cluster) across the 6 product fields

The experimental results do not support hypothesis 2A, or hypothesis 2B. The results have shown that for these 6 products, perception of market structure is not affected by:

- the level of advertising spend (actual or perceived)
- long term actual reductions or actual increases in advertising spend

When analysing perception of market structure by perception of advertising activity, respondents generally saw a clear branded sector which was separated from the retailer labels

sector (own labels and generics).

These findings conform to other studies reviewed in section 4.2.3, showing that advertising is not a prime informational cue and is consulted less frequently than other cues. Respondents do appear to be aware of advertising activity, but have placed less reliance upon changing levels of advertising support than was anticipated when developing this theory.

9.6 IMPACT OF PRICE ON MARKET PERCEPTION

The effect of actual and perceived price differences on market perceptions will be considered in this section.

9.6.1 Hypothesis 3A (Actual price difference)

The larger the actual price differential between the brands, own labels and generics in the same product field, the more likely respondents are to perceive a 3 tier market consisting of pure brands, pure own labels and pure generics. The smaller the actual price differential, the more likely that the 2 tier structure will be brands and own labels versus generics.

As section 7.3 explained, actual product prices were obtained from store visits prior to the start of the postal survey. All product prices are shown in Appendix 2. To test hypothesis 3A, all prices for a particular product

field were converted to the cost for a standard pack size (1 litre for bleach and disinfectant, 4.5 metres for aluminium foil, 2 rolls for toilet paper). While this introduced some error (since manufacturers price a larger content pack at a lower per unit volume price than smaller packs) this was thought to provide a more realistic price comparison. For each product field separately, an average price was then calculated for each tier, from which price differentials between the different tiers were computed. Table 9-10 summarises the pricing details. Across the 6 product fields, brands were on average 38% more expensive than own labels which in turn were 42% dearer than generics.

	Branded vs Own Label	Own Label vs Generic	Branded vs Generic	Max Price Diff
	<u>Price differentials</u>			
Washing Up Liquid	+57%	+68%	+164%	44p
Bleach	+113%	+35%	+187%	43p
Disinfectant	+43%	+24%	+78%	35p
Toilet Paper	+17%	+54%	+81%	26p
Aluminium Foil	-2%	+47%	+45%	17p
Kitchen Towels	+1%	+22%	+22%	13p
AVERAGE	+38%	+42%	+96%	

Table 9-10: Price summary details

The aluminium foil results show brands being 2% cheaper than own labels because of the price of Snappies. A 4.5m roll of Alcan bacofoil had an average selling price of 61p,

Hygex of 62p and Snappies of 39p. If the Snappies price is removed, the brands become 12% more expensive than the own labels and 65% more than the generics.

Consideration of the price differentials between the competing tiers shown in table 9-10 and the perceptual structures in tables 9-3 and 9-4 show that hypothesis 3A is not supported. At the 3 cluster level only, in the washing up liquid product field, do respondents perceive a pure branded, pure own label and pure generic cluster, yet from table 9-10 the brand vs own label and brand vs generic price differentials in the bleach product field are more pronounced than the washing up liquid figures. The aluminium foil and kitchen towels product fields are characterised by small price differentials between the competitive tiers, yet at the 2 cluster level these markets were perceived as pure brands vs retailer labels, contrary to hypothesis 3A. Furthermore, at the 2 cluster level in all of the product fields, (ie highly price differentiated tiers and poorly price differentiated tiers), respondents saw a pure branded and a retailer label cluster.

Thus hypothesis 3A is rejected. Perceived market structure at the 2 cluster level is not influenced by the actual price differences and at the 3 cluster level there appears to be no direct relation between price difference and perceived market structure.

9.6.2 Hypothesis 3B (Perceived price difference)

The greater the perceived price difference between the most expensive and the least expensive competitive offering, the more likely people are to perceive a 3 tier market (branded; own label; generic). The smaller the perceived price difference between the most expensive and the least expensive competitive offering, the more likely a 2 tier market will be perceived (branded and own label; generic).

This hypothesis was tested using the kitchen towels and washing up liquid results since these were the only 2 product fields where the competing items were all of the same pack size. The results of the other 4 product fields were not presented since it was felt that compounded within these results would be an effect due to respondents trying to calculate (possibly erroneously) price differences.

The price of competing tiers in the washing up liquid market were well differentiated, while smaller price differences were noted in the kitchen towels market. Respondents showed poor awareness of the price differences in these 2 product fields. Table 9-11 shows that at the 0.05 significance level there was no significant difference between respondents' perceptions of price differences between the kitchen towels and washing up liquid product field. This finding adds support to one of the conclusions from McGoldrick and Marks (1986) study, that few people were accurately able to recall product prices.

		Kitchen Towels	Washing Up Liquid
Number of respondents		130 %	142 %
Perceived price difference between the most expensive and cheapest items.			
Very large	(6)	11	8
Large	(5)	38	31
Moderate	(4)	44	53
Small	(3)	7	7
Very Small	(2)	1	1
No difference	(1)	0	0
		---	---
		100	100
MEAN PERCEIVED MAXIMUM PRICE DIFFERENCE (based on scores in bracket)			
		4.51	4.37

Table 9-11: Perception of any price difference

(Based on all completing the battery and the price question)

At the macro level hypothesis 3B is refuted. Since respondents perceive a greater price differential between competing items in the kitchen towels product field, a type 1 dendrogram should be observed amongst respondents in this product field. At the 2 cluster level the washing up liquid market should be perceived as brands and own labels versus generics. Contrary to the predictions from hypothesis 3B, neither of these structures were observed.

At the micro level hypothesis 3B can be evaluated by considering the perceptual structures within each of the 2

product fields. Inspection of the 3 cluster compositions in table 9-12 refutes hypothesis 3B since the predicted structures are not seen. Instead, there is a noticeable degree of uniformity of perception of market structure across the different groups of respondents in both product fields.

	Kitchen Towels		Washing Up Liquid	
	Sample Size	3 clusters	Sample Size	3 clusters
Perceived price difference				
Very large	14	(2B) (1B) (3OL+3G)	11	(3B) (3OL+1G) (2G)
Large	49	(2B) (1B) (3OL+3G)	44	(3B) (3OL) (3G)
Moderate	57	(2B) (1B) (3OL+3G)	75	(3B) (3OL) (3G)
Small	9	(2B) (1B) (3OL+3G)	10	(3B) (3OL) (3G)
Very Small	1	(1B+1G) (3OL+2B+1G) (1G)	2	(3B+1OL) (2OL+1G) (2G)

B = Brand; OL = Own Label; G = Generic

Table 9-12: Perceived market structure analysed by perception of price difference (3 tier)

Consideration of perceived market structure at the 2 tier level in table 9-13 also refutes hypothesis 3B. The constancy of perceived market structure across respondents within the same product field is contrary to hypothesis 3B.

Kitchen Towels Washing Up Liquid
2 cluster composition

Perceived price difference		
Very large	(2B) (1B+3OL+3G)	(3B) (3OL+3G)
Large	(3B) (3OL+3G)	(3B) (3OL+3G)
Moderate	(3B) (3OL+3G)	(3B) (3OL+3G)
Small	(2B) (1B+3OL+3G)	(3B) (3OL+3G)
Very small	(2G+1B) (3OL+2B+1G)	(3B+1OL) (2OL+3G)

B = Brand; OL = Own Label; G = Generic

Table 9-13: Perceived market structure analysed by perception of price difference (2 tier)

In conclusion, actual price differences have no impact on perception of market structure. Respondents are unaware of the price differences between the competitive tiers and perception of market structure is not influenced by perception of price differences.

Several reasons could explain these findings, as will be considered in chapter 10, but when respondents are unaware of price differences then this variable has little value in explaining market perception.

9.7 HYPOTHESIS 4 (BELIEFS ABOUT OWN LABEL PRODUCERS)

The greater people's belief that own labels are produced by major manufacturers of branded goods in the same product field, the more likely that branded and own label goods will be seen as similar offerings. Towards the end of the questionnaire, respondents were

asked to consider the 3 own label items in their photograph. They were asked to state how likely or unlikely, on a 5 point scale, they thought it was that the own labels were made by major manufacturers of branded goods. Table 9-14 shows that 88% of respondents believe that own labels are produced by the major manufacturers of branded goods. There were no significant differences, at the 0.05 significance level, between the product fields in terms of belief in own labels being produced by brands manufacturers. Consequently, hypothesis 4 was not tested at the macro level.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of respondents	146	127	143	134	130	140
	%	%	%	%	%	%
Likelihood of own labels being made by brand producers						
Very Likely (5)	47	47	46	57	54	52
Likely (4)	46	40	43	34	35	31
Neither likely nor unlikely (3)	3	4	6	2	7	4
Unlikely (2)	3	9	5	5	2	10
Very Unlikely (1)	1	1	1	3	2	3
	---	---	---	---	---	---
	100	100	100	100	100	100
MEAN BELIEF (based on 1-5 scale)	4.34	4.23	4.30	4.37	4.37	4.20

Table 9-14: Belief in own labels originating from brand manufacturers

(based on all correctly completing the battery and this belief question)

At the micro level, if hypothesis 4 is supported, it is anticipated that within each product field the dendrograms of those believing it "very likely" or "likely" that own labels are made by brands manufacturers should show brands and own labels merging together. The less respondents believe in this statement, the more likely brands should be seen to be different to own labels. Table 9-15 shows the dendrogram types that are exhibited at the 3 cluster level by the different belief groups. Within each product field the consistency of perception of market structure and the composition of the clusters refute hypothesis 4.

	Bleach	Toilet	Washing	Alum	Kitchen	Disinf
		Paper	Up Liquid	Foil	Towels	

Dendrogram type:

Likelihood
of own labels
being made by
brand producers

Very Likely	4	5	1	2	3	4
Likely	3	5	1	2	3	4
Neither Likely nor Unlikely	5	8	9	8	3	4
Unlikely	4	5	9	12	3	4
Very Unlikely	3	8	1	13	14	2

Table 9-15: Perceived market structure analysed by belief in own labels being produced by branded goods manufacturers (3 cluster)

Consideration of perceived market structure at the 2 cluster level also refutes hypothesis 4. In the bleach,

toilet paper, washing up liquid and disinfectant samples, each of the different belief groups always perceived a pure branded cluster and a retailer label cluster (own labels plus generics). Perceived market structure at the 2 cluster level for the other 2 product fields is shown in table 9-16. The aluminium foil results do not support hypothesis 4, since while the "very likely" belief group do show a tendency towards brands and own labels being perceived as similar (albeit not all the own labels) the "likely" belief respondents saw brands as dissimilar from own labels. Also, contrary to expectations the "very unlikely" belief group saw similarities between brands and own labels. In the kitchen towels result, the way the "very likely" belief group perceived the market in the same manner as the "unlikely" belief group goes against hypothesis 4. Furthermore, the "very likely" group did not see brands and own labels as being alike. The fact that only 1 branded item merges with the own labels amongst the "likely" belief group is further evidence refuting hypothesis 4.

The experimental results refute hypothesis 4. Across the 6 product fields, the majority of respondents (88%) thought own labels were made by the major manufacturers of branded goods. A clear branded sector was perceived by most belief groups within each product field. The relative consistency of perceived market structure at the 3 and 2 cluster level indicates that perception of market structure is independent of belief in who produces own labels. This

result may be due to respondents relying upon presence or absence of brand name as the prime informational cue, with little consideration given to their belief in the producer of own labels.

	Aluminium Foil	Kitchen Towels
	2 cluster compositions	
Likelihood of own labels being made by brand producers		
Very Likely	(3B+2OL) (1OL+3G)	(3B) (3OL+3G)
Likely	(3B) (3OL+3G)	(2B) (1B+3OL+3G)
Neither Likely nor Unlikely	(3B) (3OL+3G)	(2B) (1B+3OL+3G)
Unlikely	(3B+1G) (3OL+2G)	(3B) (3OL+3G)
Very Unlikely	(1B+2OL) (2B+1OL+3G)	(3B+2OL+3G) (1OL)

B = Brand; OL = Own Label; G = Generic

Table 9-16: Perceived market structure at the 2 cluster level

9.8 HYPOTHESIS 5 (PERCEIVED RISK)

The greater the degree of perceived risk associated with buying an unknown brand in a particular product field, the more likely people are to exhibit greater perceptual differences between the different competitive tiers.

Table 9-17 shows that the 6 product fields were generally viewed as moderate to low risk purchases and that there was a statistically significant difference ($p < 0.001$) in the pattern of perceived risk between the 6 product fields. In

terms of a 2 way product classification (moderate or low risk), the products fell into the same groups as noted in hypothesis 2 (large or small advertising activity). A possible reason for the higher risk products being associated with higher levels of advertising activity may be that, by providing respondents with more information, they then become more aware of product attributes, resulting in an increase in perceived risk (cf Gemunden, 1985).

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of respondents	147 %	126 %	143 %	134 %	130 %	140 %
Perceived risk						
Very high (5)	2	2	4	1	0	1
High (4)	12	14	17	3	5	9
Moderate (3)	54	52	58	46	51	51
Low (2)	24	23	18	30	27	25
Very Low (1)	8	9	4	20	17	14
	--- 100	--- 100	--- 100	--- 100	--- 100	--- 100
MEAN PERCEIVED RISK (based on 1-5 scale)	2.78	2.77	2.98	2.34	2.45	2.58

Table 9-17: Perceived risk within each product field

(based on all correctly completing the battery and perceived risk question)

At the macro level hypothesis 5 is not supported, since at the 2 cluster level perception of each market was always the same, yet, as the 6 product fields represent different degrees of perceived risk, some variation in perceptual structure was anticipated.

At the micro level hypothesis 5 predicts that within each product field, perception of market structure should vary across each of the perceived risk groups. At the 3 cluster level, table 9-18 indicates a considerable degree of uniformity across each of the perceived risk groups within each product field, refuting hypothesis 5.

Bleach Toilet Washing Alum Kitchen Disinf
Paper Paper Up Liquid Foil Towels

Dendrogram type:

Perceived risk	Bleach Paper	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Very high	2	8	3	2	*	1
High	3	5	1	15	3	4
Moderate	4	5	1	2	3	1
Low	4	5	1	3	3	4
Very low	3	3	1	2	3	4

* : No respondents in this category

Table 9-18: Perceived market structure analysed by perceived risk (3 cluster)

At the 2 cluster level, the consistency of market perception again refutes hypothesis 5. Within the bleach, toilet paper, washing up liquid and disinfectant samples, perception of market structure was always pure branded vs

retailer labels, irrespective of perceived risk. The aluminium foil and kitchen towel results are shown in table 9-19. In the aluminium foil test the moderate, low and very low risk perceivers all saw a pure branded versus retailer label cluster while the different perceptions amongst the very high and high risk perceivers may be due to the low sample sizes. Amongst the kitchen towels sample, perception of market structure is constant across 3 of the 4 levels of perceived risk. Thus, while these 2 product fields do not show the consistency of perception noted in the 4 other product fields, these results are still sufficiently similar to reject hypothesis 5.

Perceived risk	Aluminium Foil		Kitchen Towels	
	Sample Size		Sample Size	
Very high	1	(3B+2OL) (1OL+3G)	0	-
High	4	(2B+2OL) (1B+1OL+3G)	7	(2B) (1B+3OL+3G)
Moderate	62	(3B) (3OL+3G)	66	(2B) (1B+3OL+3G)
Low	40	(3B) (3OL+3G)	35	(3B) (3OL+3G)
Very low	27	(3B) (3OL+3G)	22	(2B) (1B+3OL+3G)

B = Brand; OL = Own Label; G = Generic

Table 9-19: Perceived market structure analysed by perceived risk (2 cluster)

The consistency of perceived market structure, both at the 3 and 2 cluster levels across each perceived risk group within the 6 product fields, does not support hypothesis 5. Across most groups of perceived risk, respondents perceived

a branded domain which is distinct from own labels and generics. These findings of perceived market structure, being independent of perceived risk, may be due to respondents' perceptions of risk being below a threshold beyond which motivation to undertake risk reducing behaviour (information search) would commence (Gemunden, 1985).

9.9 HYPOTHESIS 6 (PERCEIVED PRODUCT IMPORTANCE)

The more important the product is to people, the more likely it is that they will display a greater degree of competitive differentiation within the same product field.

Within each product field, respondents' assessment of the order of product importance was virtually the same and table 9-20 shows the overall ranking of product importance. The order of product importance does not reflect the broad 2 way classification of products noted earlier (ie high/low advertising activity or high/low risk).

Number of respondents	814
	Importance Ranking
Toilet Paper	1
Tea	2
Washing Up Liquid	3
Margarine	4
Sugar	5
Disinfectant	6
Bleach	7
Kitchen Towels	8
Aluminium Foil	9

Table 9-20: Overall ranking of product importance
(based on all correctly completing the battery and the importance question)

At the macro level hypothesis 6 is refuted, since perception of market structure at the 2 cluster level was identical for each product field.

To test hypothesis 6 at the micro level, respondents were divided into 3 groups according to the importance ranking they gave the product field to which their questionnaire related. These groups were:

High importance: respondents ranked the product as their 1st, 2nd or 3rd purchase choice.

Medium importance: respondents ranked the product as their 4th, 5th or 6th purchase choice.

Low importance: respondents ranked the product as their 7th, 8th or 9th purchase choice.

Table 9-21 shows the distribution of respondents in these 3 categories within each product field.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of respondents	144	126	142	134	128	140
	%	%	%	%	%	%
Product importance						
High	8	74	39	2	3	7
Medium	47	25	59	28	38	41
Low	44	1	3	69	59	51
	---	---	---	---	---	---
	100	100	100	100	100	100

Table 9-21: Distribution of respondents by their assessment of product importance
(based on all correctly completing the battery and importance question)

If hypothesis 6 is not to be disproved, within each product field perception of market structure should vary according to respondents' perceptions of product importance.

The consistency of perceived market structure at the 3 cluster level within each product field (table 9-22) refutes hypothesis 6. In the kitchen towels sample, all respondents exhibited the same perception of market structure regardless of product importance. In the remaining 5 product fields, 2 out of every 3 groups of respondents always saw the market structured in the same manner. A further similarity in perception of market structure is that, except for one group, respondents always saw brands as a distinct cluster. Only the 3 respondents ranking aluminium foil as a high importance product saw the brands merging with own labels, but this is subject to the limitations of the small sample size.

Bleach Toilet Washing Alum Kitchen Disinf
 Paper Up Liquid Foil Towels

Dendrogram type:

Product importance	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
High	4	5	1	16	3	1
Medium	4	5	1	2	3	4
Low	3	8	8	2	3	4

Table 9-22: Perceived market structure analysed by product importance (3 cluster)

At the 2 cluster level the consistency of perceived market structure refutes hypothesis 6. In the bleach, toilet paper, washing up liquid and disinfectant markets,

perception was always that of brands vs retailer labels, irrespective of product importance. As table 9-23 shows, within the aluminium foil and kitchen towels samples, 2 of the 3 groups always saw the same market structure, albeit some respondents perceived a similarity between brands and own labels.

	Aluminium Foil	Kitchen Towels
	2 cluster composition	
Product importance		
High	(3B+2OL) (1OL+3G)	(2B) (1B+3OL+3G)
Medium	(3B+2OL) (1OL+3G)	(3B) (3OL+3G)
Low	(3B) (3OL+3G)	(2B) (1B+3OL+3G)

B = Brand; OL = Own Label; G = Generic

Table 9.23: Perceived market structure analysed by product importance (2 cluster)

These results refute hypothesis 6. Product importance was not found to influence market perception. Respondents within each product field again saw brands as a unique category. Of the 18 cells formed to test this hypothesis (6 product fields x 3 classes of product importance), at the 3 cluster level 17 cells saw brands as being dissimilar to retailer labels, while at the 2 cluster level 14 cells showed this result.

9.10 HYPOTHESIS 7 (PRODUCT EXPERIENCE)

The more experience people have of a product field, the more likely they are to perceive differences between the competitive offerings in that product field.

To test this hypothesis, 3 indices of experience were developed. One was based on the number of competing items ever seen, another on the number of items ever bought before and the third on the grocery retailer most frequently used.

9.10.1 Experience based on awareness

Attention focused on respondents who had correctly completed the battery and the awareness question. For each product field, the distribution of respondents according to the number of items ever seen before was inspected. Respondents were then divided into 4 approximately equally sized groups within each product field, each group relating to a certain level of experience (number of items seen). Due to the distributions, some of the groups were either larger or smaller than the 25% sample size sought. Table 9-24 provides detail about the resulting experience groups.

If hypothesis 7 is supported, within each product field perception of market structure should vary between experience groups. An inspection of perceived market structure at the 3 cluster level, displayed in table 9-25, shows a marked level of consistency, refuting hypothesis 7.

	Sample Size	<u>Awareness Experience</u>			
		Low	Medium	High	Very High
		<u>Number of items ever seen:</u>			
Bleach	143	0-3 (31%)	4 (20%)	5 (25%)	6-8 (25%)
Toilet Paper	127	0-3 (10%)	4 (27%)	5 (21%)	6-9 (42%)
Washing Up Liquid	142	0-3 (20%)	4 (22%)	5 (25%)	6-9 (34%)
Aluminium Foil	132	0-2 (17%)	3 (20%)	4 (24%)	5-9 (39%)
Kitchen Towels	124	0-2 (20%)	3 (19%)	4 (31%)	5-9 (30%)
Disinf.	141	0-2 (21%)	3 (28%)	4 (16%)	5-8 (36%)

Table 9-24: Categorisation of experience based on number of items seen
(all correctly completing the battery and awareness question)

At the 3 cluster level, further evidence of consistency is that each group of respondents, within each product field, recognised branded items as a category dissimilar to own labels and generics.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Dendrogram type:						
Awareness Experience						
Very High	4	5	1	3	3	4
High	4	5	1	2	3	1
Medium	3	5	1	2	3	4
Low	3	5	1	2	3	1

Table 9-25: Perceived market structure analysed by awareness experience (3 cluster)

At the 2 cluster level, the similarity of perceived market structure across experience groups refutes hypothesis 7. In the bleach, toilet paper, washing up liquid and disinfectant product fields, respondents from each experience group perceived a pure branded cluster and a retailer label cluster. The kitchen towels and aluminium foil results are shown in table 9-26. In the kitchen towels product field, respondents with a very high experience level perceived the market in the same manner as the low experience group. The high and medium kitchen towels experience groups perceived the same structure. Of the aluminium foil sample, the high and low experience groups saw the market in a similar manner.

The similarity of market perception between different levels of experience and the fact that in 19 of the 24 cells (4 experience x 6 product fields) a pure branded cluster versus retailer labels cluster was recorded, refute hypothesis 7.

	Aluminium Foil	Kitchen Towels
2 cluster composition		
Awareness Experience		
Very high	(3B) (3OL+3G)	(3B) (3OL+3G)
High	(3B+2OL) (1OL+3G)	(2B) (1B+3OL+3G)
Medium	(3B+1OL+3G) (2OL)	(2B) (1B+3OL+3G)
Low	(3B+2OL) (3G+1OL)	(3B) (3OL+3G)
B = Brand; OL = Own Label; G = Generic		

Table 9-26: Perceived market structure analysed by awareness experience (2 cluster)

9.10.2 Experience based on items ever bought

In a similar manner to that described in section 9.10.1, four approximately equally sized experience groups were defined, based upon the number of items in that product field ever bought before. Table 9-27 shows the categorisation of experience within each product field.

	Sample Size	<u>Purchase Experience</u>			
		Low	Medium	High	Very High
		<u>Number of items ever bought</u>			
Bleach	145	0-1 (29%)	2 (35%)	3 (20%)	4-8 (17%)
Toilet Paper	127	0-1 (9%)	2 (24%)	3 (33%)	4-9 (34%)
Washing Up Liquid	142	0-1 (17%)	2 (28%)	3 (35%)	4-9 (20%)
Aluminium Foil	132	0-1 (30%)	2 (33%)	3 (18%)	4-9 (20%)
Kitchen Towels	124	0 (19%)	1 (19%)	2 (30%)	3-9 (32%)
Disinf.	141	0 (27%)	1 (27%)	2 (27%)	3-8 (19%)

Table 9-27: Categorisation of experience based on number of items ever bought

(all correctly completing the battery and purchase question)

A notable degree of consistency of perceived market structure is observed across each of the experience groups, (table 9-28), refuting hypothesis 7. All of the experience groups recognised brands as being a distinct category.

Bleach Toilet Washing Alum Kitchen Disinf
 Paper Up Liquid Foil Towels

Dendrogram type:

Purchase
 Experience

Very High	4	1	1	3	3	1
High	4	5	1	2	3	4
Medium	3	5	1	2	3	4
Low	3	5	1	17	3	4

Table 9-28: Perceived market structure analysed by purchase experience (3 cluster)

At the 2 cluster level a considerable degree of uniformity of perceived market structure was recorded across each experience group, refuting hypothesis 7. In the bleach, toilet paper, washing up liquid and disinfectant product fields, perception of market structure across all experience groups was always a pure branded cluster and a retailer label cluster. A slightly less consistent picture emerged in the kitchen towels and aluminium foil product fields, as shown in table 9-29. In the kitchen towels sample, 3 of the 4 experience groups saw the market in the same manner. The "very high" experience aluminium foil respondents saw the same market structure as the "low" experience group. Both the "high" and "medium" aluminium foil experience group saw similar market structure.

Aluminium Foil Kitchen Towels
2 cluster composition

Purchase Experience

High	(3B) (30L+3G)	(2B) (1B+30L+3G)
High	(3B+20L) (10L+3G)	(3B) (30L+3G)
Medium	(3B+20L) (10L+3G)	(3B) (30L+3G)
Low	(3B) (30L+3G)	(3B) (30L+3G)

B = Brand; OL = Own Label; G = Generic

Table 9-29: Perceived market structure analysed by purchase experience (2 cluster)

To assess the validity of the experience measures, the perceptions of each group of respondents, within each product field, were compared, based on the awareness and the purchasing operationalisations of experience. In 19 of the 24 cases (79%) the same perceived market structure was recorded when making comparisons, both at the 3 cluster level and then at the 2 cluster level. This is indicative of a valid measurement of product experience.

9.10.3 Experience based on shop most often used

When respondents were asked which one shop they used most often to do their grocery shopping, 4 retailers were mentioned by 93% of the sample. Reflecting the area in which the survey was completed, Waitrose was the store that most shoppers used, followed by Tesco, Sainsbury and then Fine Fare. To ensure sufficiently large sample sizes, the analysis centred upon those respondents using 1 of these 4

stores. Table 9-30 provides details about the samples used to test hypothesis 7 on this index of experience.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of Respondents	128	115	132	124	116	130
Shop used	%	%	%	%	%	%
Fine Fare	9	10	11	18	7	12
Sainsbury	16	13	9	14	16	15
Tesco	20	17	17	15	23	13
Waitrose	55	59	64	54	53	61
	---	---	---	---	---	---
	100	100	100	100	100	100

Table 9-30: Grocery shop most used

(based on all correctly competing the battery and the shop used question)

At the 3 cluster level table 9-31 shows that perception of market structure is very similar between people shopping in different retailers. This refutes hypothesis 7. All groups of respondents saw brands as dissimilar from the retailer labels, except for the 8 who completed the kitchen towels questionnaire and shopped at Fine Fare.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
	Dendrogram type:					
Shop most used						
Fine Fare	4	5	1	3	20	4
Sainsbury	3	5	1	2	3	3
Tesco	4	5	1	2	3	4
Waitrose	3	5	1	2	3	4

Table 9-31: Perceived market structure analysed by store most often used (3 cluster)

Perceived market structure at the 2 cluster level also refutes hypothesis 7, because of the similarity of perception noted between different groups of respondents within the same product field. In the bleach, toilet paper, washing up liquid and disinfectant product fields, each group of respondents always categorised the items into either a brands or a retailer labels cluster. Less similarity was noted amongst respondents completing the kitchen towels and aluminium foil questionnaires, as shown in table 9-32. In view of the similarity of perception at the 3 cluster level in these 2 product fields, one reason for the reduced similarity at the 2 cluster level may be due to chaining.

	Aluminium Foil	Kitchen Towels
	2 cluster composition	
Shop most used		
Fine Fare	(1B) (2B+3OL+3G)	(3B+3OL+2G) (1G)
Sainsbury	(3B+1OL+3G) (2OL)	(3B) (3OL+3G)
Tesco	(3B+2OL) (1OL+3G)	(2B) (1B+3OL+3G)
Waitrose	(3B) (3OL+3G)	(2B) (1B+3OL+3G)
B = Brand; OL = Own Label; G = Generic		

Table 9-32: Perceived market structure analysed by shop most used (2 cluster)

In conclusion, the evidence indicates that perception of market structure is independent of experience, measured either in terms of the number of items ever seen, or the number of items ever bought or the grocery retailer most frequently used.

9.11 TESTING THE INFLUENCE OF DEMOGRAPHIC VARIABLES

The influence of peoples' education, sex and age on perception of market structure will be considered in this section.

9.11.1 Hypothesis 8A (Education)

People's perceptions of the competitive structure of packaged grocery markets are not influenced by their level of education.

Based upon terminal age of education, respondents were classified into 1 of 4 groups and each group's perception of market structure considered. Table 9-33, shows that the spread of education level is not significantly different at the 0.05 significance level between product fields.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of Respondents	147	129	144	132	129	142
	%	%	%	%	%	%
Terminal age of education						
14-15	33	36	33	36	31	25
16	20	20	17	19	19	23
17-18	20	21	24	25	25	20
19+	27	23	26	20	25	32
	---	---	---	---	---	---
	100	100	100	100	100	100

Table 9-33: Educational level of respondents
(based on all correctly completing the battery and the education question)

Support for hypothesis 8A is provided at the 3 cluster level, since, as table 9-34 shows, a high degree of uniformity of market structure was seen across each group of respondents.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Terminal age of education						
14-15	4	5	1	2	1	1
16	3	5	1	2	3	1
17-18	3	5	1	2	18	4
19+	4	5	1	17	3	1

Table 9-34: Perceived market structure analysed by level of education (3 cluster)

Consideration of perceived market structure at the 2 cluster level also supports hypothesis 8A. Within the bleach, toilet paper, washing up liquid and disinfectant product fields, respondents from the different levels of education all classified the items as either branded goods or retailer label goods. As table 9-35 shows, half the groups in the kitchen towels and aluminium foil samples perceived a pure branded cluster and a retailer label cluster.

	Aluminium Foil	Kitchen Towels
	2 cluster composition	
Terminal age of education		
14-15	(3B+20L) (10L+3G)	(3B) (30L+3G)
16	(3B+20L) (10L+3G)	(3B) (30L+3G)
17-18	(3B) (30L+3G)	(2B) (1B+30L+3G)
19+	(3B) (30L+3G)	(2B) (1B+30L+3G)

Table 9-35: Perceived market structure analysed by level of education (2 cluster)

Overall, the results support the hypothesis that perception of market structure is not influenced by the respondent's level of education.

9.11.2 Hypothesis 8B (Sex)

Mens' perceptions of the competitive structure of packaged grocery markets are different to those of women.

To reflect grocery shopping behaviour, women were selected in preference to men when sampling. Where no women were in the household, the man was sent the questionnaire. A consequence of this sampling procedure was that 9% of the returned questionnaires were from men. As is shown in table 9-36, at the 0.05 significance level, there are no significant differences in the distribution of the sexes between the 6 product fields.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of respondents	147	127	143	132	130	140
	%	%	%	%	%	%
Women	90	93	92	92	92	88
Men	10	7	8	8	8	12
	---	---	---	---	---	---
	100	100	100	100	100	100

Table 9-36: Sex of respondent

(based on all correctly completing the battery and the question on sex)

With the number of men in each product field varying between only 9 and 17, these low sample sizes hinder any testing of hypothesis 8B and the following analysis is a tentative statement that needs testing with larger samples.

At the 3 cluster level men and women saw different market structures in 4 of the product fields, as table 9-37 shows. At the 2 cluster level men and women saw each of the 6 product fields structured as a pure branded cluster and a retailer label cluster.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
	Dendrogram type:					
Women	4	5	1	2	3	1
Men	3	5	8	5	3	4

Table 9-37: Perceived market structure analysed by sex of respondent (3 cluster)

Due to these equivocal findings the number of instances where the same perception was noted between men and women

at the 4, 3 and 2 cluster levels were considered. Of the 18 possible instances (3 levels of dendrograms x 6 product fields) 13 showed the same perceptual structure being exhibited between men and women. These results would therefore suggest that hypothesis 8B is not supported. With such small numbers of men though, this result would benefit from larger sample sizes.

9.11.3 Hypothesis 8C (Age)

People's perceptions of the competitive structure of packaged grocery markets are influenced by their age.

No significant differences, at the 0.05 significance level, were recorded between the 6 product fields when considering the distribution of respondents by age, as is evident from table 9-38.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of respondents	148	129	144	134	129	142
	%	%	%	%	%	%
Respondents' age						
18-34	34	28	30	31	36	34
35-44	28	27	25	28	23	29
45-54	14	16	21	18	16	21
55-64	15	19	13	11	16	13
65+	9	10	11	11	9	4
	---	---	---	---	---	---
	100	100	100	100	100	100

Table 9-38: Age of respondent

(based on all correctly completing the battery and age question)

Consideration of table 9-39 shows that at the 3 cluster level there is a notable similarity of market perception across each age group within each product field, refuting hypothesis 8C.

Bleach Toilet Washing Alum Kitchen Disinf
 Paper Up Liquid Foil Towels

Dendrogram types:

Respondents' age	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
18-34	3	5	1	17	3	4
35-44	4	5	1	2	9	4
45-54	3	5	1	2	3	1
55-64	4	5	9	2	9	1
65+	4	5	1	2	3	4

Table 9-39: Perceived market structure analysed by age of respondent (3 cluster)

Analysis of perceived market structure at the 2 cluster level also refutes hypothesis 8C. In the bleach, toilet paper, washing up liquid and disinfectant product fields, respondents from all age groups saw the market structured as brands versus retailer labels. From table 9-40, it is seen that amongst the kitchen towels' sample 4 of the 5 groups saw this market structured in the same manner. In the aluminium foil samples, while not conforming to the brands versus retailer label clusters, 3 of the 5 age groups perceived the market in a similar fashion.

	Aluminium Foil	Kitchen Towels
	2 cluster composition	
Respondents' age		
18-34	(3B+10L+1G) (20L+1G)	(3B) (30L+3G)
35-44	(3B) (30L+3G)	(3B) (30L+3G)
45-54	(3B+20L) (10L+3G)	(2B) (1B+30L+3G)
55-64	(3B+20L) (10L+3G)	(3B) (30L+3G)
65+	(3B+20L) (10L+3G)	(3B) (30L+3G)

B = Brand; OL = Own Label; G = Generic

Table 9-40: Perceived market structure analysed by age of respondents (2 cluster)

Thus the overall consistency of market perception when analysed by respondents' age refutes hypothesis 8C. The results from testing hypothesis 8C and hypothesis 7 support each other in so far as the older the respondent are, the more experience they have, yet as has been shown, experience with these low cost, frequently purchased items does not affect market perception.

9.12 FURTHER ANALYSIS

To assess whether the version (A or B) of the attribute-brand battery respondents completed had any impact on the results and also whether perception of the early respondents differed from that of the late respondents, further analysis was undertaken as reported in Appendix 12. The conclusion reached was that perception of market structure was not affected by the version of the battery

completed. The speed of response generally had no effect on perception of market structure.

In Appendix 13, the analysis to assess the validity and reliability of the cluster analysis results is presented. By applying 3 other algorithms, ie complete link, average link and minimum variance to the data tested at hypothesis 1, it was possible to see whether the different algorithms produced similar results to those obtained using the single link technique. An inspection of the dendrograms at the 2 and 3 cluster levels showed that, in the majority of cases, the same cluster structures were found, supporting the view that the single link technique was validly measuring perception of market structure. The reliability of the cluster analysis results were found using the split-half method, and an analysis of the clusters found from the way the samples had been divided, using the independent variables of hypotheses 2 through to 8C. Both methods showed that the cluster analysis results at hypothesis 1 were reliable.

Throughout each analysis of the different respondents' dendrograms at the 2 cluster level, the kitchen towels and aluminium foil results did not show the brands versus retailer labels clusters as frequently as did the 4 other product fields. Appendix 14 considers the 2 cluster structures of these 2 product fields in more detail. It shows that for both these product fields the brands versus retailer labels clusters were the most frequently seen

structures at the 2 cluster level.

9.13 CONCLUSIONS

This chapter has reviewed the research findings which are summarised in table 9-41. In only the washing up liquid product field did respondents perceive the 3 tiers in the same manner as that assumed by marketers (ie brands, own labels and generics). At the 3 tiers level, respondents' perceptions of market structure varied by product field. Across all 6 sectors, brands were consistently perceived to be different from own labels and generics. Perceptions at the 2 tiers level across each product field were always that of brands versus own labels plus generics.

Perception of market structure does not appear to be affected by the way that the product field, as a whole, has experienced long term reductions or increases in advertising activity, nor by the level of media spend, nor by respondents' perceptions of advertising spend. Classifying the 6 products into the 2 categories of either reduced or increased advertising support matched respondents' perceptions based upon M.E.A.L. data.

Actual price differences between competing items in each product field had no impact on perceived market structure. Respondents were unaware of the price difference between competing items and perception of price difference did not influence perception of market structure.

Hypothesis Impact of Independent Variables on Perception of Market Structure for 6 Product Fields

H1 (Market Structure)	3 tier: Brands always perceived as different from own labels, only washing up liquids perceived as (3B) (30L) (3G)
	2 tier: Each product field always perceived as brands vs retailer labels
H2A (Actual Adv)	Macro level: At 3 tier no direct impact from variable. At 2 tier perception always brands vs retailer labels
H2B (Perceived Adv)	Macro level: Same findings as H2A Micro level: Similarity of perception across all categories of independent variable (3 and 2 tiers)
H3A (Actual Price)	Macro level: Same findings as H2A
H3B (Perceived Price)	Macro level: Same findings as H2A Micro level: Similarity of perception across all categories of independent variable (3 and 2 tiers)
H4 (Own Label Producer)	Micro level: Similarity of perception across all categories of independent variable (3 and 2 tiers)
H5 (Risk)	Macro level: Same findings as H2A Micro level: Same findings as H4
H6 (Importance)	Macro level: Same findings as H2A Micro level: Same findings as H4
H7 (Experience)	Micro level: Same findings as H4 for all 3 experience measures
H8A (Education)	Micro level: Same findings as H4
H8B (Sex)	Micro level: Evidence of similarity of perception between men and women
H8C (Age)	Micro level: Same findings as H4

Table 9-41: Summary of Research Findings

Across each of the 6 product fields respondents consistently believed that own labels were made by manufacturers of major brands, a view expressed by 88% of the sample. Belief in whether the own labels were or were not made by manufacturers of branded goods had no impact on perception of market structure.

The 6 product fields were viewed generally as being low to moderate perceived risk categories. Aluminium foil, kitchen towels and disinfectant were regarded as being low perceived risk items with the other 3 products becoming moderate risk items, yet at the macro level perception of the market structure was not related to the degree of perceived risk associated with that product category. Within each product field, perception of perceived risk did not influence perception of market structure.

A high degree of consistency in terms of the ranking of products by their perceived importance was noted between respondents replies in the 6 product fields. Toilet paper emerged as the most important product and aluminium foil as the least important product. Perception of market structure was not affected by product importance. Within each product field perception of market structure was independent of the perceived importance of that particular product.

Perception of market structure was not found to be influenced by the amount of experience respondents had,

measuring experience either in terms of awareness or previous purchasing or grocery retailer most used.

Further confirmation of perception of market structure being independent of experience was seen by respondents' age and sex having no effect on perception. Education did not influence respondents' categorisation of items.

Having considered the experimental results, the next chapter considers these findings in view of the previous literature, assesses their implications and identifies areas of further research.

CHAPTER 10

CONCLUSIONS AND RECOMMENDATIONS

10.1 INTRODUCTION

This chapter reviews the survey results in relation to the proposed theory and considers possible reasons for the theory being disproved. It discusses the relation of this research to the literature earlier presented. Implications of the present work for marketing management are presented and further areas for research are suggested.

10.2 A REVISED TAXONOMY OF MARKET STRUCTURE

One of the aims of this thesis was to test the proposition that marketers and consumers perceived the structure of markets differently from each other. At the 3 tier level, in only the washing up liquid results did respondents categorise the competing items in the same manner as marketers, ie, brands, own labels and generics. Perception of market structure at the 3 tier level varied according to product field and brands were always seen as being dissimilar from own labels and generics. At the 2 tier level, perception was always that of brands versus retailer labels.

The grouping of competing items at the 2 tier level is contrary to that hypothesised by McGoldrick (1984a). His view of brands and own labels being similar was based on

only the 2 dimensions of price and quality, while this study is based firstly on more dimensions and secondly used dimensions that are consumer relevant. In a similar manner it is wrong to place too much emphasis on the Mintel (1982/83) tracking study as an indication of market structure, since quality is only one of several attributes that consumers consider when forming an overall evaluation of the competing tiers.

At the 2 tier level, the results of this research are similar to the studies undertaken in the USA (reviewed in section 3.2). It is believed by this author that because of American retailers' "branding" of generics (eg Harris and Strang, 1985), consumers saw considerable similarities between own labels and generics. Similarly, in the UK, it is my view that because the generic concept was not strictly enacted, respondents categorised own labels and generics as members of the same tier. As section 5.2 details, those UK retailers selling generics developed an identity for their particular generics that closely associated different generic ranges with specific retailers. The view of several authors, reviewed in section 2.4.2, that generics represented an extension of retailers' own labels, would appear to be correct from this research.

At the 2 tier level, it is my view that the close association of own labels and generics with specific retailers was the prime reason for the perceived structure

of brands versus retailer labels. Respondents' examination of the competing items (external search) would have been compared against memory (internal search) and certain informational cues would have more reliance placed on them due to their high informational value. Research reviewed in section 4.2 showed that "brand" name cues were the most sought informational cues and it is thought by this author that respondents relied primarily upon seeking "branding" cues (eg presence of brand name, presence of retailer name, any pack associations with retailers). To then protect their belief of own labels and generics being similar, the perceptual process would have resulted in some of the pack information being distorted to conform to respondents' beliefs and only a proportion of the total information would have been processed. In my view the impact of perceptual selectivity and perceptual distortion masked any possible effect of presence of brand name being used to recall via chunking, any awareness (if there was any) of long term reductions in branding activity and increasing own label activity.

Perception of market structure at the 3 tier level is related by the product field concerned but no reason could be found to explain this.

10.3 ADVERTISING AND PERCEPTION OF MARKET STRUCTURE

There was no effect on perception of market structure from the actual level of advertising activity. At the 2 tier

level, perceptions of product fields classified as receiving large levels of media expenditure were the same as those product fields classified as receiving small levels of media expenditure. Furthermore, the way respondents categorised the competing items was not influenced by long term increases or decreases in the actual amount of media expenditure.

In terms of a 2 way classification of the 6 product fields (large or small amounts of advertising activity), respondents' perceptions of advertising activity matched reality. This finding is in agreement with that of Cobb and Hoyer (1985). At the macro level, perception of the 6 product fields was not affected by respondents' perceptions of advertising activity. At the micro level, within each product field perception of market structure was independent of the level of advertising activity perceived by respondents.

The reasons for these results might be explained as follows. From Cox's (1967a) model, respondents placed reliance upon those informational cues having high predictive values and high confidence values. The studies reviewed in section 4.2.3 showed that advertising is not as frequently consulted as other cues, indicating low predictive and low confidence values for this cue. Following the discussion in section 10.2, it is my belief that respondents put more effort into searching for "brand" name cues (ie high predictive and high confidence values)

which are processed by comparing them against information held in memory. The results would suggest that an alternative strategy of undergoing memory search for any advertising recall is infrequently followed. More information would be available from memory by accessing chunks through "brand" names, than by accessing information bits through advertising recall. In view of the 6 product fields being low involvement goods, then from the Engel et al (1986) model, respondents are unlikely to undertake a detailed information search and again are thought likely to be following a "brand" name search process rather than seeking bits of information through advertising recall.

10.4 PRICE AND PERCEPTION OF MARKET STRUCTURE

This research has shown that at the 2 tier level, perception of market structure across the 6 product fields was independent of the actual price difference between the competing tiers. At the 3 tier level, there was no direct relation between the price difference of the competing tiers and perceived market structure.

Only within the washing up liquid and kitchen towels product fields were similar size packs available and perceptions of price differences were only considered for these 2 sectors. The competing tiers in the washing up liquid product field showed clearly defined price differences with the branded tier being 164% more expensive than the generic tier. By contrast, the competing tiers

in the kitchen towels market showed much smaller price separations with the brands being only 22% more expensive than the generics. Respondents displayed poor awareness of the price differences between the competing items in these 2 product fields and thought the price differential between the cheapest and the most expensive items was the same in both product fields. This finding of poor price awareness adds further support to the studies reviewed in section 4.2.4. With the variation of product prices between retailers, the frequent occurrence of price offers and the fact that product price information is readily available in shops, I believe consumers protect themselves from memory overload by only having a broad view of product prices.

At the micro level, perceptions of market structure within the washing up liquid and kitchen towels sectors were independent of respondents' perceptions of the price difference between the cheapest and the most expensive items in each product field. Clearly price perception is of less importance than was anticipated. This study adds to previous research (reviewed in section 4.2.4) which found that in a multicue setting limited use is made of price information.

Following Cox's (1967a) model, respondents placed higher predictive and confidence values on cues other than price. In a similar argument to that advanced in the previous section, it is my belief that respondents put greater

emphasis on searching the packs for branding cues, rather than looking for price information (printed on 2 of the washing up liquids and 4 of the kitchen towels) and searching memory for price information. With such frequently purchased items, respondents are likely to hold relevant information in memory, enabling them to realistically follow a search strategy of "seek branding cues and then interpret these against chunks in memory". A further attraction of this search process to respondents is the high informational value from a relatively restricted search. From the Engel et al (1986) model, this search strategy is believed to be more appropriate for these low involvement goods than that of a more detailed search.

10.5 BELIEF IN OWN LABELS BEING REPACKAGED BRANDS

In section 2.6.3 it was reported that one of the ways that some brand manufacturers responded to the increasing pressures from multiple retailers was to reduce the quality of their brands. At the same time, multiple retailers were striving to increase the quality of their own labels. Studies reported in section 3.2 showed an increasingly favourable view amongst consumers of own labels being as good as nationally advertised brands. This research confirms these findings, with over 80% of respondents believing that own labels are produced by major manufacturers of branded goods. This high belief in own labels originating from brand manufacturers was constant

across all 6 product fields.

Within each of the 6 product fields, the way respondents categorised the competing items was independent of their degree of belief/disbelief in own labels being made by brand manufacturers. Belief in the producer of own labels does not appear to be a dominant factor influencing perception of market structure. An inference from this belief is respondents' perceptions of the similar quality of brands and own labels. Intrinsic cues (ie product quality), are, according to Szybillo and Jacoby (1974) regarded more highly by respondents than extrinsic cues. The value of this cue would be diminished since respondents would have to rely upon memory and depending when own label and branded versions were last used, this would be subject to memory bias. A further reason for the limited influence of this factor may be that for these low involvement items respondents would be primarily seeking "brand" name cues, as explained in the previous sections.

10.6 PERCEIVED RISK AND MARKET STRUCTURE

In section 4.3.1 several studies were cited which showed that the level of perceived risk varies by product field, which this research confirms. In relative terms, the washing up liquid sector aroused the highest level of perceived risk while the lowest level of perceived risk was associated with aluminium foil. The 6 product fields were perceived as being low to moderate risk purchases, an acceptable finding in terms of the relatively low cost of

these familiar products.

In terms of a 2 way classification (moderate or low risk), the products associated with a moderate level of perceived risk had received significant levels of advertising support. By contrast the low perceived risk products had, in relative terms, much lower levels of media support and were the products that had seen long term reductions in media spend. Gemunden (1985) suggested that, by providing respondents with more information, this increases perceived risk, since they become aware of further attributes that they might not have earlier considered and this may explain the moderate/low risk product categorisation.

At the macro level, perception of market structure was not affected by the level of perceived risk. At the micro level, within each product field, perception of market structure was constant across respondents perceiving different levels of risk. Several reasons might explain these results. Firstly, these items might have aroused a level of perceived risk that is within a tolerable level necessitating no risk reducing activity. Consequently the high risk perceivers did not undertake a more detailed information search than did the low risk perceivers. Secondly, even if those high in perceived risk did seek more information to reduce perceived risk, because of the low involvement nature of the products, their information search might not have been very detailed. Furthermore, the high risk perceivers search process might not have involved a search for other cues on the packs. Instead,

it may have been either a more detailed external examination of the informational cues considered in a superficial manner by the low risk perceivers, or a more extensive search of memory.

10.7 PRODUCT IMPORTANCE AND MARKET STRUCTURE

In common with the studies reviewed by Bloch and Richins (1983), respondents perceived a hierarchy of product importance, with toilet paper representing the most important item and aluminium foil the least. The order in which respondents ranked the items was virtually the same between respondents, indicating the stability of product importance. No association could be found between the importance ranking of the products and any of the other variables considered in this research.

At the macro level, perception of market structure was not found to be affected by the perceived importance of a particular product field. At the micro level, within each product field, perception of market structure was not affected by the degree of product importance perceived by different groups of respondents. These results were not anticipated, since it was predicted that increasing perception of product importance would motivate more detailed information search, leading to differences in market perception. While Lastovicka (1979) found some evidence of increasing product importance being associated with more extensive problem solving behaviour, he used 7

buying situations that ranged from either extremes of the product involvement spectrum (ie lightbulbs through to cars). By contrast, the products used in this research were all low involvement items. Even though a classification system was devised (based upon an ordinal scale of perceived product importance), it is thought that none of the items were perceived as sufficiently important to warrant more detailed information search.

10.8 PRIOR EXPERIENCE AND MARKET STRUCTURE

Building upon the Howard and Sheth (1969) model, it was thought in this thesis that those respondents with experience of the items displayed in the photograph would not undertake as detailed an information search as those who had less product experience, resulting in different perceptions of the same market. Three measures of experience were developed, ie number of items ever seen before, number of items ever bought before and shop most often used. For all 3 measures, perceptions of market structure within each product field were generally unaffected by respondents' prior experience.

One reason for these results may be that as the product fields represent such frequently purchased items, all respondents would have sufficient relevant information in memory to enable the product cues to be interpreted. Differences in experience levels between the diverse groups of respondents would be insufficient to cause different

information search strategies. It is thought by this author that respondents would first examine the photographs for "brand" name cues and since both low and high experience groups would have sufficient information in memory, these cues could be interpreted. This suggested explanation for the results is in agreement with the finding of Jacoby et al (1978). Based on breakfast cereals, they found that there was a non-significant relationship between experience and the number of information dimensions consulted.

An explanation for the effect of experience based on shop most frequently used, may be that respondents would hold more pertinent information in memory about "brands" relevant to the store they most frequently used. By using "brand" name cues they would then have sufficient information in memory to enable them to draw inferences about the own labels and generics stocked by other retailers.

10.9 DEMOGRAPHIC VARIABLES AND MARKET STRUCTURE

Respondents' level of education had no impact on perception of market structure within each product field. This supports the proposition, advanced in section 5.5.7, that none of the items are difficult to use, nor do any of them make complex claims. Even if there was initial anxiety, the frequent usage of these products should enable learning. It is thought that this research obtained

different results from Schaninger and Sciglimpaglia's (1981) study of grocery products because of their small, non-representative sample of church affiliated respondents. The design of their study differed from this since respondents used an information display board and level of education was operationalised in terms of educational institution last attended, rather than terminal age of education. These differences impede direct comparisons.

Respondents' sex was not found to have any impact on perception of market structure. With a low number of men interviewed in each product field, this finding would benefit from testing with larger sample sizes. Due to traditional roles (buying and domestic), women have more experience of the items in these product fields than men. Yet again, another measure of experience has shown no effect on perception of market structure. For the same reasons as those suggested in section 10.8, the difference in experience between men and women is thought to be insufficient to affect the information search and processing and this may explain the similarity in perception of market structure.

Respondents' age did not have any impact on perception of market structure. Phillips and Sternthal (1977) reported that older people relied on their greater experience to process less, but more relevant information than younger people. However, this thesis found that any age related differences in search behaviour did not affect market

structure. Age might be viewed as an indicator of respondents' product experience and confirming earlier findings about the impact of experience, this measure of experience had no effect on perception of market structure. Following the argument proposed in section 10.8 it is my view that all age groups have sufficient information stored in memory to enable the search for "brand" name cues to be interpreted and due to the insignificant age related differences in information search, perception of market structure was independent of respondents' age.

10.10 VALUE OF AN INFORMATION PROCESSING MODEL

As the preceding sections in this chapter have shown, creating a high involvement situation did not result in an active information search process. Recalling from section 5.3 the problem of choosing an appropriate involvement model that reflects the influence of a stimulus within a particular situation, I believe that while respondents were placed in a high involvement situation, the fact that they had to assess product fields with which they felt low involvement resulted in their superficial external information search. The high involvement situation created by the questionnaire measuring perception did not appear to be as important a factor influencing respondents' involvement when compared with the influence from the low involving nature of the 6 product fields. By inference from this finding, situational effects such as buying any of these items for neighbours/family, or buying any of these items for a special event (eg aluminium foil when

cooking meat for a dinner party) is unlikely to be a high involvement purchasing situation.

Instead of respondents seeking many informational cues, as would be the case in the high involvement Engel et al (1986) model, they undertook a superficial information search in line with a low involvement model (Engel and Blackwell, 1982). Their brief information search with these low involvement items centred around using a low number of informational cues which respondents perceived to have both high predictive and high confidence values (eg "brand" names). Post hoc, the results of the this research could be explained by an information processing model, portraying the consumer as an efficient decision maker who seeks a minimum amount of high quality information to assess competing items.

10.11 IMPLICATIONS FOR MARKETING MANAGEMENT

The problems considered by this research were do marketers and consumers perceive the structure of packaged grocery markets in the same manner and are there certain factors which influence consumers' perceptions of market structure? A succinct reply to these questions is that generally consumers' perceptions of market structure differ from marketers and that "brand" name cues are the main factor influencing consumers' perceptions. The implications of this for marketing management will be considered.

10.11.1 Implications of total market perceptions

In an era when there was commitment by multiple retailers towards generics, marketers viewed markets as being composed of brands, own labels and generics (Hawes, 1982). This research has shown that this is too general a perspective and marketers should, instead, consider the structure of individual grocery markets as being specific to the products concerned. The only generalisation that can be made is that brands were perceived as a distinct category from either own labels or generics.

As perception is one of the variables influencing purchasing (Engel et al, 1986), one possible consequence of the distinction between brands and retailer labels (own labels plus generics) as perceived by consumers, is that consumers are more likely to switch from own labels to generics. This consumer perspective could be damaging for multiple retailers. If, as Shircore (1983) suggested, generics achieved their low prices through lower margins and if own labels are more profitable than brands (Euromonitor, 1986), then by consumers switching from own labels to generics, retailers would experience a fall in profitability. The greater likelihood of own label buyers switching to generics is thought to be one of the contributory factors leading to the poor profit levels achieved by International after the launch of their generic range. Supporting the findings of this research, McGoldrick (1984a) reported consumers perceiving little

difference between International's own labels and generics.

Another potentially damaging effect from the perceived similarity of own labels and generics is their down market image. Some retailers, eg Tesco, have been using their own labels as one means of shifting their image up market (Bond, 1985), yet the perceived similarity between own labels and generics could hinder such positioning strategies. As support for this view, Jacoby and Mazursky (1984) showed that there was an interaction effect between a retailer's image and the image of the "brands" stocked; the party with the more favourable image was found to be adversely affected. Similar findings were also reported by Enis and Stafford (1969). This may explain why Tesco eventually restricted their original generic range to their previously owned Victor Value stores and why they finally withdrew from the generics arena.

In America some retailers tried to overcome the impact of the generics on their store image by introducing a range of slightly higher quality branded generics, eg Krogers Cost Cutter range (Harris and Strang, 1985). It is my view that if the same policy were followed in the UK, because of the reliance consumers place on the search for "branding" cues, the revised generic range would be perceived by consumers as similar to the existing own label range.

The fact that brands were seen as being distinct from own labels and generics would support the view of the Henley

Centre for Forecasting (1982) that "it still seems somewhat premature to proclaim the funeral rites for the brand" (p306). Continued investment in grocery brands is required to ensure that the information chunks in memory are constantly reinforced through experience of high quality, high reliability, innovative items that have a strong brand personality which can justify a price premium.

If long term reductions in branding activity continue, because of repeated product trial, consumers will become aware of the cuts in branding investment. Eventually brand name chunks in memory would hold information about weaker brands, resulting in a greater chance of brands and own labels being perceived as similar (assuming no significant changes in own label support).

The response of some manufacturers to the increasing competition from retailer labels has been to launch value brands (eg Scottowels), which are priced to be competitive with own labels and which have minimal media support. Such a strategy is thought to be rather short-sighted, as shown by the way that consumers did not perceive Scottowels as a "normal" brand. Low involvement learning of a brand image for a value brand will result in a weak brand personality, which will become more diluted over time. With increasing retailer pressure for better margins and a continual need to match the competitive prices of own labels, it is this author's belief that support behind value brands will be reduced with the consequential

reduction in consumer interest.

Retailers' marketing of their own labels has successfully resulted in them being perceived as different from manufacturers' brands. Some have suggested that there is a hierarchy of own labels (eg Simmons and Meredith, 1983), with Marks and Spencer then Sainsbury representing the top end of such a spectrum for quality and innovative development. This could imply that because of the characteristics of Sainsbury's own labels they might be perceived more like a manufacturer's brand. The results of this research showed that consumers did not perceive either Sainsbury's own labels or any other retailers own labels as being similar to a manufacturer's brand.

Now that the major multiple retailers have withdrawn their generic ranges, it is the view of this author that the concept of a manufacturer's brand and an own label is still viable. The taxonomy of brands versus own labels would therefore still be adequately described by the definitions considered in sections 2.2.1 and 2.3.1.

10.11.2 Implications for the use of advertising and pricing resources

People are aware of the amount of media activity in packaged grocery markets. This research has shown that advertising activity is not the sole factor influencing perception of market structure. Through the way people

use "brand" name cues to access memory, advertising would be one component of a chunk in memory. In support of King's (1978) comments about the use of several elements to support brands, this research points to the need for advertising activity to be used to develop a "brand" personality. Emphasis should not be placed primarily upon one element of the marketing mix, but rather advertising should be used in concert with other resources to present a coherent offering.

A poor awareness of the extent of price differentials between competing items was noted and not surprisingly, price cues had little impact on perception of market structure. One possible inference from this finding is that advertisements which centre around product prices do not appear to have communicated the extent of price differentials. If retailers do wish to major upon the price advantage of their own labels, more emphasis needs to be placed upon communicating this to consumers. In view of the low involvement nature of these product fields, in-store displays should be used to reinforce any advertising about low prices.

Since price is only one of the elements inferred through the use of "brand" names to interrogate chunks in memory, it is recommended that its use in the positioning of competitive tiers reinforces the use of the other elements of the mix to achieve long term objectives. Therefore, if brand manufacturers invest in their brands, they should

plan for high recommended retail selling prices.

10.11.3 Implications of knowledge about consumers

Retailers' development programmes for their own labels have successfully resulted in an image of own labels as items produced by manufacturers of major brands. By inference, this indicates favourable quality associations for the own labels and adds confirmation to the success of multiple retailers' attempts to enhance the attractiveness of their own labels. Beliefs about who produces own labels were not sufficiently important to affect perception of market structure, but this does not indicate that brand manufacturers can afford to reduce product quality. Any consumer noticeable quality changes will be stored in memory and when using "brand" names to access chunks, these changes are likely to be taken into account when forming a perception. With such a high level of belief in own labels being made by brand manufacturers, the promotional campaigns of some manufacturers communicating the fact that they do not make own labels (eg Kelloggs) will require considerable support to affect beliefs.

With the 6 product fields being perceived as low to moderate risk, respondents' perceptions of market structure were unaffected by their perceptions of risk. This would imply that advertising approaches by brand manufacturers trying to arouse increased perceptions of social risk amongst consumers who use own labels, are not likely to be

very effective.

Knowledge about perceived product importance, product experience or the demographic variables level of education, sex and age, has little marketing implication for these product fields, since these variables had no effect on perception of market structure.

10.12 RECOMMENDATIONS FOR FUTURE RESEARCH

The theory developed in this thesis was based upon involved respondents who undertook varying degrees of information search (internal and external). It was thought that the differing degrees of information search and processing would lead to different perceptions of market structure and that specific variables might be identified which could account for differences in perception. Post hoc it is the belief of this author that the low involvement nature of the product fields resulted in a superficial information search and hence consistent perceptions amongst different respondents within each product field. This theory may only apply to high involvement product fields, where it is thought there would be a more detailed information search. It is therefore suggested that the theory be tested using kitchen electrical appliances where brands (eg Swan) compete against retailers' own labels (eg Boots).

The results of this research were assumed to be explained

by respondents placing considerable emphasis upon seeking "brand" name cues and then using these to interrogate memory chunks. With the multiple retailers withdrawing their generics after fieldwork had been completed, this model would then predict respondents perceiving markets as brands versus own labels. This could be tested by repeating the survey using up to date brands and own labels in the 6 product fields. It has been assumed that a chunk in memory accessed through a "brand" name contains impressions about advertising, pricing, product quality and availability. This assumption has not been tested in this thesis and it would be an area that would benefit from investigation.

To reduce the problem of respondent fatigue, any effect from situational variables were not tested. None of the 6 product fields are conspicuously consumed and it is doubted whether situational variables would affect perception of market structure. Such a view would benefit from testing to see if there was any influence from situational variables.

Several reasons were suggested in section 10.6 as to why perceived risk did not affect perception of market structure. If, as has been recommended, this research were to focus upon kitchen electrical appliances, it is thought that these products would be perceived as higher risk items than packaged groceries. It is more likely that respondents' perceptions of risk would then exceed a

tolerable level enabling the theory to be tested. It was also speculated that for the packaged grocery results, even if high risk perceivers undertook more information search than the low risk perceivers, this would only be a marginal increase. A further study is recommended to assess whether high/low risk perceivers of packaged groceries do actually undertake different degrees of search activity.

Such a study should also investigate whether different information search strategies are followed, ie if there is more search undertaken by high risk perceivers does this include new information cues or is it a more detailed consideration of the same cues considered in less detail by the low risk perceivers?

It was thought that the reason for product importance having no effect on perception of market structure was that none of the items were perceived as sufficiently important. Further work is required to develop an interval measuring scale for product importance which could then be used to assess whether there is a threshold level of product importance beyond which greater information search is undertaken.

The reason suggested for prior experience having no effect on perception of market structure was that as all 6 product fields are frequently purchased items, all respondents would have sufficient experience to form judgements. Were the theory to be tested with kitchen electrical appliances,

I believe that the longer inter purchase periods and the technical advances of replacement models would provide a challenging test for the theory.

By testing the theory with kitchen electrical appliances it is thought that because of the nature of the products, level of education would have an impact on perception of market structure. Respondents' sex and age would reflect their purchasing and usage of kitchen electrical appliances and these variables are thought to influence perception of market structure.

If an updated version of this research were to be undertaken using only branded and own label packaged groceries, a larger number of men should be included to better test whether men and women perceive market structures in the same manner.

10.13 CONCLUDING STATEMENT

This research has shown how consumers' perceptions of the structures of 6 packaged grocery markets differ from marketers. A theory was developed to explain the impact of different variables on perception of market structure and it is believed that this theory failed because of the low involvement nature of the products. Recommendations have been suggested for future research which should provide more understanding of the variables influencing consumers' perceptions of market structure.

APPENDICES

APPENDIX 1

ELEMENTS USED IN REPERTORY GRIDS AND ATTRIBUTE
REDUCTION FIELDWORK

BLEACH

Jeyes Thick Parazone (750ml), Vortex Intensified Bleach (739ml), Domestos (739ml)

Sainsbury Own Label (1 litre), Tesco Own Label (2 litre), Fine Fare Own Label (1 litre)

Presto Generic (2 litre), Tesco Generic (2 litre), Fine Fare Generic (1 litre)

TOILET PAPER

(2 white rolls per pack unless specified otherwise)

Andrex, Kleenex Velvet, Luxury Dixcel

Sainsbury Own Label, Tesco Own Label, Fine Fare Own Label

Presto Generic (4 roll pack), Tesco Generic (9 roll pack),

Fine Fare Generic

WASHING UP LIQUID (All 1 litre packs)

Fairy Liquid, Sunlight, Palmolive

Sainsbury Own Label, Tesco Own Label, Fine Fare Own Label

International Generic, Tesco Generic, Fine Fare Generic

ALUMINIUM FOIL (All 4.5m x 450mm)

Alcan Bacofoil, Hygex, Snappies

Sainsbury Own Label, International Own Label, Fine Fare Own Label

Presto Generic, Tesco Generic, Fine Fare Generic

KITCHEN TOWELS (2 rolls per pack)

Scottowels, Dixcel, Quilted Fiesta

Sainsbury Own Label, Tesco Own Label, International Own
Label

Presto Generic, Tesco Generic, Fine Fare Generic

DISINFECTANT (All 1 litre unless specified otherwise)

Jeyes Ibc01 (500ml), Lifeguard (500ml), Zal (536ml)

Sainsbury Own Label, Tesco Own Label, International Own
Label

Presto Generic, International Generic, Fine Fare Generic

APPENDIX 2

COMPETING ITEMS USED IN THE POSTAL STUDY

The average price of each item shown is based on store visits between 15-24 August 1985 to Co-op, Fine Fare, International, Liptons, Sainsbury, Tesco and Waitrose.

The codes below (A through to I) are those shown to respondents enabling them to relate each item in the photograph to its location on the attribute-brand battery.

BLEACH (1 litre unless otherwise specified)

Sainsbury Own Label 31p (A)
Jeyes Parazone 750ml 45p (B)
Fine Fare Generic 2 litre 46p (C)
International Own Label 31p (D)
Domestos 739ml 52p (E)
Tesco Own Label 31p (F)
Presto Generic 2 litre 46p (G)
Vortex 739ml 50p (H)

TOILET PAPER (2 white rolls per pack unless otherwise specified)

Andrex 59p (A)
Fine Fare Generic 35p(B)
Kleenex Velvet 56p(C)
Fine Fare Own Label 49p(D)
Tesco Own Label 51p (E)
Presto Generic 4 rolls 62p (F)
Dixcel 56p (G)
Sainsbury Own Label 4 rolls 92p (H)
Tesco Generic 9 rolls 129p (I)

WASHING UP LIQUID (All 1 litre)

Sunlight 61p (A)
Sainsbury Own Label 46p (B)
Presto Generic 27p (C)
International Own Label 45p (D)
Tesco Generic 27p (E)
Fine Fare Own Label 45p (F)
Fairy Liquid 84p (G)
Fine Fare Generic 27p (H)
Palmolive 69p (I)

ALUMINIUM FOIL (All 4.5m x 450mm unless otherwise specified)

Fine Fare Own Label 52p (A)
Alcan Bacofoil 61p (B)
Sainsbury Own Label 56p (C)
Presto Generic 9m x 450mm 68p (D)
Hygex 1.83m x 450mm 25p (E)
Tesco Generic 39p (F)
Snappies 39p (G)
Fine Fare Generic 39p (H)
Tesco Own Label 56p (I)

KITCHEN TOWELS (2 rolls per pack)

All white except for Kleenex Maxi Dri, Quilted Fiesta and Fine Fare Own Label which were white with a pattern.

Presto Generic 57p (A)
Sainsbury Own Label 72p (B)
Tesco Generic 55p (C)
Kleenex Maxi Dri 79p (D)
Fine Fare Generic 69p (E)
Quilted Fiesta 81p (F)
Tesco Own Label 72p (G)
Scottowels 61p (H)
Fine Fare Own Label 76p (I)

DISINFECTANT (All 1 litre unless otherwise specified)

Fine Fare Generic 45p (A)
Sainsbury Own Label 56p (B)
Presto Generic 45p (C)
Lifeguard 500ml 41p (D)
International Own Label 56p (E)
Zal 536ml 41p (F)
Jeyes Ibc01 500ml 41p (G)
Tesco Own Label 56p (H)

APPENDIX 3

QUESTIONNAIRE FOR KELLY GRID TESTS (KICHEN TOWELS)

Q1. Hello, we are doing a market research survey about people buying grocery products that will take about 35 minutes.

SHOW CARD A

Within the past 4 weeks have you done any grocery shopping in any of these stores, or not?

Yes —————> Q2

No —————> TERMINATE

Q2. SHOW CARD A

Within the past 4 weeks, which of these stores have you used for your grocery shopping?

Asda	<input type="checkbox"/>	International	<input type="checkbox"/>
Bejam	<input type="checkbox"/>	Marks and Spencer	<input type="checkbox"/>
Budgen	<input type="checkbox"/>	Presto	<input type="checkbox"/>
Carrefour	<input type="checkbox"/>	Sainsbury	<input type="checkbox"/>
Co-Op	<input type="checkbox"/>	Tesco	<input type="checkbox"/>
Fine Fare	<input type="checkbox"/>	Waitrose	<input type="checkbox"/>

IF NONE OF THESE STORES VISITED TERMINATE

Q3. SHOW PHOTOGRAPH

Here are a variety of grocery products that can be obtained from some of the larger grocery shops.

Have you seen any of these before, or not?

Yes —————> Q4

No —————> Q5

Q4. SHOW PHOTOGRAPH

Which of these have you seen before?

Beans	<input type="checkbox"/>
Biscuits	<input type="checkbox"/>
Jam	<input type="checkbox"/>
Lemonade	<input type="checkbox"/>
Tea	<input type="checkbox"/>
Washing Up Liquid	<input type="checkbox"/>

IN-HOME INTERVIEW

Q5. SHOW ALL OF KITCHEN TOWELS

Here are a variety of kitchen towels that can be obtained from some of the larger grocery shops. Which of these have you ever seen before?

- | | | | | | |
|---|--------------------------|---|--------------------------|---|--------------------------|
| 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> |
| 4 | <input type="checkbox"/> | 5 | <input type="checkbox"/> | 6 | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> | 8 | <input type="checkbox"/> | 9 | <input type="checkbox"/> |

Q6. SHOW ALL OF KITCHEN TOWELS

Which of these kitchen towels have you ever tried?

FOR EACH KITCHEN TOWEL EVER TRIED ASK Q7.

SHOW CARD B

Q7. When did you last try -----?

Q6 Ever tried	Q7 When last tried						DK/CR
	Past 7 days	Past 4 weeks	Past 3 months	Past 6 months	Past 12 months	Longer than 12 months	
1							
2							
3							
4							
5							
6							
7							
8							
9							

Q8. Do you have a particular brand of kitchen towel that you buy most frequently, or not?

- Yes → Q9
 No → Q10

Q9. Which brand of kitchen towels do you buy most frequently?

Q10. SELECT APPROPRIATE PRODUCT COMBINATION, REMOVING OTHER PRODUCTS AWAY FROM RESPONDENT. PLACE THESE 3 PRODUCTS IN FRONT OF RESPONDENT.

Please tell me one way in which two of these are alike and different from the third.

RECORD REPLY FOR WAY ALIKE AND WAY DIFFERENT ON KELLY GRID SHEET FOR THESE 3 PRODUCTS.

Q11. Which of these products (POINT TO REMAINING PRODUCTS) are -----
-----(REASON GIVEN FOR WAY ALIKE) -----and which are -----
(REASON GIVEN FOR WAY DIFFERENT)-----?

RECORD REPLY USING FOR WAY ALIKE
 FOR WAY DIFFERENT

NOW GO TO SECOND TRIAD AND REPEAT Q10 AND Q11.
CONTINUE WORKING THROUGH TRIADS WITH Q10 AND Q11 UNTIL RESPONDENT UNABLE TO THINK OF FURTHER REASONS THEN GO TO Q12.

Q12. PLACE OWN LABELS CLOSE TO RESPONDENT

Who do you think manufactured these?

Q13. REMOVE OWN LABELS AND PLACE GENERICS CLOSE TO RESPONDENT

Who do you think manufactured these?

Q14. PLACE OWN LABELS CLOSE TO RESPONDENT

SHOW CARD C

How likely or unlikely do you think it is that major manufacturer of branded goods made these?

Very likely	[]
Likely	[]
Neither likely nor unlikely	[]
Unlikely	[]
Very unlikely	[]
Don't know	[]

Q15. PLACE GENERICS CLOSE TO RESPONDENT
SHOW CARD C

How likely or unlikely do you think it is that major manufacturers of branded goods made these?

- Very likely
- Likely
- Neither likely nor unlikely
- Unlikely
- Very unlikely
- Don't know

Q16. Do you feel you are

- very certain
- usually certain
- sometimes certain
- almost never certain

that a brand of kitchen towels that you haven't tried will work as well as your present brand?

Q17. We all know that not all products work as well as others. Compared with other products, would you say there is

- a great deal of danger
- some danger
- not much danger
- no danger

in trying a brand of kitchen towel that you have never used before?

Q18. SHOW CARD D

Imagine that you had run out of the products shown on this card and that you could only buy one of these products for each shopping trip that you make

Which one of these products would you buy first?

Which one of these products would you buy second?

REPEAT UNTIL ALL 10 PRODUCTS RANKED

- | | |
|-------------------|-------------------|
| Aluminum Foil | Kitchen Towels |
| Baked Beans | Margarine |
| Breakfast Cereal | Sugar |
| Facial Tissues | Tea |
| Headache Remedies | Washing Up Liquid |

CLASSIFICATION

Q19. Sex of respondent

Male

Female

Q20. Which of these age groups do you belong to? (READ OUT)

18-24 45-54

25-34 55-64

35-44 65+

Q21. Which of these statements best describe your working status?

I have a full time job (more than 30 hours a week)

I have a part time job (less than 30 hours a week)

I do not have a paid job

Q22. Are you married, or not?

Married

Not married

Q23. What is the occupation of the head of your household?

Q24. In which industry does the head of your household work?

A C2

B D

C1 E

Q25. Do you have any children, or not?

Yes → Q26

No → Q28

Q26. How many children are there in your home?

Q27: ' How old are your children?

Q28. Do you rent the home you live in, or do you own it [either with a mortgage or outright]?

Rent home []

Own home []

Q29. Respondents name _____

Q30. Respondents address _____

Q31. Interviewer _____

Q32. Duration of interview _____

Q33. Time started interview _____

Q34. Date of interview _____

Order of showing triads

Respondents

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AA	T	V	DD	J	N	B	M	B	W	C	P	A	N	H	D	P	U	B	R
O	I	Q	CC	I	L	G	A	AA	I	DD	R	N	CC	R	R	O	CC	A	F
B	X	I	BB	H	J	E	R	H	L	N	A	T	T	B	L	S	Q	Y	T
S	J	CC	AA	G	H	M	K	DD	Z	S	D	AA	C	T	N	T	F	DD	AA
H	E	W	Z	F	F	N	E	V	X	CC	I	H	Z	F	P	D	BB	S	BB
F	O	A	Y	E	D	A	T	I	M	D	G	R	H	L	S	E	A	I	C
E	K	B	X	D	B	D	I	O	T	BB	M	BB	G	N	T	C	I	M	O
J	U	C	W	C	A	C	N	U	S	Z	S	P	O	G	I	I	DD	T	N
M	DD	D	V	B	C	H	G	R	E	AA	W	CC	W	D	B	N	Z	N	J
L	W	E	U	A	E	R	O	A	R	E	Z	O	B	P	Z	CC	C	H	E
C	BB	F	T	P	G	T	D	L	L	X	Y	L	U	S	M	R	AA	E	CC
K	Y	G	S	Q	I	O	L	C	A	P	C	DD	R	Z	C	Q	L	O	U
R	A	H	R	AA	R	Y	S	P	N	L	H	G	Y	Y	AA	L	T	R	K
P	G	J	Q	BB	M	S	Q	F	D	A	O	Y	P	X	H	DD	V	Q	A
U	C	K	P	K	O	X	U	M	P	T	L	F	AA	C	DD	V	R	CC	L
Z	L	R	O	X	Q	K	AA	Y	K	O	F	S	Q	CC	X	F	O	U	P
A	N	S	N	T	S	I	DD	X	H	R	J	I	I	M	A	M	B	P	W
BB	CC	T	M	R	U	P	CC	E	F	Y	K	M	K	V	J	Y	H	C	B
DD	B	AA	L	N	W	AA	V	N	Q	W	T	B	X	A	V	G	S	G	S
D	P	DD	K	L	Y	BB	H	W	B	G	U	C	S	E	U	G	X	I	I

CODE

TRIAD

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC DD
 4,8,3
 4,5,9
 3,8,1
 7,4,1
 1,7,6
 9,6,7
 6,9,4
 4,3,6
 3,2,7
 3,8,7
 5,2,8
 4,1,3
 8,4,9
 1,7,3
 3,6,7
 5,7,3
 8,7,5
 4,6,8
 2,3,7
 6,5,2
 1,5,6
 3,6,9
 2,9,6
 8,7,2
 1,9,7
 6,8,2
 4,3,5
 7,8,9
 4,5,6
 5,4,2

APPENDIX 4

USING REPERTORY GRIDS TO EXPLORE THE WAY PEOPLE GROUP COMPETING ITEMS

In the early stages of this research the repertory grid technique was used to obtain data that was subsequently subjected to principal component analysis to provide a first approximation of possible clustering. A brief explanation of the route followed is presented, illustrating some of the weaknesses encountered.

Once a respondent had stated her first construct, a relevant dimension had been identified that she could then use to categorise the competing items. Asking people to rank each element on the construct just stated was rejected, since Pope and Keen (1981) reported that respondents found this tedious and concern was felt that they might hold back on their full repertoire of constructs. Fransella and Bannister (1977) noted the increasing popularity of asking respondents to rate each element on a 7 or 5 point scale for each construct. Since the main objective of using repertory grids was to elicit constructs, with classification as a secondary objective, this approach was initially ignored. Instead a coarser ordinal scale, following a method similar to that of Riley and Palmer (1975) was adopted.

Immediately after each construct was elicited, respondents were shown the remaining examples in the product field and were asked to assign these to one of 2 groups characterised

by that particular construct. Occasionally participants were unable to assign some of the examples to the groups using a particular construct, and a third group was created. Items that had been assigned to the emergent pole of a construct were given a score of 3, those to the implicit pole a score of 1 and those that occasionally could not be classified were scored at 2.

As more experience was gained of repertory grids it was decided to see what impact a 5 point agree-disagree scale would have on respondent fatigue and whether this would reduce the number of constructs. This was tested in the last product field to be investigated (bleach). A mature group of BTEC marketing students undertook the fieldwork and as table 6-3 in section 6.4.2 shows, the average number of constructs elicited per respondent for bleach at 10.7 was second only to aluminium foil at 15.5. Clearly these forceful students had been able to elicit an above average construct system from respondents using the more demanding scale. However, without more research, it is not clear what impact the interviewers, the respondents, or the products had on the number of constructs elicited.

The use of the trichotomous scale, adopted in 5 of the 6 product fields, was less than ideal and while increasing the time to administer grids, it provided some guidance in the formulation of ideas early in this research. The first weakness with this approach is that such a narrow scale unrealistically forced respondents to think in terms

of 2 or 3 groupings on each construct. The second weakness is the assumption that elements outside the range of convenience of a construct should receive a score of 2. For some constructs, eg "looks expensive - looks cheap", this may be appropriate, but for others, eg "this looks a dark disinfectant - this looks a light disinfectant", where the packaging hides the colour of one disinfectant, then this assumption is less valid. Clearly the use of a 7 or 5 point agree-disagree scale would overcome some of these criticisms, albeit increasing respondent fatigue. Where respondents cannot classify some items, if the number of constructs exhibiting this weakness is low, those few constructs should be ignored, following personal construct theory. A further weakness of the repertory grid when trying to identify perceptual groupings is that the same person can produce different numerical data for a ranked rather than a rated grid (Fransella and Bannister, 1977).

The way that an individual categorised the competing items was observed using principal component analysis. With the BMDP statistical computer package (Dixon, 1983), an individual's scores for the items on each construct were converted to a matrix showing the correlation between the items. Based on the correlations between competing items, a Q-type principal component analysis was undertaken. A pictorial representation of the grouping of items was produced in 2 dimensions, by plotting the loadings of each item on the first 2 components.

An investigation of how the total sample in a product field grouped items was also undertaken, using both the BMDP and PREFAN computer packages. For the washing up liquid results, all 16 participants' grids were appended to each other to form one large grid of order 9 competing items x 113 constructs. It should be noted that while each respondent's grid contained no duplicated comments, when appending the grids together several constructs were common to many individuals. While there were 60 different constructs across the sample, because of the way several respondents used the same constructs, 113 constructs resulted. Using the BMDP package a Q-type principal component analysis of the total sample's competing item correlation matrix was undertaken and the loadings of each item on the first two components was plotted. By examining the domains where competing items clustered, some indication of the manner in which consumers categorised the competing items was presented.

Slater's (1977) G.A.P. suite of programs for analysing different types of repertory grids was also used on the same washing up liquid matrix (9 items x 113 constructs). The PREFAN program within this suite was used (since the individual grids forming the total grid were aligned by item, but not by construct). This converts the raw data to a matrix showing the deviations of each item from the construct means, standardises these resulting construct vectors and calculates an item x item covariance matrix which is subjected to a principal component analysis.

Plotting the items' loadings on the first 2 components gave the same grouping of items as that seen using BMDP, ie 3 separate regions conforming to brands, own labels and generics. This method, of displaying the total sample's perception of market structure, suffers from the way that constructs have been weighted on the questionable assumption that the frequency with which some constructs were mentioned by several respondents, is a measure of importance. Much larger samples than 16 respondents are needed to ensure a more reliable weighting method.

Principal component analysis of repertory grid data was only used in the early stages of this research to gauge consumers' perceptions of market structure. It was not used as a cluster analysis technique, since, as the critique in Appendix 10 shows, its use is, primarily, to reduce the dimensions of the data and there are too many criticisms of its applicability in cluster analysis.

APPENDIX 5

STATEMENTS USED ON THE BATTERY REDUCTION PROCESS

The 23 statements used on the bleach battery

Four of the statements (with an asterix) have been added,
the rest follow from the repertory grids.

- This is a plain pack
- * This is a well known name
- This is poor quality
- This can only be bought in the bigger shops
- This looks cheap
- This will kill more germs
- This is a supermarket brand
- * This is made by a well known manufacturer
- This is cheaper packaging
- This is a branded name
- * This looks familiar
- This is an attractive pack
- This pack gives a lot of information
- This is a more colourful pack
- This has been advertised
- This pack would catch my eye on the shelf in the shop
- * This is made by the shop
- This is a thicker bleach
- This bleach would be easier to direct when using it
- This bleach is easier to hold
- This bleach is good value for money
- This is a multi-purpose bleach
- This is a stronger container

The 23 statements used on the toilet paper battery

Three of the statements (with an asterix) have been added,
the rest follow from the repertory grids.

- This is a plain pack
- This looks familiar
- This is a supermarket brand
- This is an attractive pack
- This is the standard size pack
- This is a soft paper
- This can only be bought in the bigger shops
- This is a dull pack
- This is a brand name
- This pack would catch my eye on the shelf in a shop
- This would be a better quality paper
- This pack is easier to carry
- A roll of this toilet paper would be expensive
- * This is made by a well known manufacturer
- This is a colourful pack
- This looks more of an economy type product
- This is a fancier label design
- This is made by the shop
- It would be a luxury to buy this type of toilet paper
- These rolls have more sheets on them
- You can't see what's inside this pack
- * This is poor quality packaging
- * This has been advertised

The 29 statements used on the washing up liquid battery

All of the statements follow directly from the repertory grids.

This is a plain pack
This is a well known name
This is poor quality
This is from the bigger stores
This looks cheap
This will not wash up many dishes
This is a supermarket brand
This says by appointment
This has manufacturers name on it
This is cheaper labelling
This is not a branded name
This looks familiar
This is not an attractive pack
This pack gives a lot of information
This is more concentrated
This is a colourful pack
This shows the price
This washing up liquid smells fresher
This has a lot of white on the pack
This does not have bubbles on the pack
This has been advertised
This would be gentle on the hands
This pack would catch my eye on the shelf
This pack says Wash Up Liquid
This looks as if it will get the dishes clean
This has a lot of green on the pack
This is made by the shop
This has a picture on the pack
This pack does not have much writing on

The 19 statements used on the aluminium foil battery

One of the statements (with an asterix) has been added, the rest follow from the repertory grids.

- This is a plain pack
- This is a well known name
- This is poor quality
- This can only be bought in the bigger shops
- This looks cheap
- This is purer aluminium
- This is a supermarket brand
- This is made by a well known manufacturer
- This is cheaper packaging
- This is not a branded name
- This looks familiar
- This is not an attractive pack
- This pack gives a lot of information
- This is a colourful pack
- This has been advertised
- This pack would catch my eye on the shelf
- * This is made by the shop
- This pack guarantees good performance
- I would feel confident cooking with this

The 20 statements used on the kitchen towel battery

Two of the statements (with an asterix) have been added, the rest follow from the repertory grids.

- This is plain packaging
- This looks like a larger pack
- This is a supermarket brand
- This is an attractive pack
- This is a well known name
- * This is made by the shop
- This looks a soft texture paper
- This is a brand name
- This looks a fancy label
- This has a larger number of sheets per roll
- * This has been advertised
- This is a more absorbent paper
- This looks familiar
- This looks an expensive kitchen towel
- This can only be bought in the bigger shops
- This is poor quality
- This pack would catch my eye on the shelf in a shop
- This is a thicker kitchen towel
- This is more colourful
- This packaging is good quality

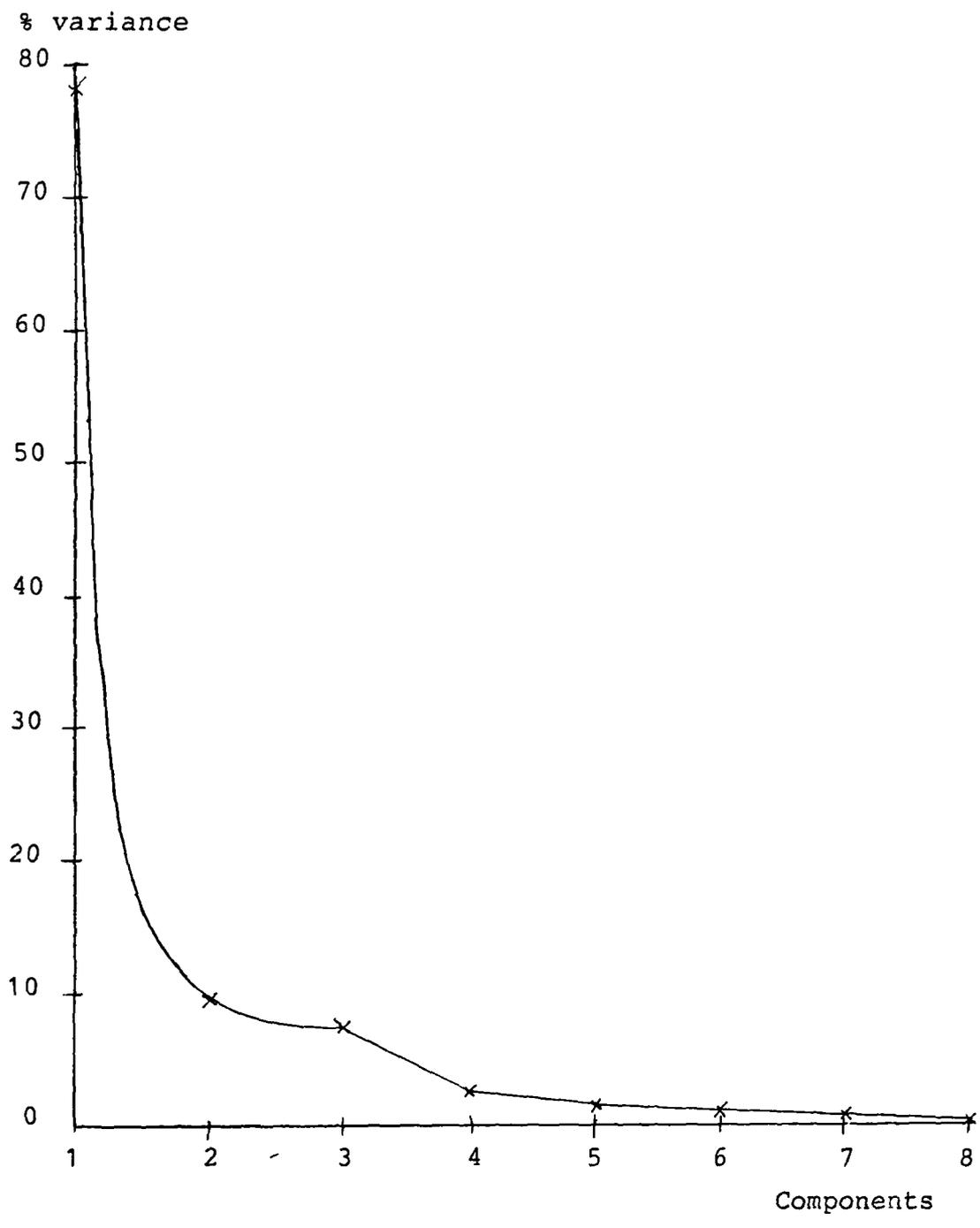
The 21 statements used on the disinfectant battery

Two of the statements (with an asterix) have been added,
the rest follow from the repertory grids.

- This is a plain label
- This bottle would be easier to hold
- This is a good quality disinfectant
- This cap would be easier to open
- This is a branded disinfectant
- This disinfectant would smell of pine
- This is an unattractive label
- This is a flimsy container
- This is a supermarket brand
- This container would be easier to pour disinfectant out of
- This looks cheap
- * This has been advertised
- This is a thicker disinfectant
- This can only be bought in the bigger shops
- * This is a well known name
- This is a more stable bottle
- This will kill more germs
- This is a fancier label
- This would catch my eye on the shelf in the shops
- This is a more convenient size
- This is cheaper packaging

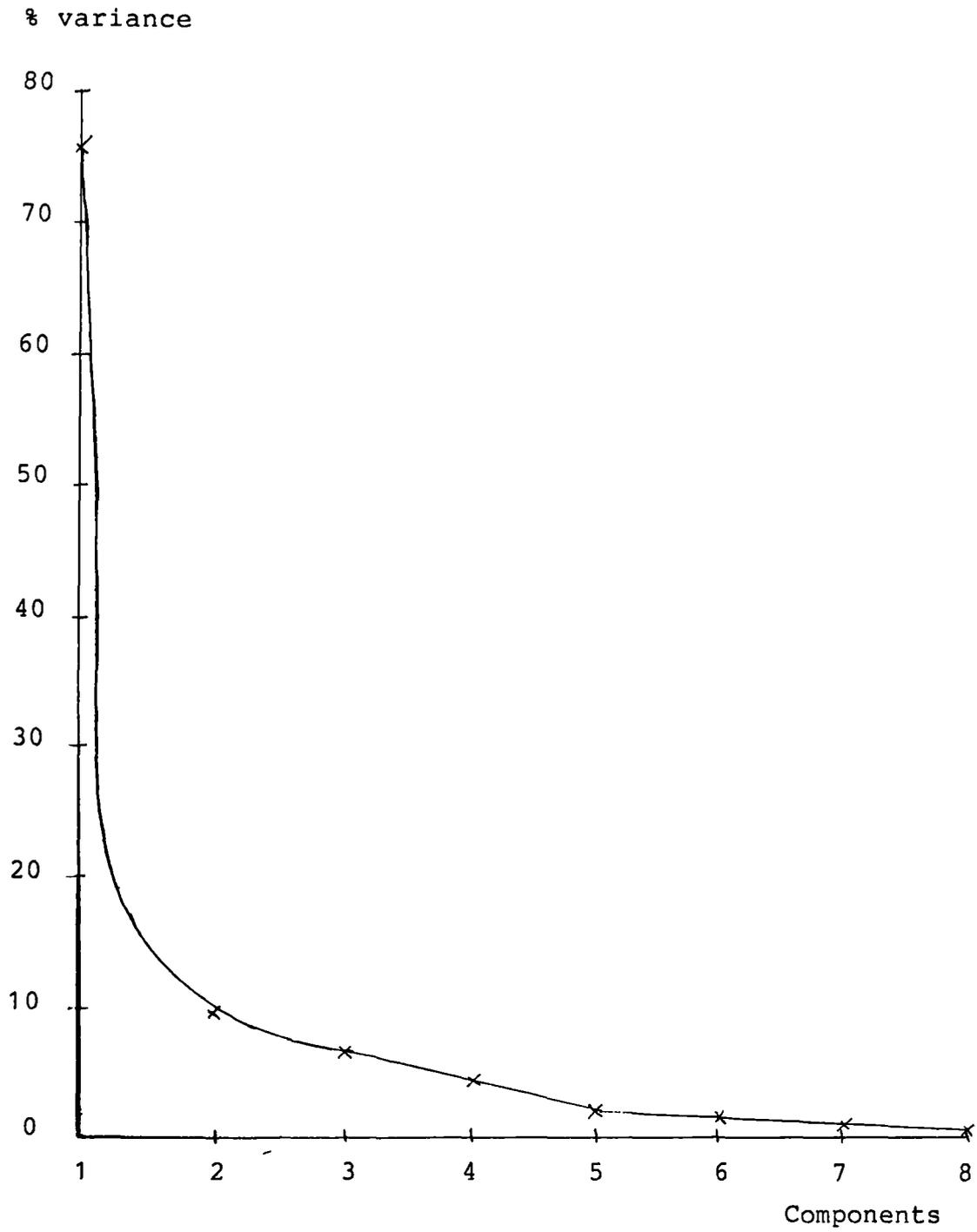
APPENDIX 6

Scree tests and details of the attributes loading on each component for the 6 product fields.



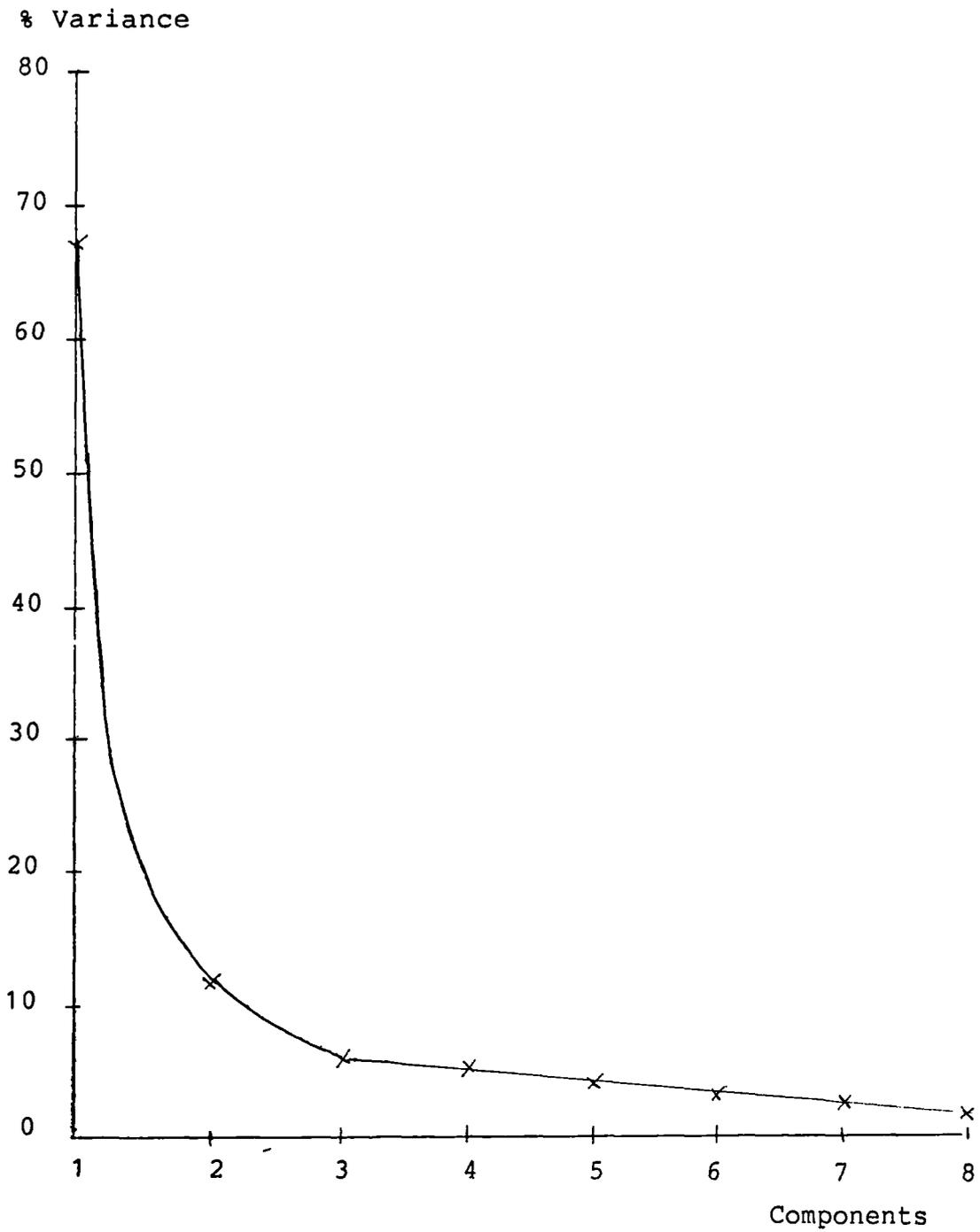
Bleach

Fig Appen 6-1 Proportion of variance explained by each component (Scree test)



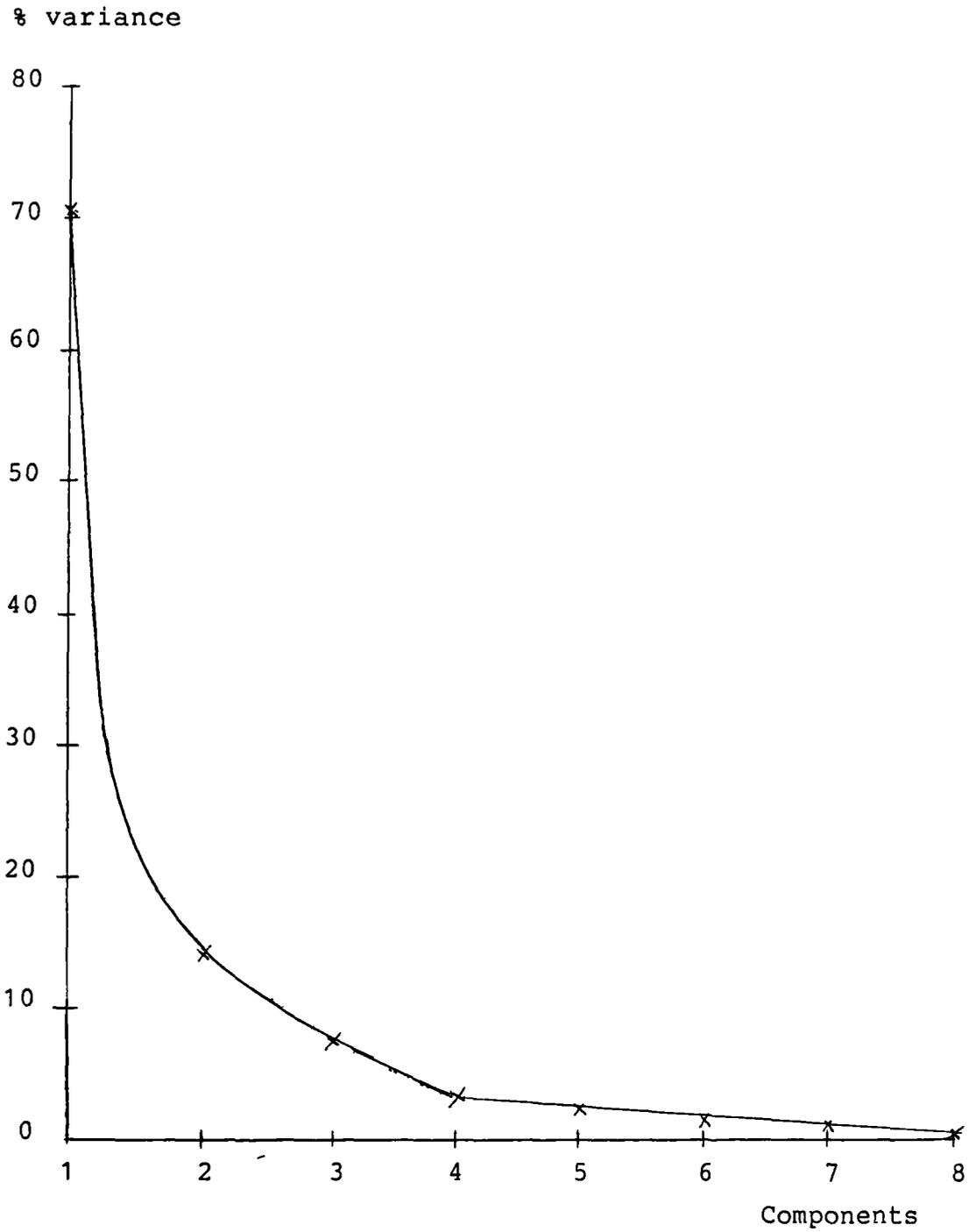
Toilet Paper

Fig Appen 6-2 Proportion of variance explained by each component (Scree test)



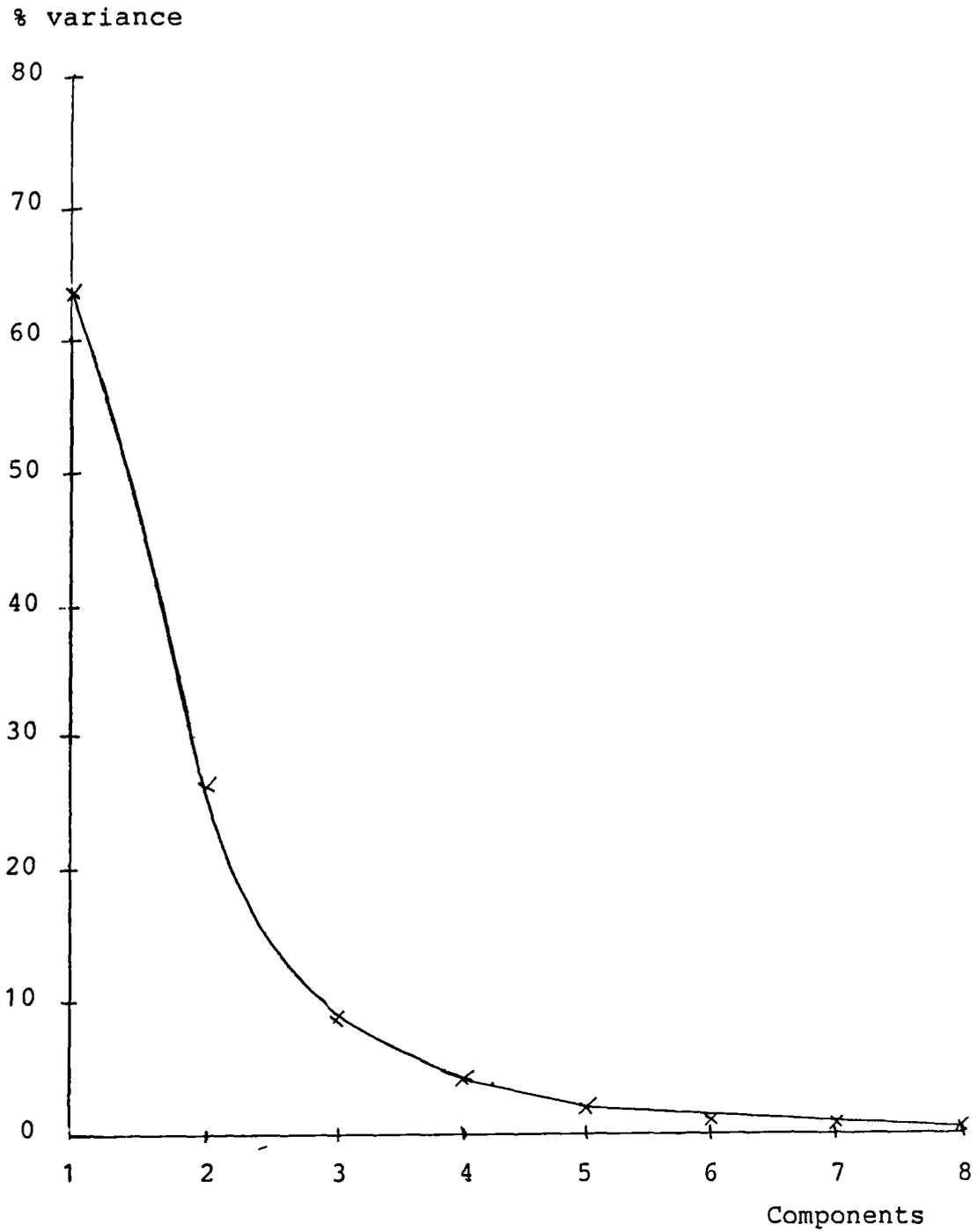
Washing Up Liquid

Fig. Appen 6-3 Proportion of variance explained by each component (Scree test)



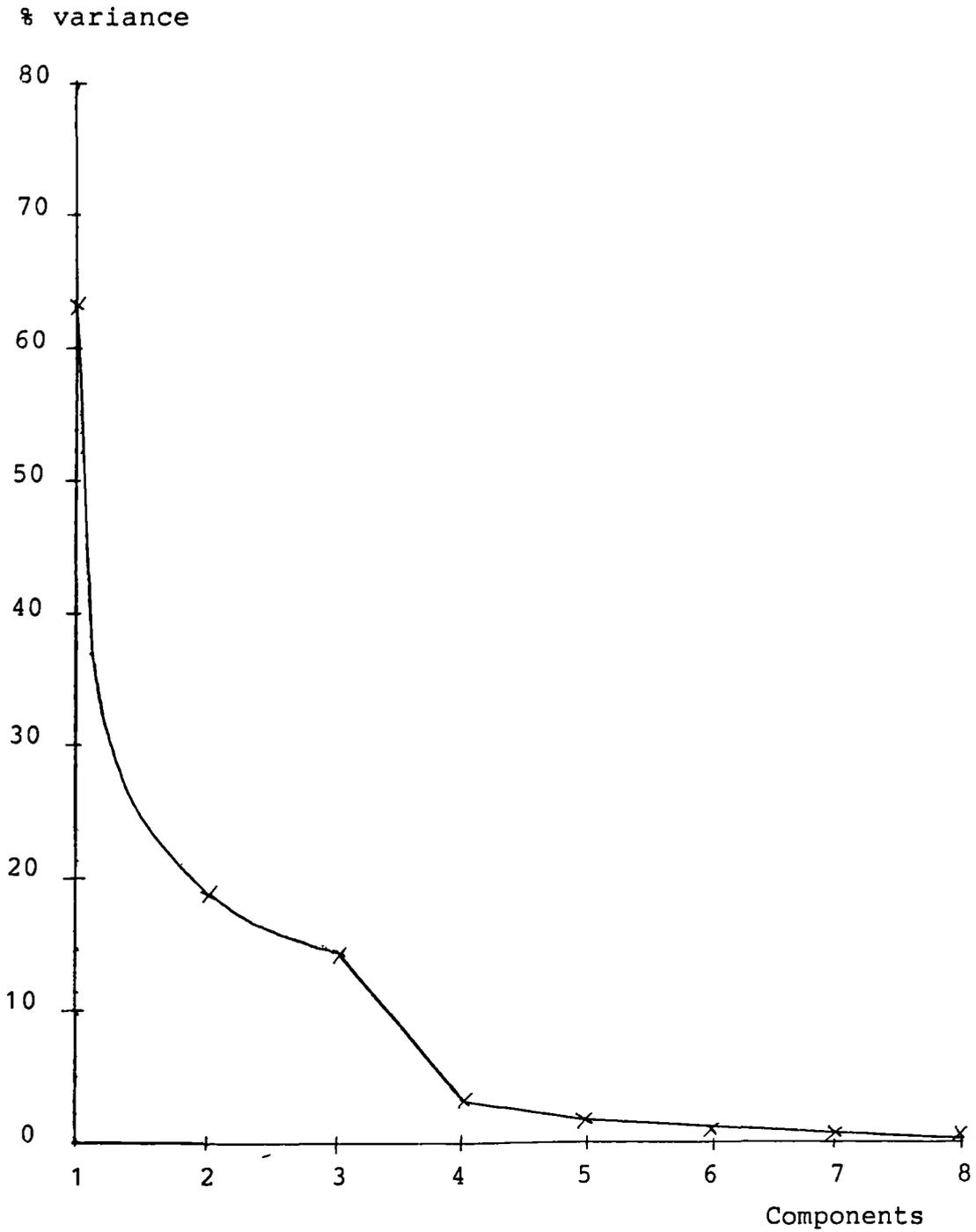
Aluminium Foil

Fig Appen 6-4 Proportion of variance explained by each component (Scree test)



Kitchen Towels

Fig Appen 6-5 Proportion of variance explained by each component (Scree test)



Disinfectant

Fig Appen 6-6 Proportion of variance explained by each component (Scree test)

Bleach: Highest loading attributes on each of the rotated components

	<u>COMPONENTS</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Looks familiar	.97	0	0
Well known name	.96	0	0
Poor quality	-.88	.45	0
Made by well known manufacturer	.84	-.45	0
Easier to hold	.83	-.43	0
Branded name	.77	-.60	0
Kills more germs	.75	-.64	0
Good value for money	0	.99	0
Supermarket brand	-.43	.90	0
Made by the shop	-.52	.85	0
Can only be bought in bigger shops	-.51	.78	-.25
Looks cheap	-.63	.78	0
Has been advertised	.54	-.77	0
Thicker bleach	.63	-.76	0
Pack gives lot of information	0	0	.92
This is multi-purpose bleach	0	0	-.86

To ease inspection loadings less than 0.25 have been replaced by zeros.

Toilet Paper: Highest loading attributes on each of
the rotated components

	<u>COMPONENTS</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Standard size pack	.99	0	0
Economy type product	-.91	0	0
Brand name	.90	-.34	0
Made by well known manufacturer	.89	-.39	0
Rolls have more sheets on them	.86	0	.26
Has been advertised	.86	-.35	.33
Soft paper	.85	-.43	0
Poor quality packaging	-.82	0	-.47
Plain pack	-.82	0	-.41
Looks familiar	.80	-.32	.41
Supermarket brand	0	.98	0
Made by shop	-.66	.71	0
Can only be bought in bigger shops	0	.96	0
Can't see what's inside this pack	0	0	.93
Easy to carry	0	0	.64

To ease inspection loadings less than 0.25 have been replaced by zeros.

Washing up liquid: Highest loading attributes on each
of the rotated components

	<u>COMPONENTS</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
This is a plain pack	-.97	0	0
Has manufacturers name on it	.94	-.31	0
Is cheaper labelling	-.94	.28	0
Not an attractive pack	-.92	.35	0
Has a picture on pack	.91	0	0
Looks cheap	-.89	.42	0
Is a well known name	.87	0	0
Looks as if it will get dishes clean	.87	0	.34
Poor quality	-.85	.49	0
From the bigger stores	.84	0	0
Not much writing on the pack	-.84	.37	0
Pack would catch my eye on shelf	.84	-.50	0
Pack gives a lot of information	.82	-.40	0
Colourful pack	.80	0	0
Not a branded name	-.76	.63	0
Will not wash up many dishes	-.76	.58	0
Gentle on hands	.73	-.35	0
Made by the shop	-.40	.88	0
Shows the price	0	.86	-.29
Is a supermarket brand	0	.86	0
Smells fresher	.41	.81	0
Says by appointment	.52	-.76	0
More concentrated	.63	-.74	0
Has been advertised	.65	-.69	0
Lot of white on pack	0	-.34	.81
To ease inspection loadings less than 0.25 have been replaced by zeros.			

Aluminum Foil: Highest loading attributes on each of the rotated components

	<u>COMPONENTS</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
Looks familiar	.90	-.37	0
Well known name	.87	-.40	0
Made by well known manufacturer	.86	-.38	0
Would feel confident cooking with this	.85	-.49	0
Has been advertised	.85	0	-.44
Not a branded name	-.85	.48	0
Poor quality	-.83	.47	0
Colourful pack	.37	-.90	0
Plain pack	-.35	.87	.29
Not an attractive pack	-.45	.86	0
Cheaper packaging	-.43	.85	.30
Pack would catch my eye on shelf	.57	-.77	0
Supermarket brand	0	0	.93
Can only be bought in bigger stores	0	0	.92
Made by shop	0	0	.88

To ease inspection loadings less than 0.25 have been replaced by zeros.

Kitchen Towels: Highest loading attributes on each of the rotated components

	<u>COMPONENTS</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Fancy label	.98	0	0	0
Attractive pack	.98	0	0	0
Plain packaging	-.96	0	0	0
Would catch my eye on shelf	.88	.32	0	.26
More colourful	.84	.33	-.28	.33
Brand name	.83	.30	0	.42
Looks soft texture paper	.75	.62	0	0
Larger number of sheets per roll	.27	.86	.32	0
Packaging is good quality	0	.84	0	.34
Can only be bought in bigger shops	0	0	.94	0
Made by shop	-.47	0	.84	0
Supermarket brand	-.53	0	.82	0
Well known name	.37	.32	.77	.40
Looks familiar	0	.63	0	.71

To ease inspection loadings less than 0.25 have been replaced by zeros.

Disinfectant: Highest loading attributes on each of the rotated components

	<u>COMPONENTS</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
More convenient size	.98	0	0	0
Can only be bought in bigger shops	-.94	0	.33	0
Supermarket brand	-.88	.30	0	0
Would catch my eye on shelf	.88	0	0	0
Will kill more germs	.84	-.53	0	0
Well known name	0	.98	0	0
More stable bottle	0	.92	0	0
Flimsy container	0	.91	-.26	0
Branded disinfectant	.51	-.86	0	0
Cap would be easier to open	0	0	.98	0
Easier to pour	0	0	.98	0
Smell of pine	-.31	0	-.42	.85

To ease inspection loadings less than 0.25 have been replaced by zeros.

APPENDIX 7

Component scores for the competing items based upon the full attribute lists and the final reduced attribute lists.

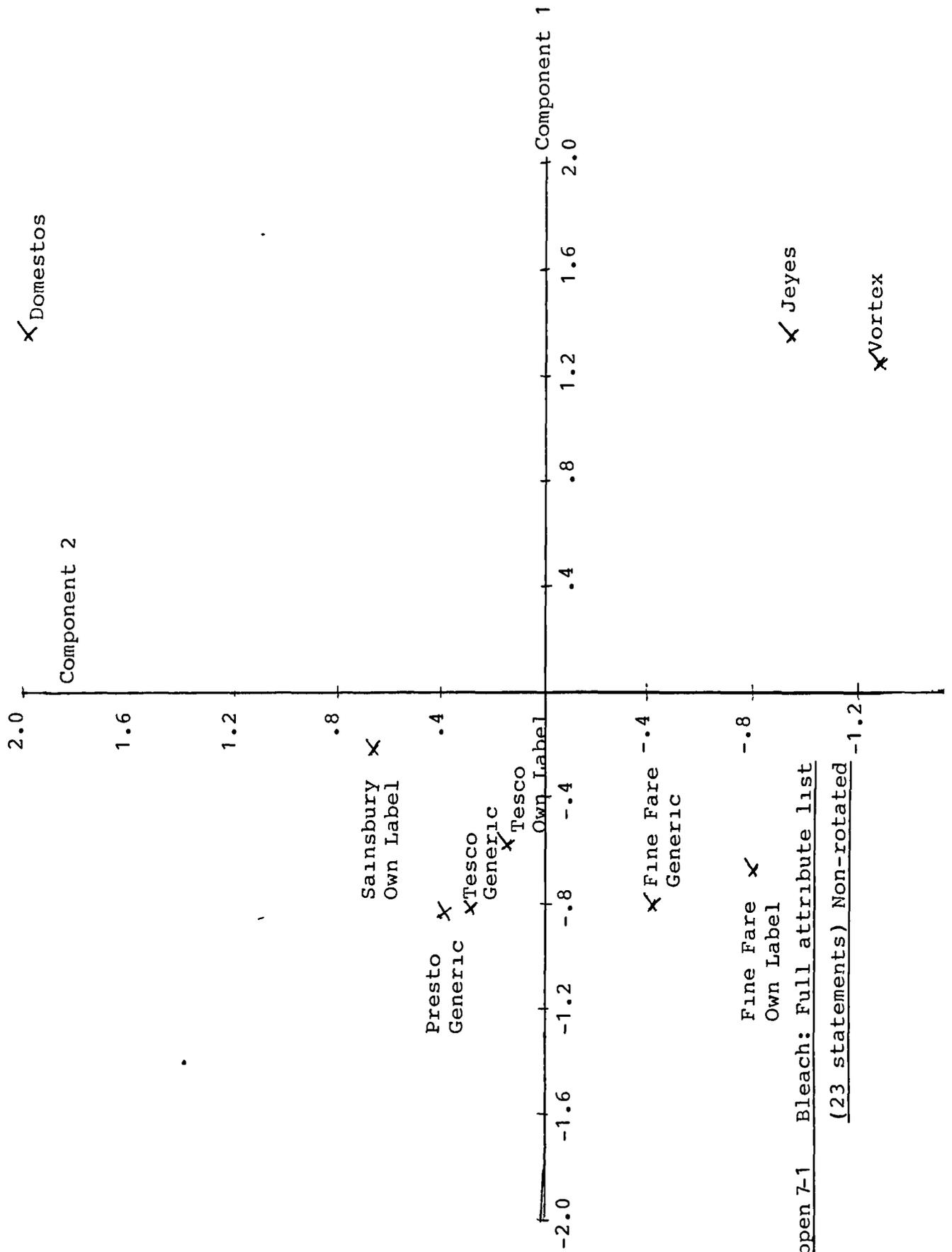


Fig Appen 7-1 Bleach: Full attribute list
(23 statements) Non-rotated

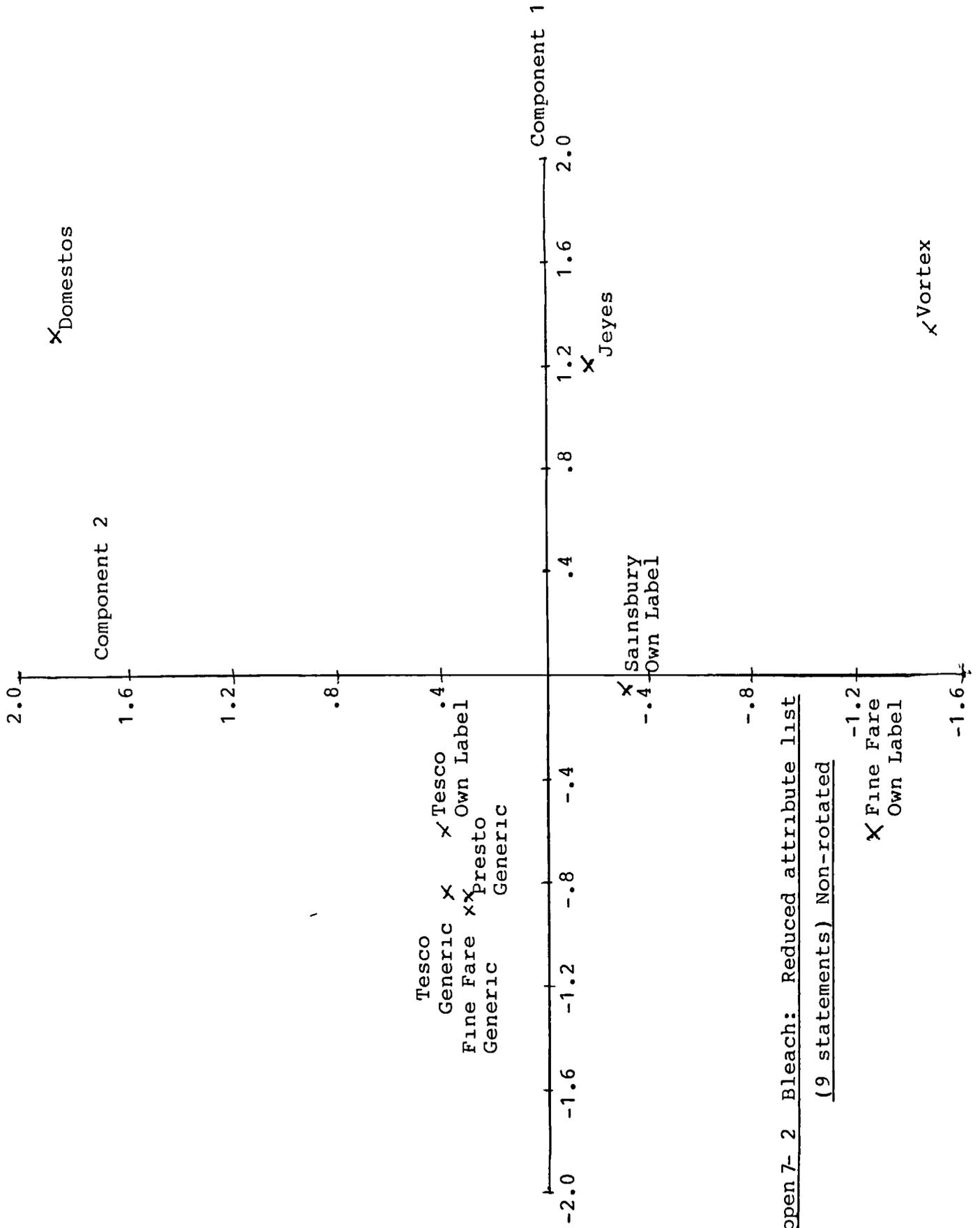


Fig Appen 7- 2 Bleach: Reduced attribute list
(9 statements) Non-rotated

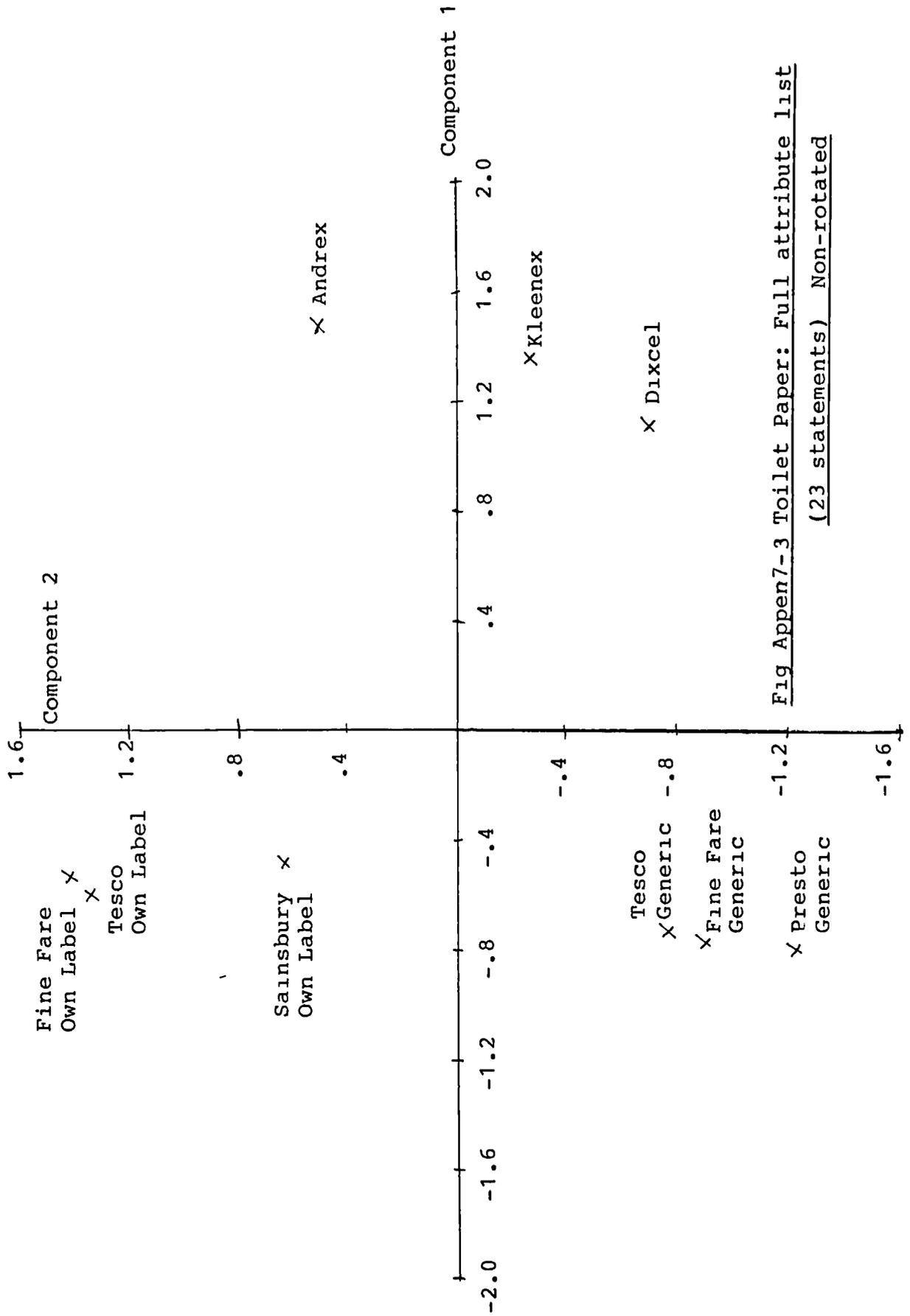


Fig Appen7-3 Toilet Paper: Full attribute list
(23 statements) Non-rotated

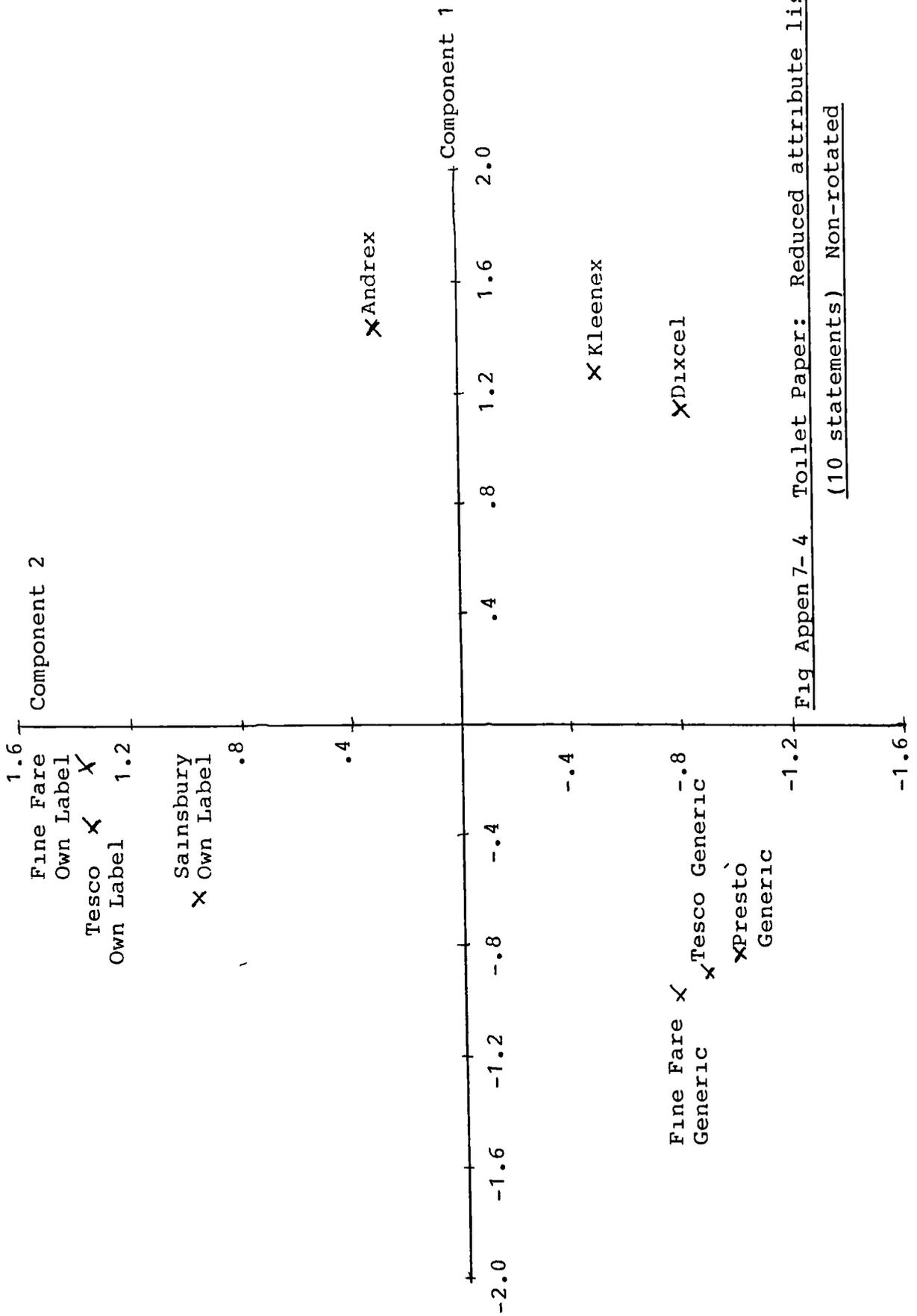


Fig Appen 7-4 Toilet Paper: Reduced attribute list
(10 statements) Non-rotated

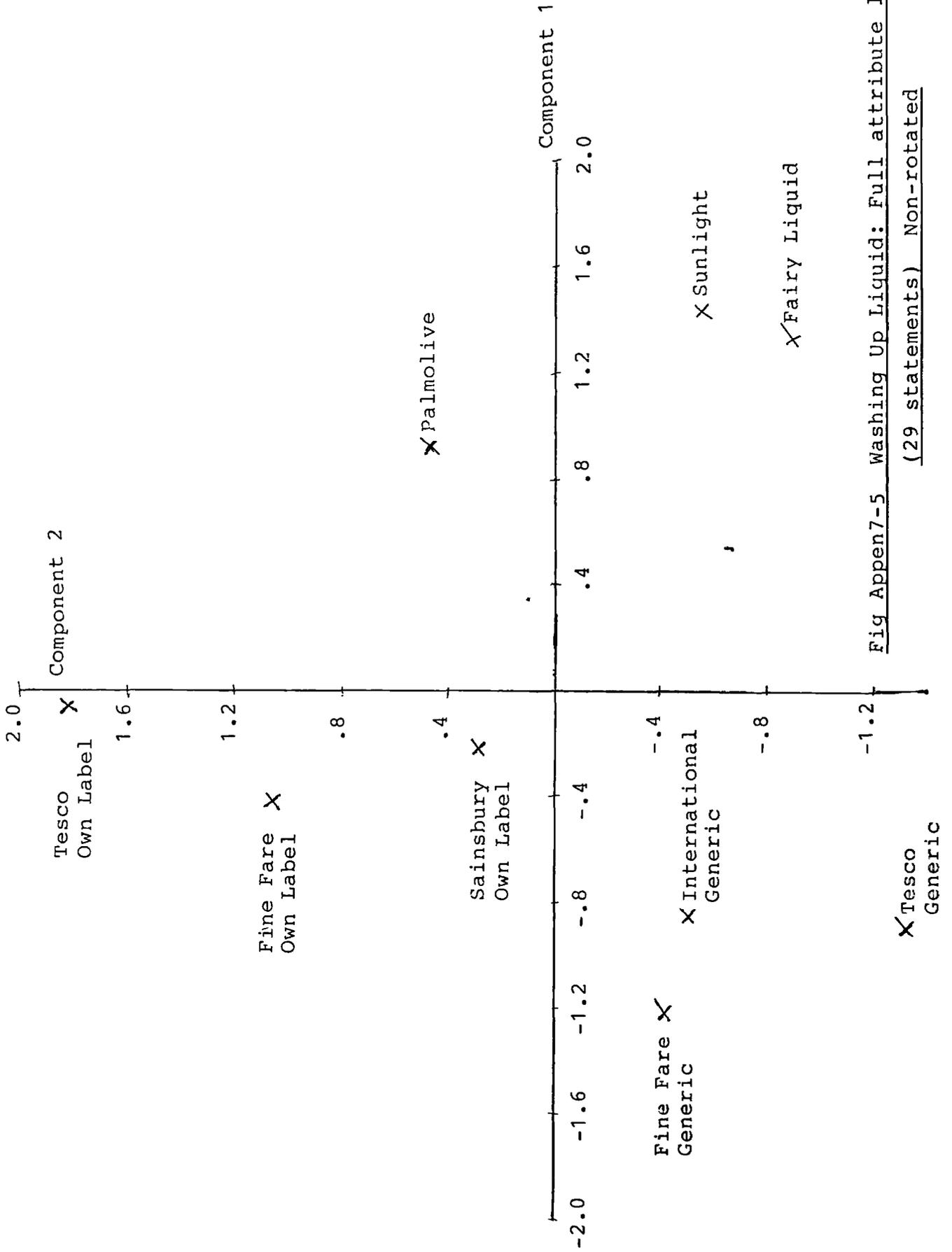


Fig Appen7-5 Washing Up Liquid: Full attribute list
(29 statements) Non-rotated

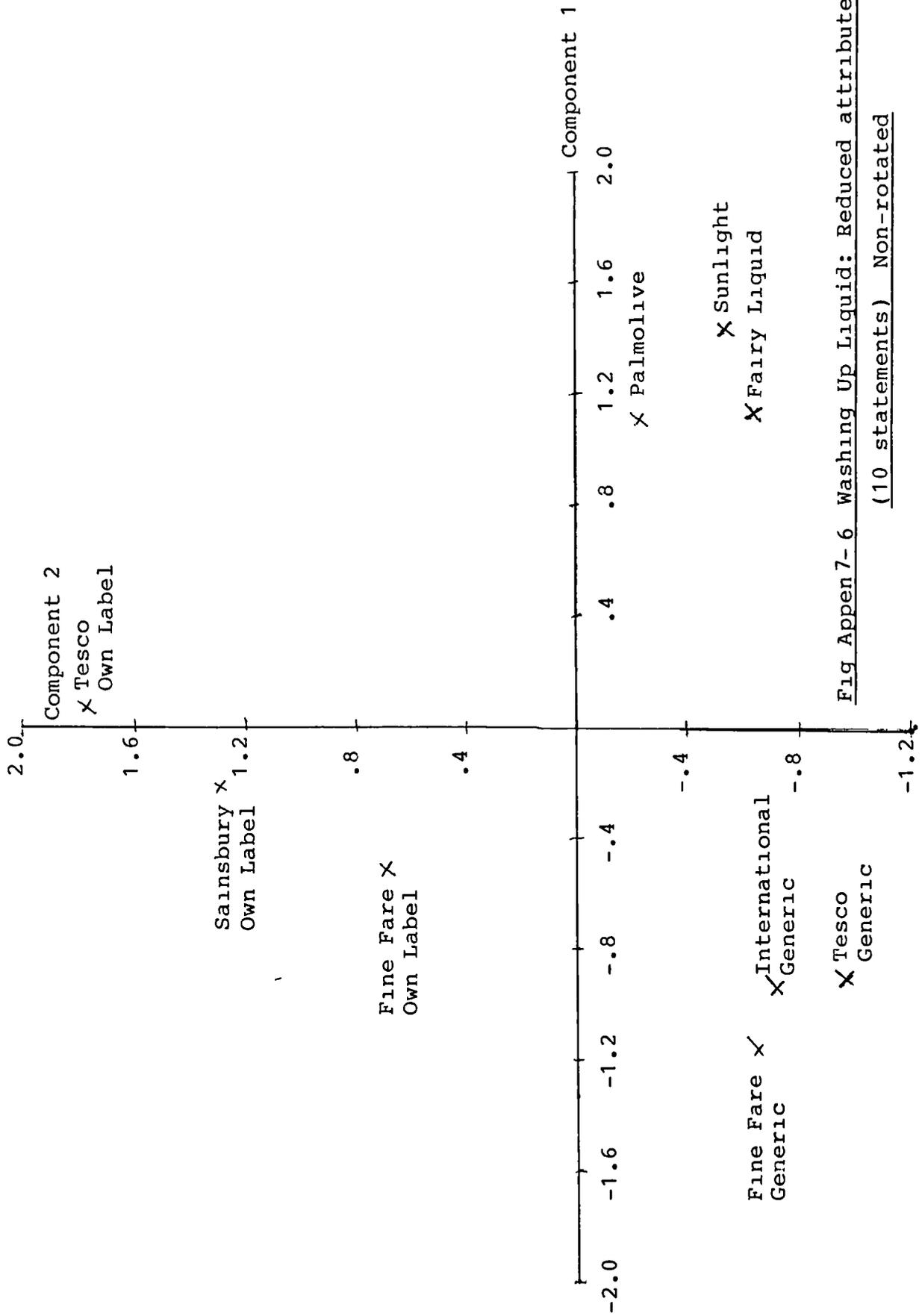


Fig Appen 7-6 Washing Up Liquid: Reduced attribute list
(10 statements) Non-rotated

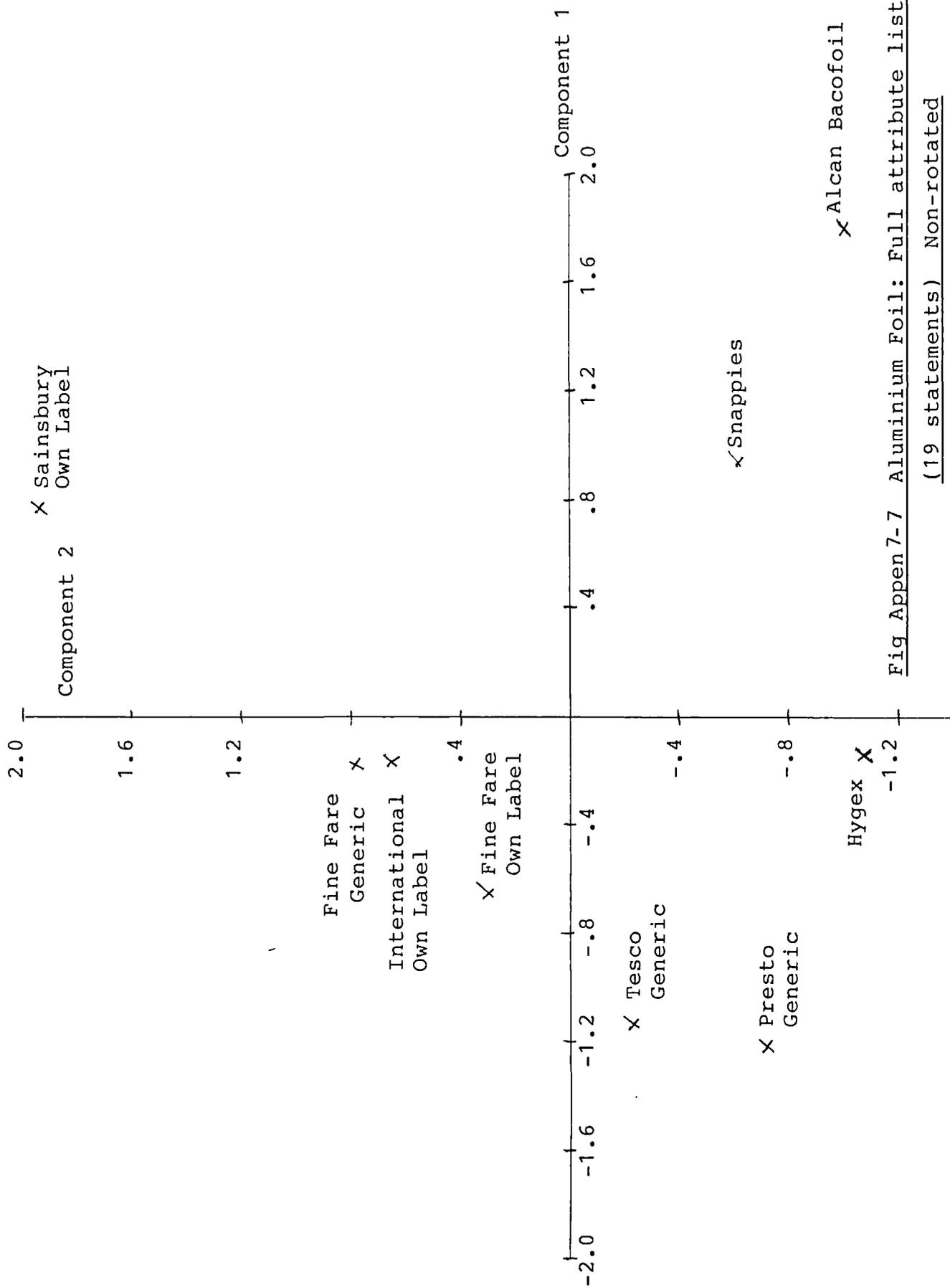
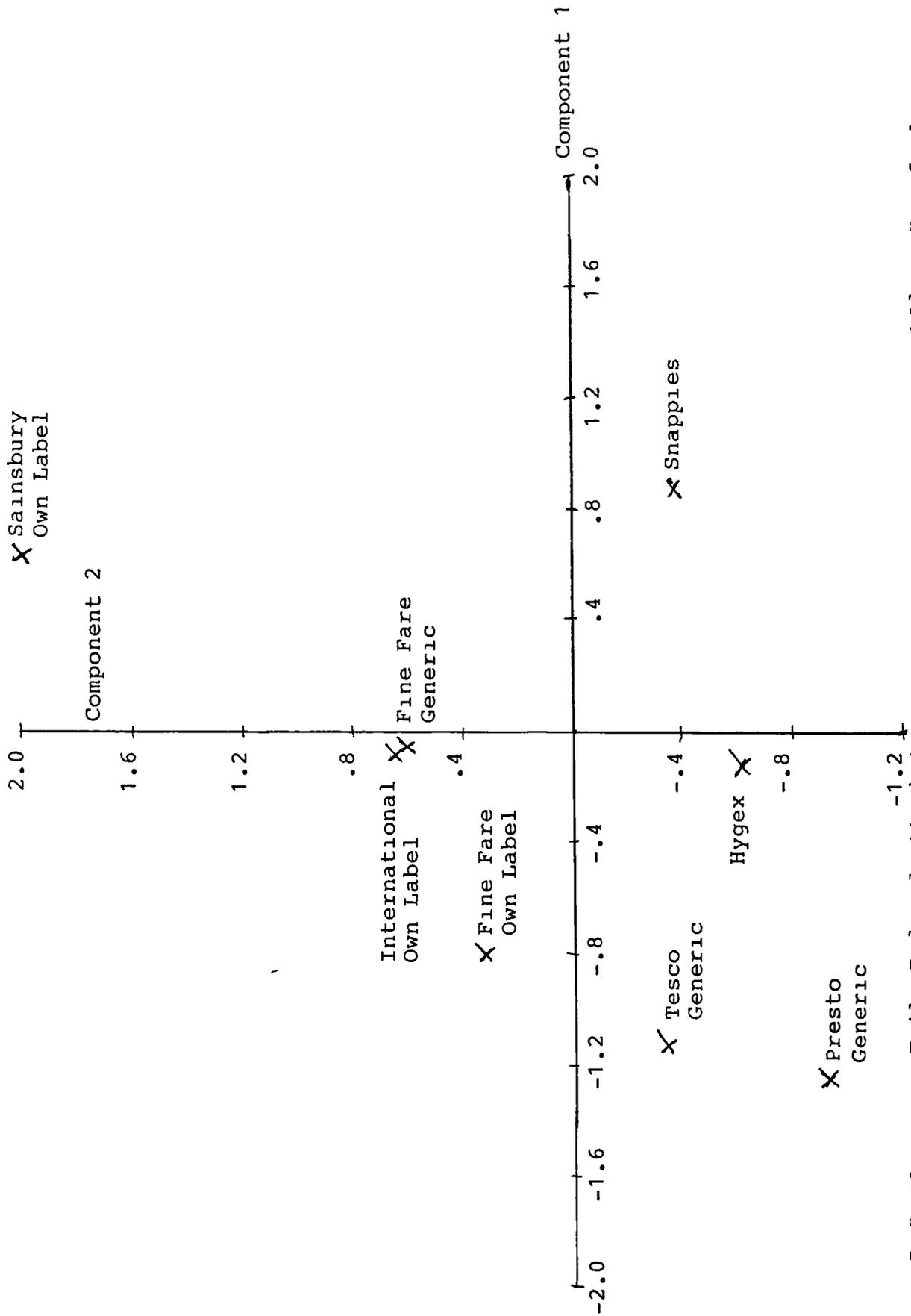


Fig Appen 7-7 Aluminium Foil: Full attribute list
(19 statements) Non-rotated



✗ Alcan Bacofoil

Fig Appen7- 8 Aluminium Foil: Reduced attribute

list (9 statements) Non-rotated

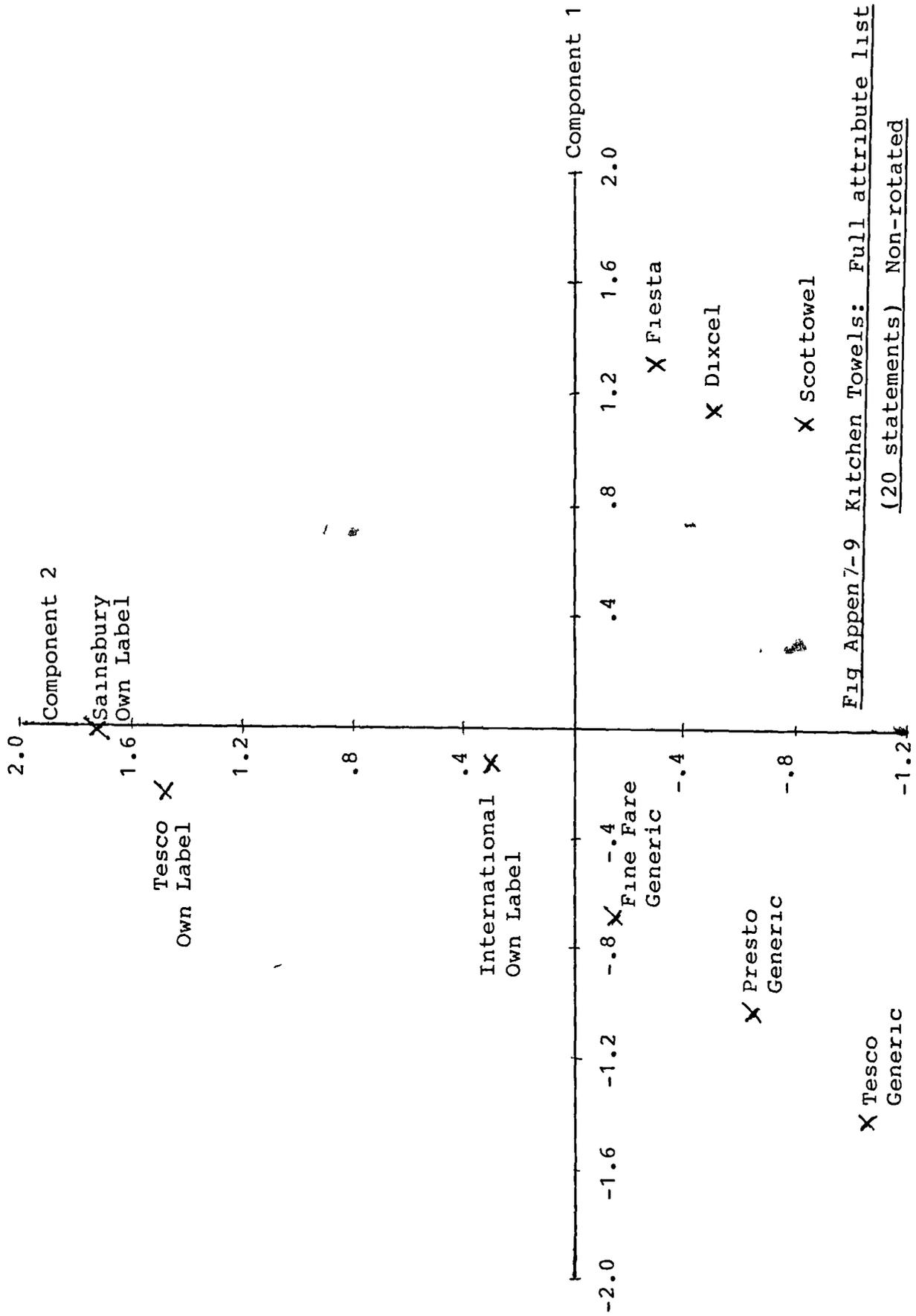


Fig Appen7-9 Kitchen Towels: Full attribute list
(20 statements) Non-rotated

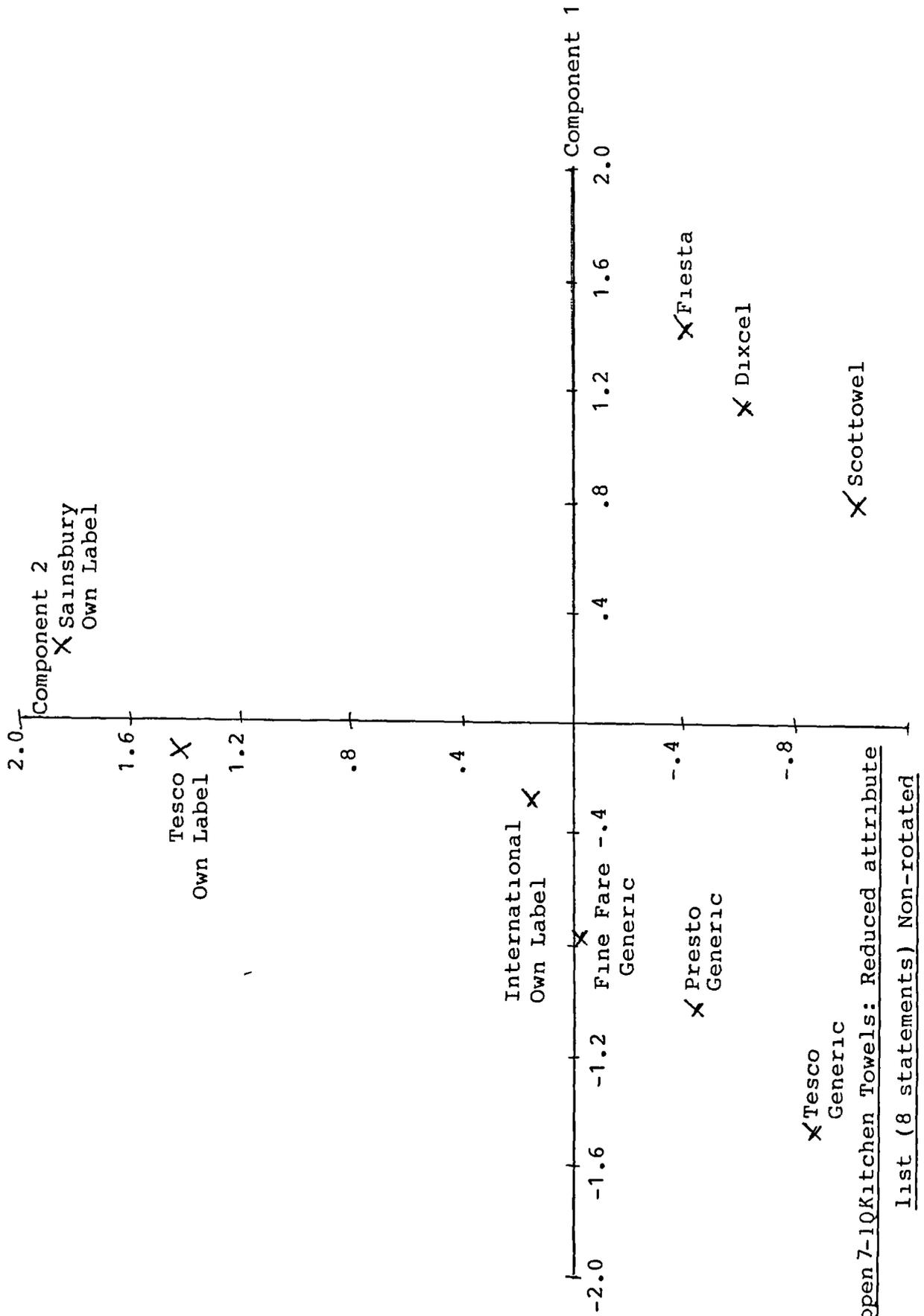


Fig Appen 7-10Kitchen Towels: Reduced attribute list (8 statements) Non-rotated

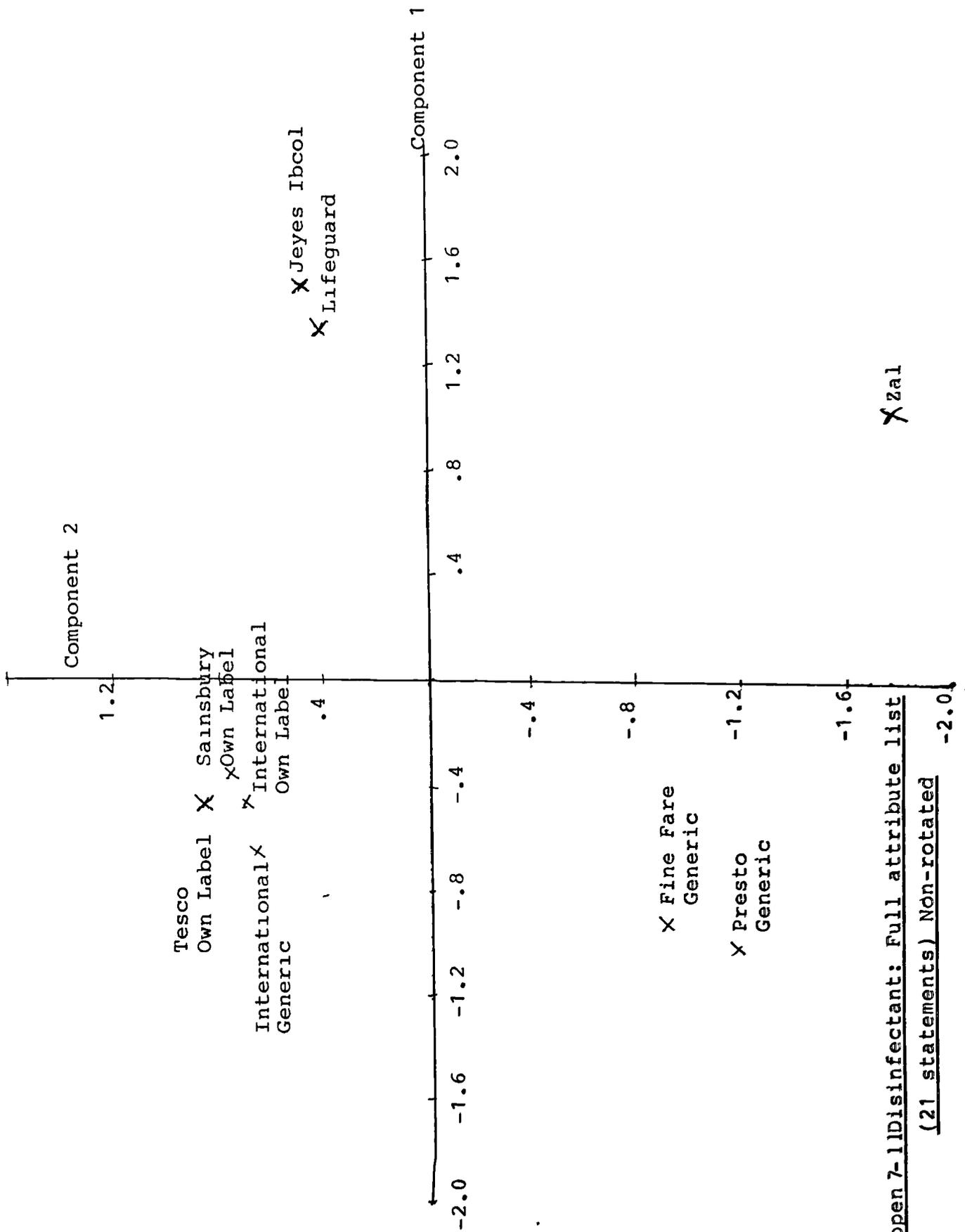


Fig Appen 7-11 Disinfectant: Full attribute list
(21 statements) Non-rotated

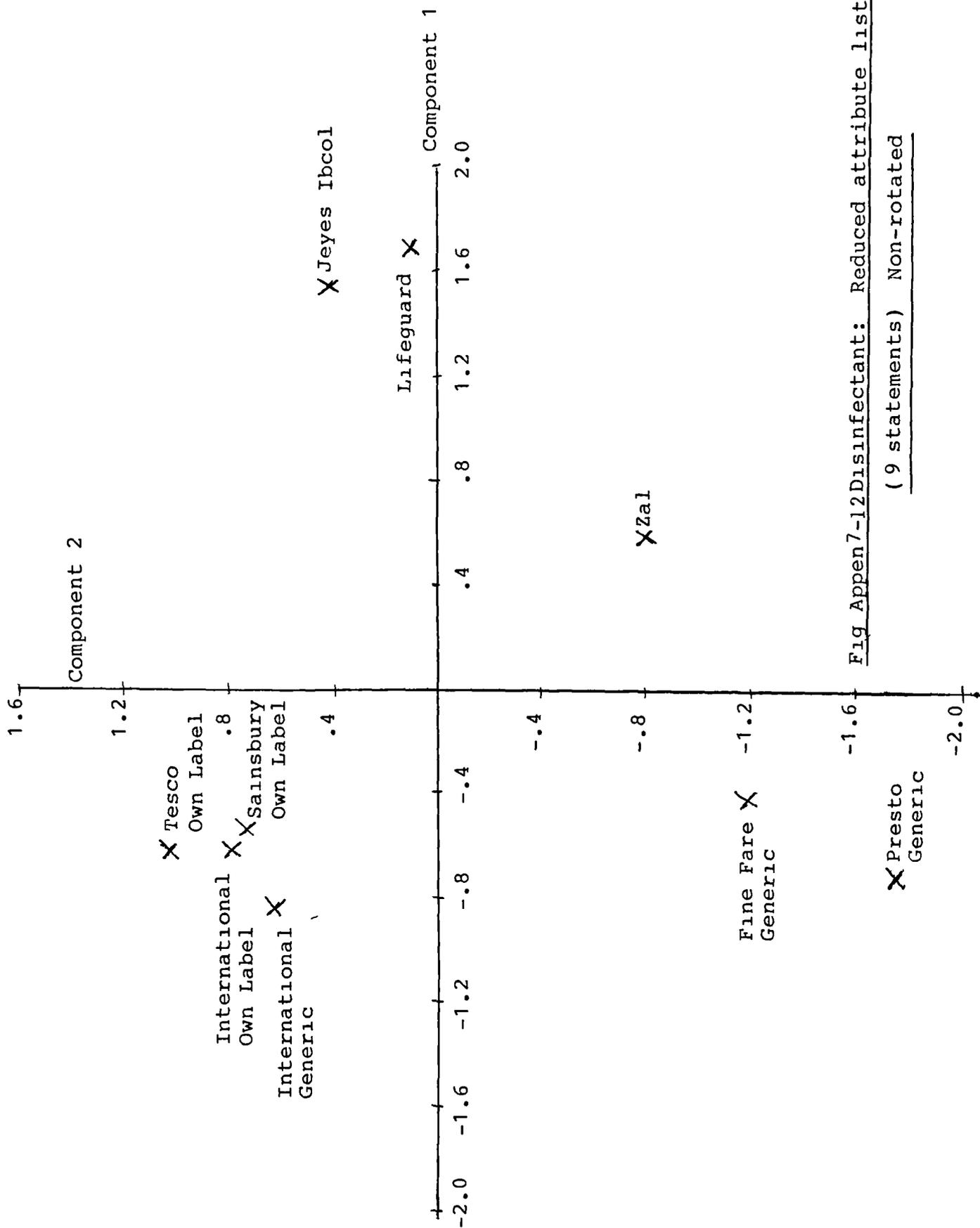


Fig Appen7-12Disinfectant: Reduced attribute list
 (9 statements) Non-rotated

APPENDIX 8

Photographs of the 6 product fields used in the postal survey.







APPENDIX 9

The covering letter, postal questionnaire and the reminder letter used on the postal survey.

Telephone Hertford 558451/8
Ext
Your Ref
My Ref
Date As postmark
Please ask for

We are doing a survey about shoppers views on different aspects of grocery shopping. Your views will enable manufacturers and retailers to provide shoppers with a better choice of bleach in the future. If you are the person in the household who mainly does the shopping we would be grateful if you would spend a few minutes completing the simple questions on the enclosed questionnaire. If you are not the person who mainly does the shopping would you please pass this letter to the appropriate person in your household.

We rely on as many people as possible to fully complete these questionnaires since all points of view are provided which helps us form a better picture. As such we are anxious to get a reply from each person we write to. Even if you do not buy or use bleach we would still like you to complete this questionnaire.

Your answers will be kept confidential and at no stage will any reference be made to any particular individual's reply.

Once you have completed this questionnaire please place it in the addressed envelope provided and post it back to me. No stamp is needed.

I would like to thank you for your helpful co-operation and trust you find this questionnaire an interesting experience.

Yours faithfully,

L. de Chernatony

L. de Chernatony

Senior Lecturer.



SURVEY OF SHOPPERS

To be completed by the person who normally does the household shopping

PLEASE ANSWER ALL OF THE QUESTIONS

- Q1. When you do your household shopping for things like tea, washing up liquid, sugar, canned and frozen foods, etc, which one of the shops shown below do you use most often? If you use several shops to do your household shopping, tick the one you use most often.

Please tick the appropriate box.

Asda	<input type="checkbox"/>	Marks and Spencer	<input type="checkbox"/>
Bejam	<input type="checkbox"/>	Presto	<input type="checkbox"/>
Budgen	<input type="checkbox"/>	Sainsbury	<input type="checkbox"/>
Co-op	<input type="checkbox"/>	Tesco	<input type="checkbox"/>
Fine Fare	<input type="checkbox"/>	Waitrose	<input type="checkbox"/>
International	<input type="checkbox"/>	Other (please specify) _____	

PLEASE LOOK AT THE ENCLOSED PHOTOGRAPH BEFORE CONTINUING

- Q2. On the photograph are a variety of bleaches that can be bought from some of the larger shops. Which of the bleaches have you ever seen before?

For each bleach that you have ever seen before please tick the appropriate box. If never seen any before please record below.

Ever seen product A before	<input type="checkbox"/>	Ever seen product F before	<input type="checkbox"/>
Ever seen product B before	<input type="checkbox"/>	Ever seen product G before	<input type="checkbox"/>
Ever seen product C before	<input type="checkbox"/>	Ever seen product H before	<input type="checkbox"/>
Ever seen product D before	<input type="checkbox"/>	Never seen any of these before	<input type="checkbox"/>
Ever seen product E before	<input type="checkbox"/>		

- Q3. And thinking just of the bleaches in the photograph, which of these have you ever bought for use in your home?

For each bleach that you have ever bought for use in your home please tick the appropriate box. If none bought record below.

Product A	<input type="checkbox"/>	Product F	<input type="checkbox"/>
Product B	<input type="checkbox"/>	Product G	<input type="checkbox"/>
Product C	<input type="checkbox"/>	Product H	<input type="checkbox"/>
Product D	<input type="checkbox"/>	Never bought any of these before	<input type="checkbox"/>
Product E	<input type="checkbox"/>		

- Q4. Imagine that a check of groceries within your home revealed that while you still had enough of the products shown below, you would soon run out of these products.

In what order would you replace these products? Please place a "1" against the product you would replace first, a "2" against the product you would replace second, etc until all the products have a number from 1 to 9 indicating your order of replacement.

Order of replacement

Aluminium Foil	-----
Bleach	-----
Disinfectant	-----
Kitchen Towels	-----
Margarine	-----
Sugar	-----
Tea	-----
Toilet Paper	-----
Washing Up Liquid	-----

PLEASE TURN TO PAGE 2

Q5. Below is a list of statements some people have used to describe bleaches. Please read each statement and then looking at the products in the photograph, state for each product how much you agree or disagree with each statement describing each of the 8 bleaches.

When assessing each particular product on each statement please use the codes below to record your answer.

<u>Assessment</u>	<u>Code</u>
Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

To help you complete this question, an example from a respondent on a different survey is shown.

<u>STATEMENT</u>	<u>PRODUCT</u>							
	A	B	C	D	E	F	G	H
This bleach is sold in shops near my home	5	3	5	3	1	4	2	4

As she strongly agreed with this statement describing products A and C she wrote "5" under these products. Agreeing with it describing products F and H she wrote "4" under these products. A "3" was recorded under products B and D as she neither agreed nor disagreed. As she disagreed with it describing G she wrote "2" in this box and finally strongly disagreeing with it describing E she wrote "1".

Work through the statements one at a time, always completing your assessment of agreement or disagreement with a statement describing each individual product, before moving on to the next statement.

PLEASE ENSURE THAT YOU HAVE AN ANSWER IN EVERY BOX

<u>STATEMENT</u>	<u>PRODUCT</u>							
	A	B	C	D	E	F	G	H
This looks familiar								
This is a supermarket brand								
This is a multi-purpose bleach								
This is a branded product								
This is a thick bleach								
This bleach container looks easier to hold								
This can only be bought in the bigger shops								
This is poor quality								
This has been advertised								

For your convenience the assessment codes are shown again below.

Strongly agree	5
Agree	4
Neither agree nor disagree	3
Disagree	2
Strongly disagree	1

PLEASE TURN TO PAGE 3

Q6. Of the 8 bleaches in the photograph what price difference, if any, would you expect between the cheapest and the most expensive?

- Please tick the appropriate box
- A very large price difference
 - A large price difference
 - A moderate price difference
 - A small price difference
 - A very small price difference
 - No difference in price

Q7. When we as shoppers buy an unknown brand we may feel that there is some risk in buying an unknown brand. For example there is the risk that the brand might not be as good as we thought, the risk that we might have wasted our money on the unknown brand, the risk that our friends and relatives might think we made a bad choice, the risk that the brand might not be very safe and the risk of having to spend more time replacing the brand.

Please imagine that you had to choose a brand of bleach from a number of brands of bleach that you had never used before. Overall do you feel the choice is:

- Please tick the appropriate box
- A very high risk
 - A high risk
 - A moderate risk
 - A low risk
 - A very low risk

Q8. Thinking only about products A, D and F in the photograph, how likely or unlikely do you think it is that major manufacturers of branded goods made these?

- Please tick the appropriate box
- Very likely
 - Likely
 - Neither likely nor unlikely
 - Unlikely
 - Very unlikely

Q9. And thinking about any advertisements for any bleaches, do you feel that bleaches as a whole are advertised a lot or a little? Please tick the box below which best shows your view on a scale where a score of "5" represents "bleaches as a whole are advertised a lot" whereas a score of "1" would represent "bleaches as a whole are not advertised at all".

Bleaches as a whole are advertised a lot

5	4	3	2	1
---	---	---	---	---

Bleaches as a whole are not advertised at all

Finally we would like to ask a few questions about yourself.

Q10. What is your sex?

- Male
- Female

PLEASE TURN TO PAGE 4

Q11. Which of these age groups do you belong to?

Please tick the appropriate box.

Younger than 18	<input type="checkbox"/>	45 - 54	<input type="checkbox"/>
18 - 24	<input type="checkbox"/>	55 - 64	<input type="checkbox"/>
25 - 34	<input type="checkbox"/>	65 and older	<input type="checkbox"/>
35 - 44	<input type="checkbox"/>		

Q12. How old were you when you finished your full time education?

	14 or under	<input type="checkbox"/>
	15	<input type="checkbox"/>
Please tick the	16	<input type="checkbox"/>
appropriate box	17	<input type="checkbox"/>
	18	<input type="checkbox"/>
	19 - 23	<input type="checkbox"/>
	24 and older	<input type="checkbox"/>
	Still studying	<input type="checkbox"/>

We are very grateful indeed for your help.

Please return the completed questionnaire using the reply paid envelope provided

FOR OFFICE USE

Type A-----

Serial -----

Date Rec -----

Telephone Hertford 558451/8
Ext :
Your Ref :
My Ref :
Date : As postmark
Please ask for:

Recently you received a short questionnaire from us seeking your views on different aspects of grocery shopping. As we sent out a limited number of these, your answers are very important to the accuracy of the survey and will provide us with a more realistic picture.

It will only take a few moments to complete the questionnaire and return it in the stamped addressed envelope already sent. We would be most grateful if you would do this as soon as possible. Your answers will of course remain strictly confidential.

Should this letter have crossed in the post with your reply, please accept our thanks for your valuable help.

We look forward to your early reply.

Yours sincerely,

L. de Chernatony

L. de Chernatony
Senior Lecturer.



APPENDIX 10

ALTERNATIVE WAYS OF MEASURING RESPONDENTS' CATEGORISATION OF ITEMS

As section 8.2 explained, cluster analysis was used to measure respondents' categorisation of competing items. This appendix describes the 3 alternative methods that were considered and explains why they were not used.

Q-type principal component analysis has had some application in marketing (eg Schlinger, 1969) and hence might be thought applicable to the problem of how a person groups competing items. Principal component analysis is primarily concerned with transforming a set of attributes into a smaller set of linear combinations that account for most of the variance of the original set (Dillon and Goldstein, 1984), ie it is primarily a data reduction technique. This is stressed whenever the technique is explained (eg Chatfield and Collins, 1980; Kendall, 1980; Cattell, 1978; Green and Tull, 1978). Its value in cluster analysis is regarded as being a secondary aspect (Cattell, 1965a). Such a widely accepted perspective of the main purpose of principal component analysis casts doubts on its applicability as a clustering technique.

Principal component analysis starts with a data matrix showing how one person assessed j competing items (brands, own labels and generics) on k attributes. In its prime role as a data reduction technique, a decision is taken

about whether or not the scores across the attributes are to be standardised. The correlation matrix showing the similarity between attributes is calculated and a principal component analysis is then applied to the $k \times k$ matrix of similarities. Convention refers to this analysis of the $k \times k$ correlation matrix as an R-type principal component analysis. In its secondary role as a classification technique, from the same $j \times k$ data matrix a view is adopted about whether the scores across the competing items are to be standardised, a $j \times j$ correlation matrix showing the similarity between the items is calculated and a principal component analysis of the competing items' correlation matrix is undertaken. As the analysis is based on the competing items' correlation matrix, this is referred to as a Q-type principal component analysis. Once the Q-type principal component analysis has been performed, a decision is made about the number of components to be extracted. The chosen components are rotated and the competing items are placed in clusters characterised by the components on which they have the highest loading.

Dillon and Goldstein (1984) echo the concern of several researchers (eg Fleiss and Zubin, 1969; Wells and Sheth, 1974; Cattell, 1978; Everitt, 1979; Saunders, 1980; Stewart, 1981) when they state "This (ie Q-type) approach to clustering is, however, plagued with a number of problems and ambiguities" (p43). The first of many criticisms is the use of a correlation coefficient as a

measure of similarity. A perfect correlation between a brand and an own label will result when the brand's scores on the attributes are linearly related to the own label's scores, albeit no account is taken of the brand consistently scoring at a higher level than the own label. The assumption of an underlying linear model of principal component analysis, ie that a component is made up of a weighted linear combination of competing offerings, is a further weakness of this approach.

The number of components that can be extracted from the $j \times j$ competing items' correlation matrix will be a maximum of the k attributes less 1. Thus a problem with this method is that the number of clusters is determined by the number of attributes on which the competing offerings are assessed. Where though the number of attributes exceed the number of items, this problem disappears. When competing items load "heavily" on more than one component the problem arises of deciding to which cluster the item belongs.

Stewart (1981) shows pictorially a further problem with this method of identifying clusters. He explains that by using the components of Q-type principal component analysis as clusters, what appears visually to be one cluster would be divided into two clusters on the basis of the competing items' loadings. Cattell (1965b) recommends that if the researcher is primarily interested in seeing how items are clustered, an investigation of the correlation matrix without factoring should suffice. Ehrenberg and Goodhardt

(1976) present examples showing how a clearer insight to structures can be seen from an examination of the correlation matrix, rather than from principal component analysis.

In view of these weaknesses this method was not employed.

Multidimensional scaling (MDS) describes procedures that investigate a matrix of distances between competing offerings to find a configuration of the competing offerings in a smaller number of dimensions. The inter item distances in the reduced dimension space closely reflects the original inter item distances (Chatfield and Collins, 1980). An inter item distance matrix based upon an interval scale can be obtained indirectly by asking respondents how much they agree or disagree with certain statements describing each of the competing items (ie metric MDS). Alternatively respondents might directly rank their perceptions of the similarity between all of the pairs of competing items. As the similarity matrix is then based on an ordinal scale, non-metric MDS is applicable. The end result of either metric or non-metric MDS is that a low dimensional map showing the spatial positions of the competing items can be inspected to help appreciate the relationship between the items (Sampson, 1977; Everitt, 1978). This technique is not without its limitations, eg non-metric methods may produce meaningless results (Green and Tull, 1978) and low dimensional maps may not give a good representation of the basic structure (Everitt, 1986).

The use of MDS to produce brand positioning maps in marketing is widely accepted (eg Doyle, 1975; Wind, 1978), but its prime purpose is to produce maps showing the spatial configuration of competing items and not to act as a classification method (Dillon and Goldstein, 1984; Chatfield and Collins, 1980; Cormack, 1971). This research is concerned with determining how people group competing items, rather than understanding the relative spatial position of the competing items. Consequently cluster analysis appears more appropriate than MDS.

Discriminant analysis starts from the premise that amongst the competing items there exist distinct groups. These groups are specified in advance by the researcher. Respondents score each of the competitive offerings on a series of attributes from which is derived a linear combination of the attributes (the discriminant function). Each of the items can then be assigned to one of the a-priori exclusive groups by using the discriminant function which seeks to maximise the between group variance relative to the within group variance.

This technique is not thought to be as useful as cluster analysis since it requires a statement about possible groups of competitive offerings. While a view has been presented in chapter 5 about the possible composition of clusters, if discriminant analysis were used the main gain would be to learn about the nature of the discriminant function, (eg what are the criteria that respondents use to

distinguish brands from retailers' labels) and also how well the prespecified groups differ. Knowledge about the discriminant function was not the aim of this research but rather an understanding of how consumers group competing items, ie without any of the researcher's preconceptions influencing the underlying structure. Discriminant analysis was consequently not thought to be as useful as cluster analysis.

APPENDIX 11

Dendrograms showing perception of market structure for each product field.

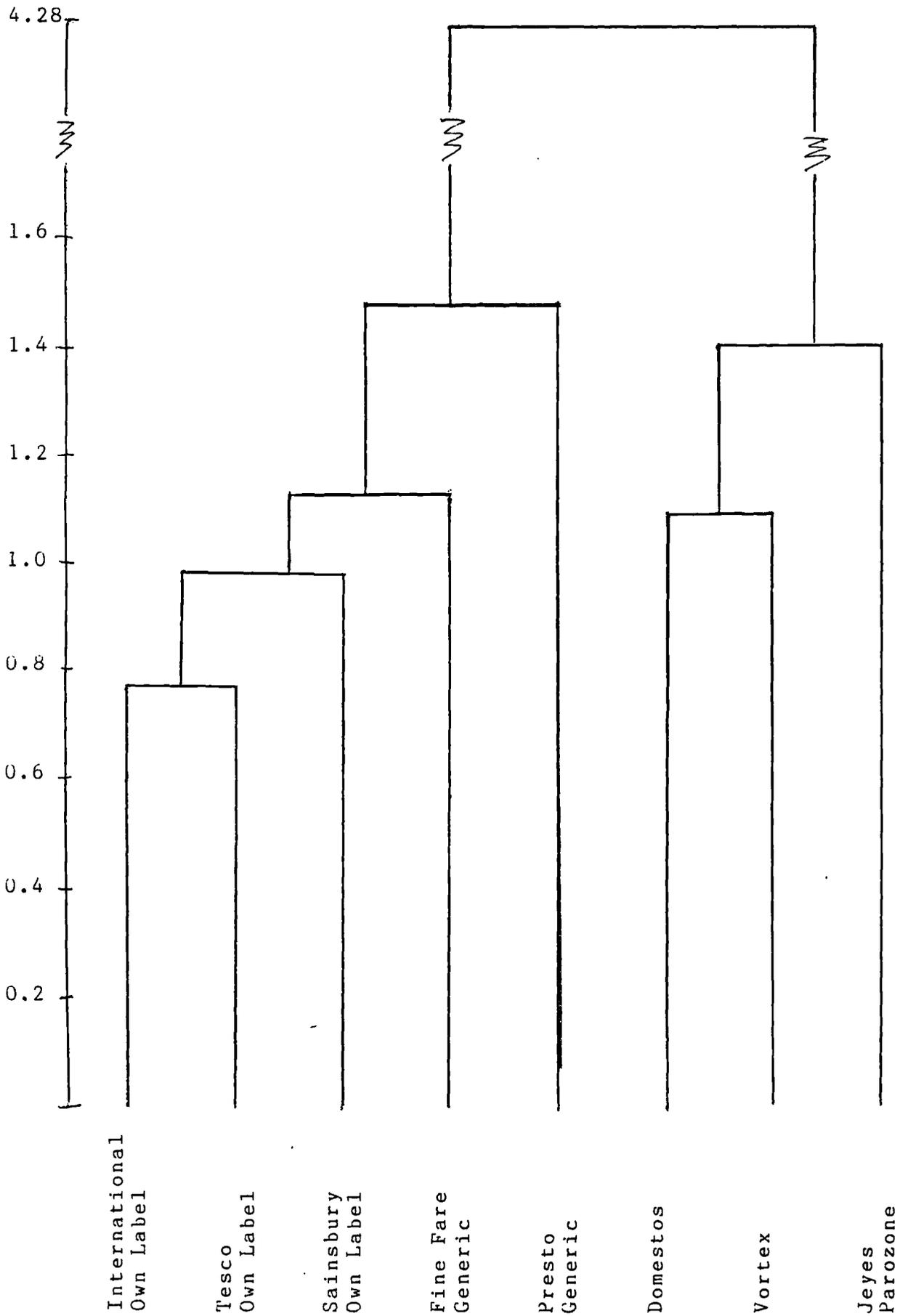


Fig Appen 11-1: Bleach dendrogram (standardised)

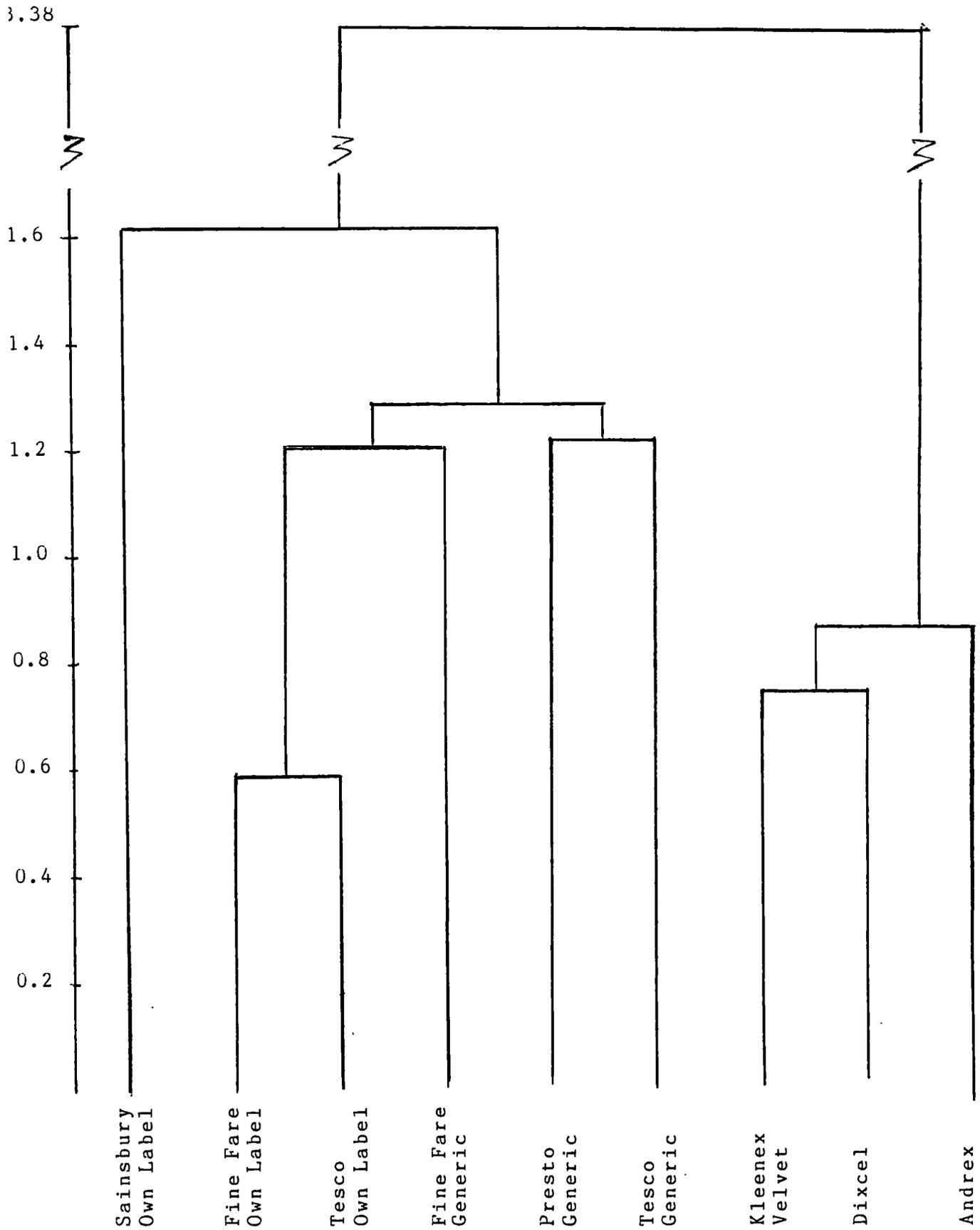


Fig Appen 11-2: Toilet Paper dendrogram (standardised)

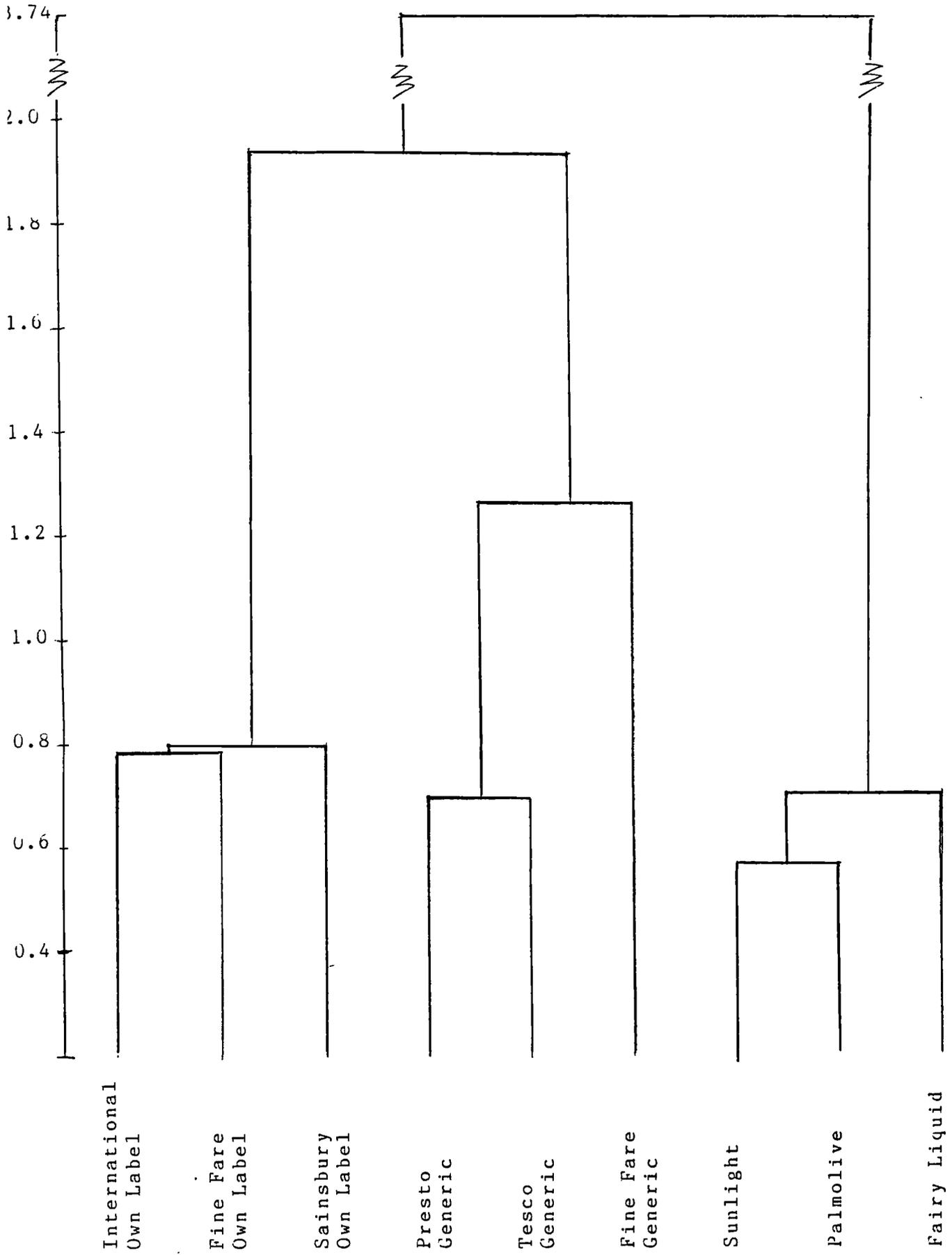


Fig Appen 11-3: Washing Up Liquid dendrogram (standardised)

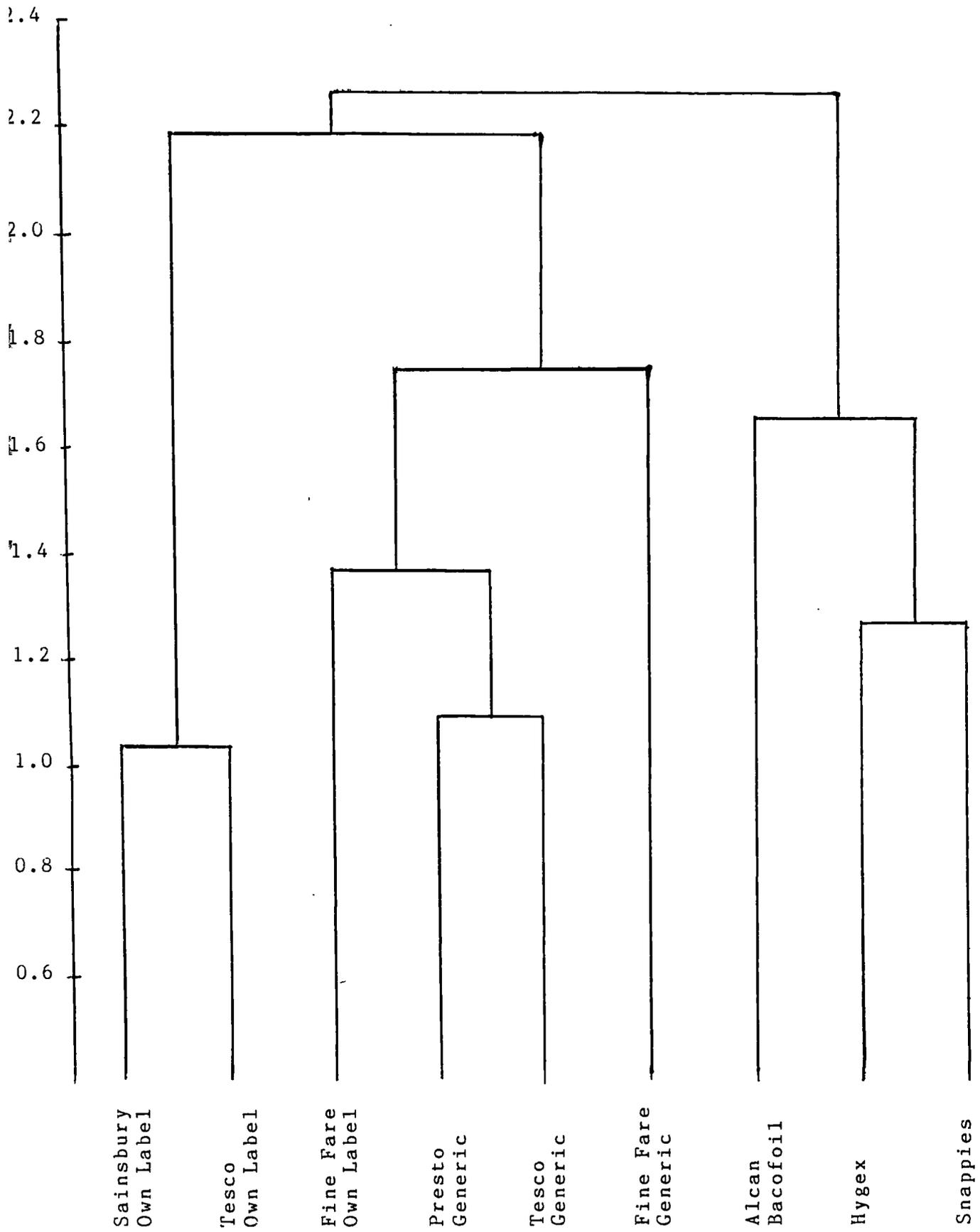


Fig Appen 11-4: Aluminium Foil dendrogram (standardised)

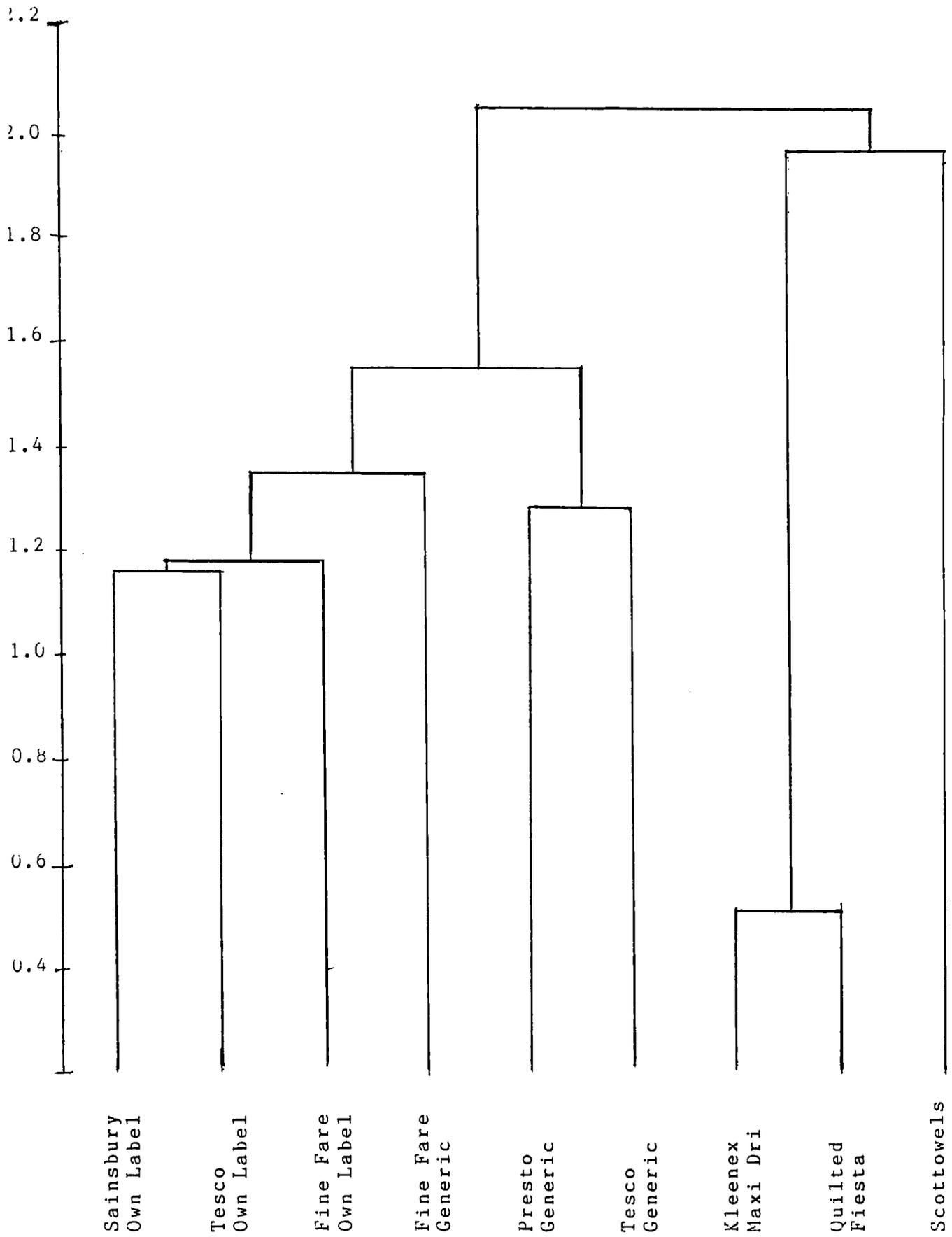


Fig Appen 11-5: Kitchen Towels dendrogram (standardised)

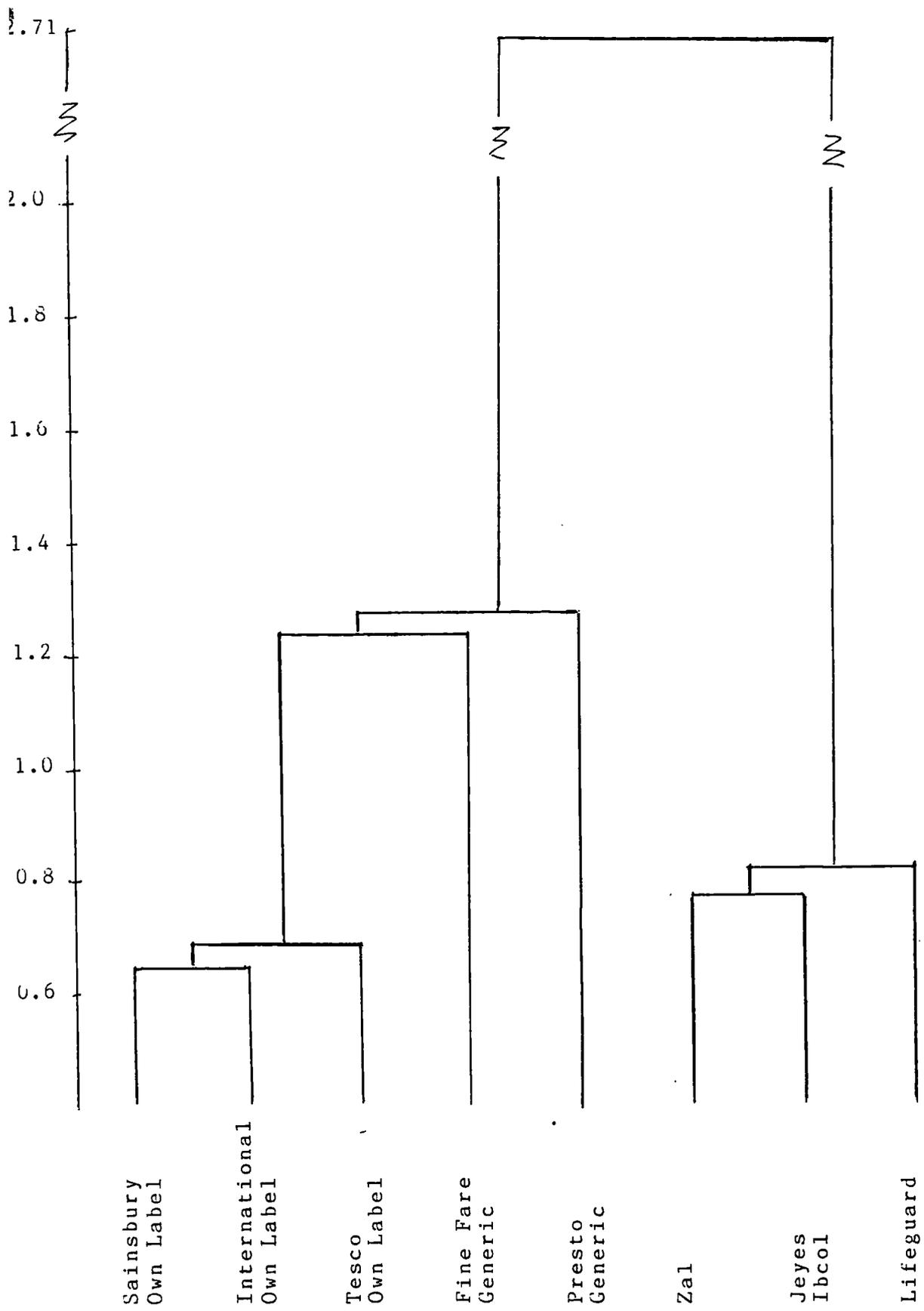


Fig Appen 11-6: Disinfectant dendrogram (standardised)

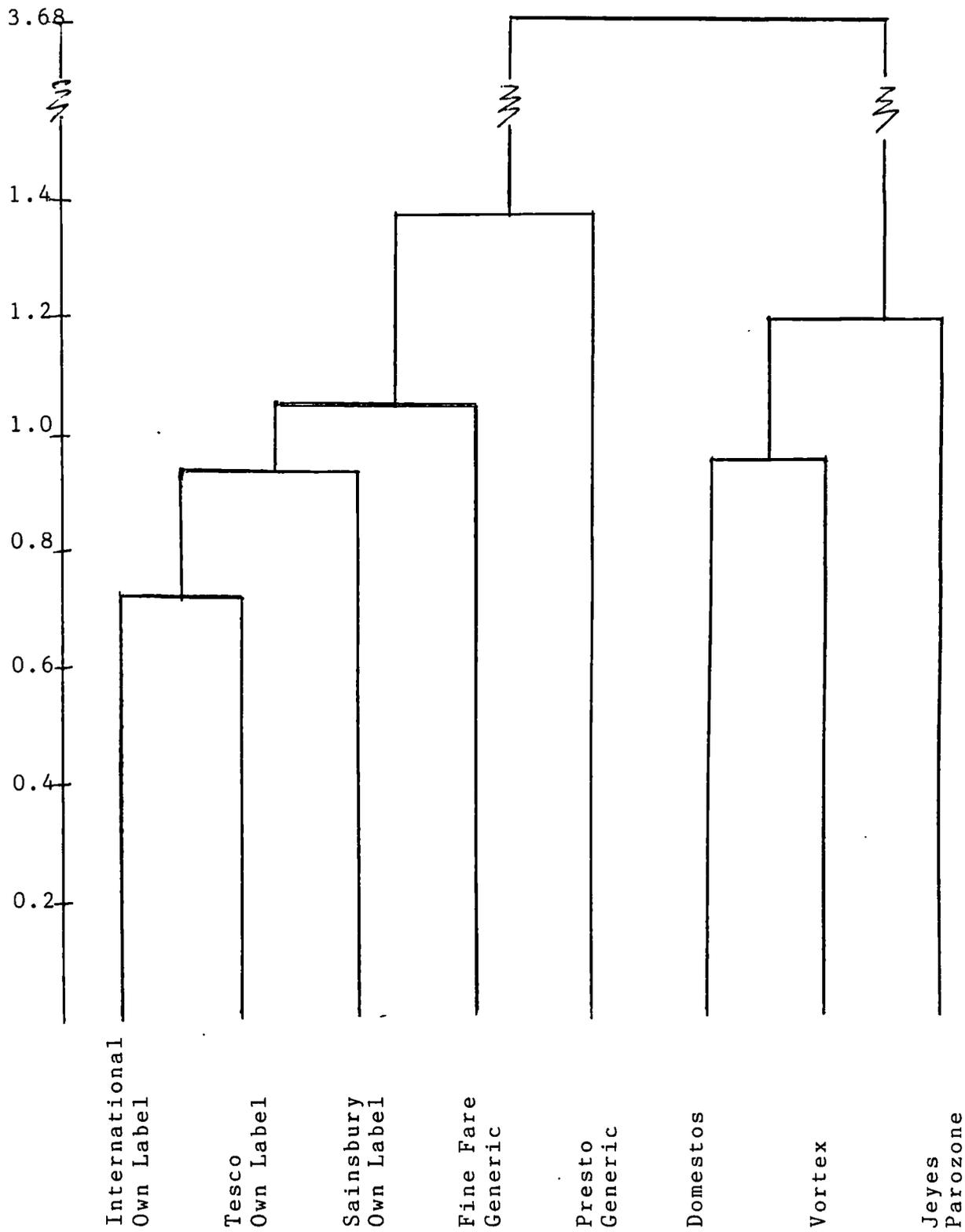


Fig Appen 11-7: Bleach dendrogram (raw)

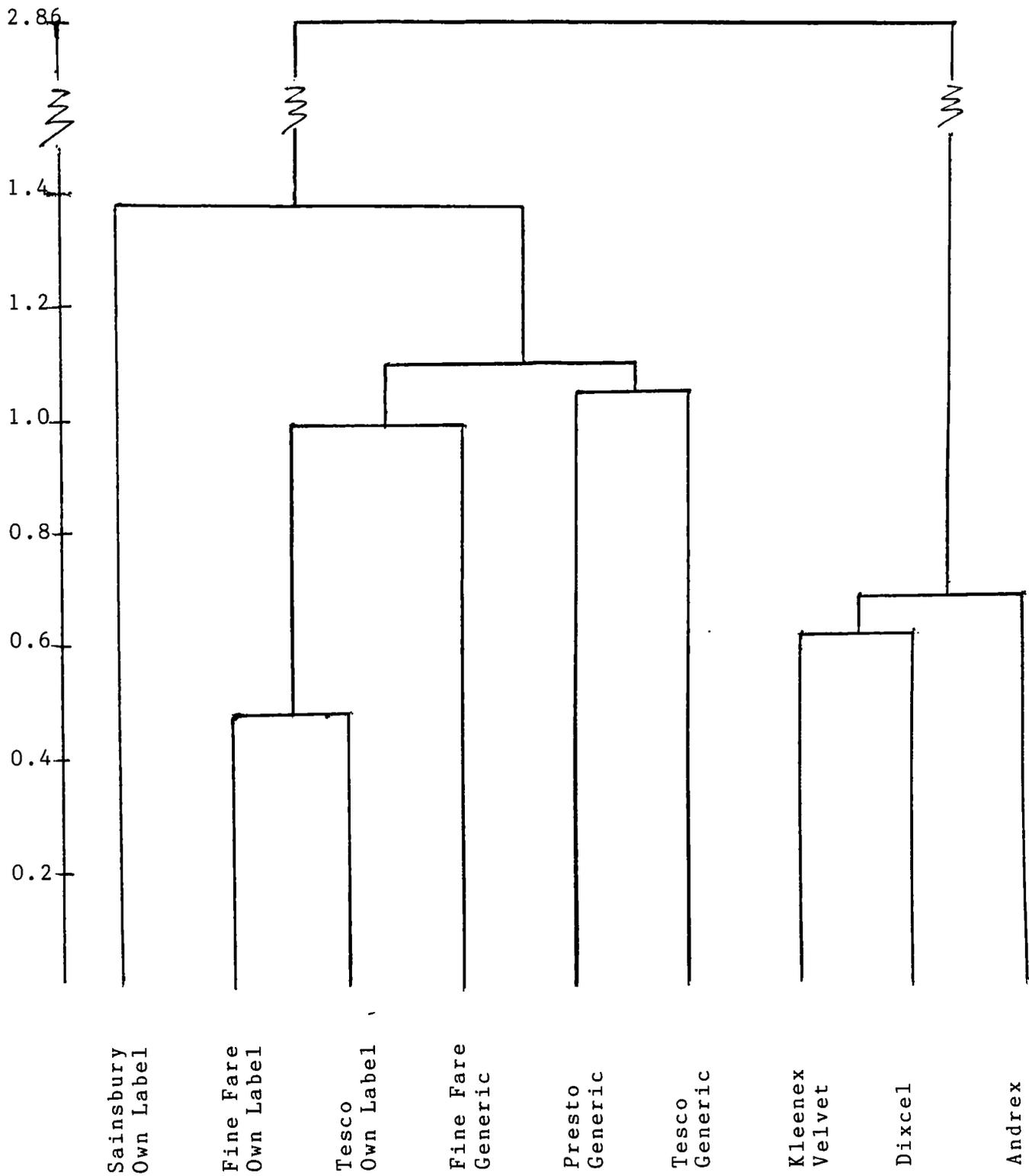


Fig Appen 11-8: Toilet Paper denrogram (raw)

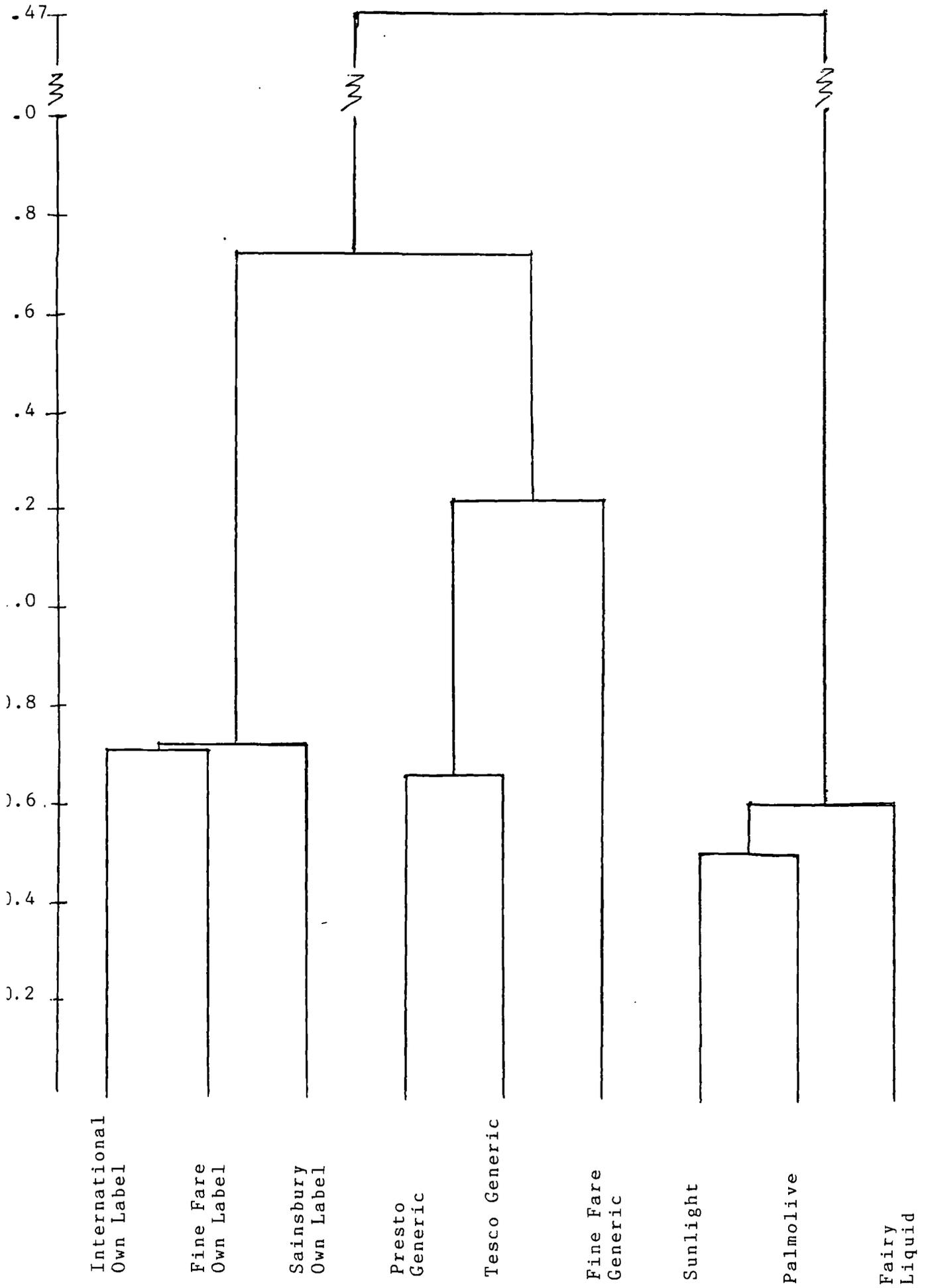


Fig Appen 11-9: Washing Up Liquid dendrogram (raw)

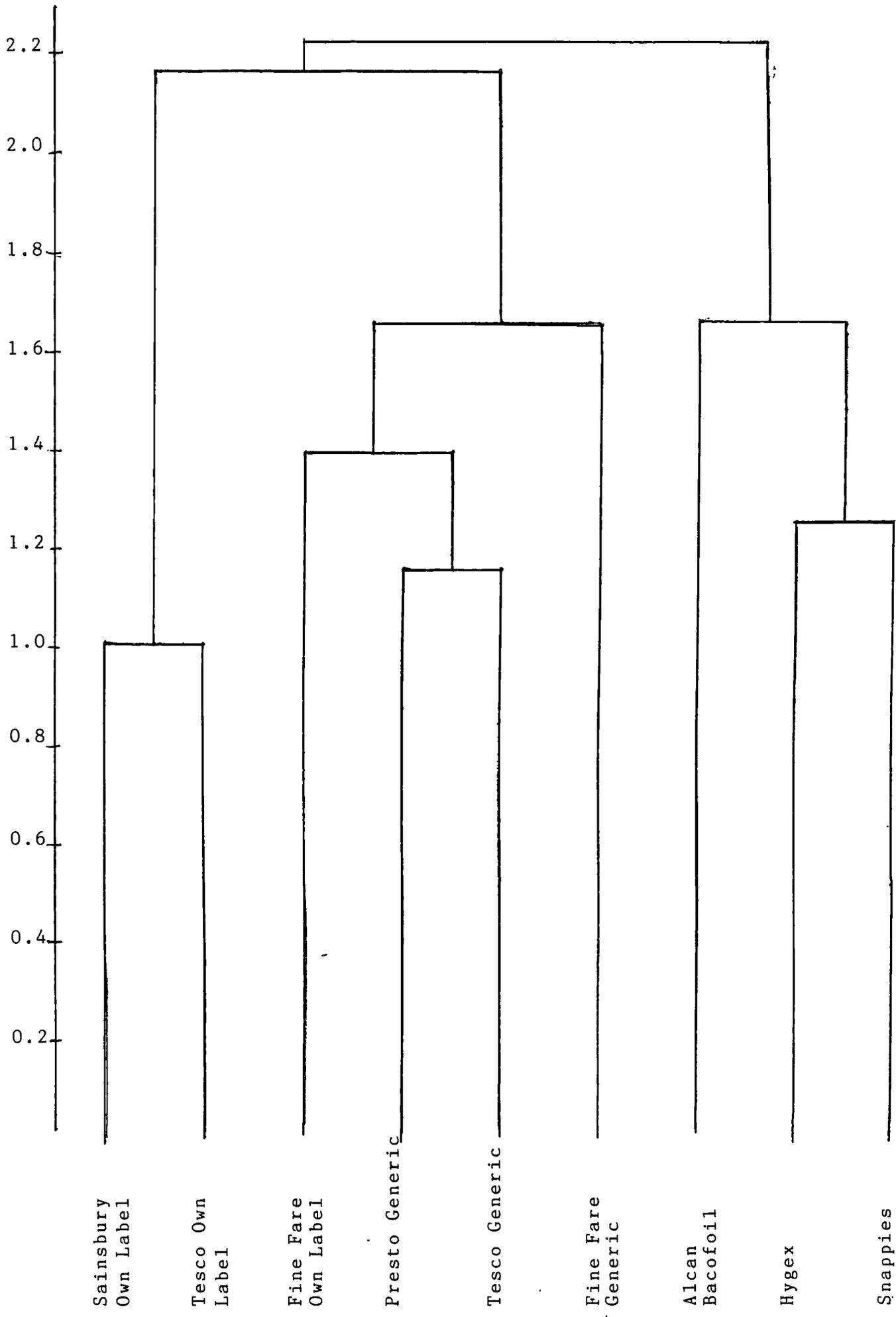


Fig Appen11-10: Aluminium Foil dendrogram (raw)

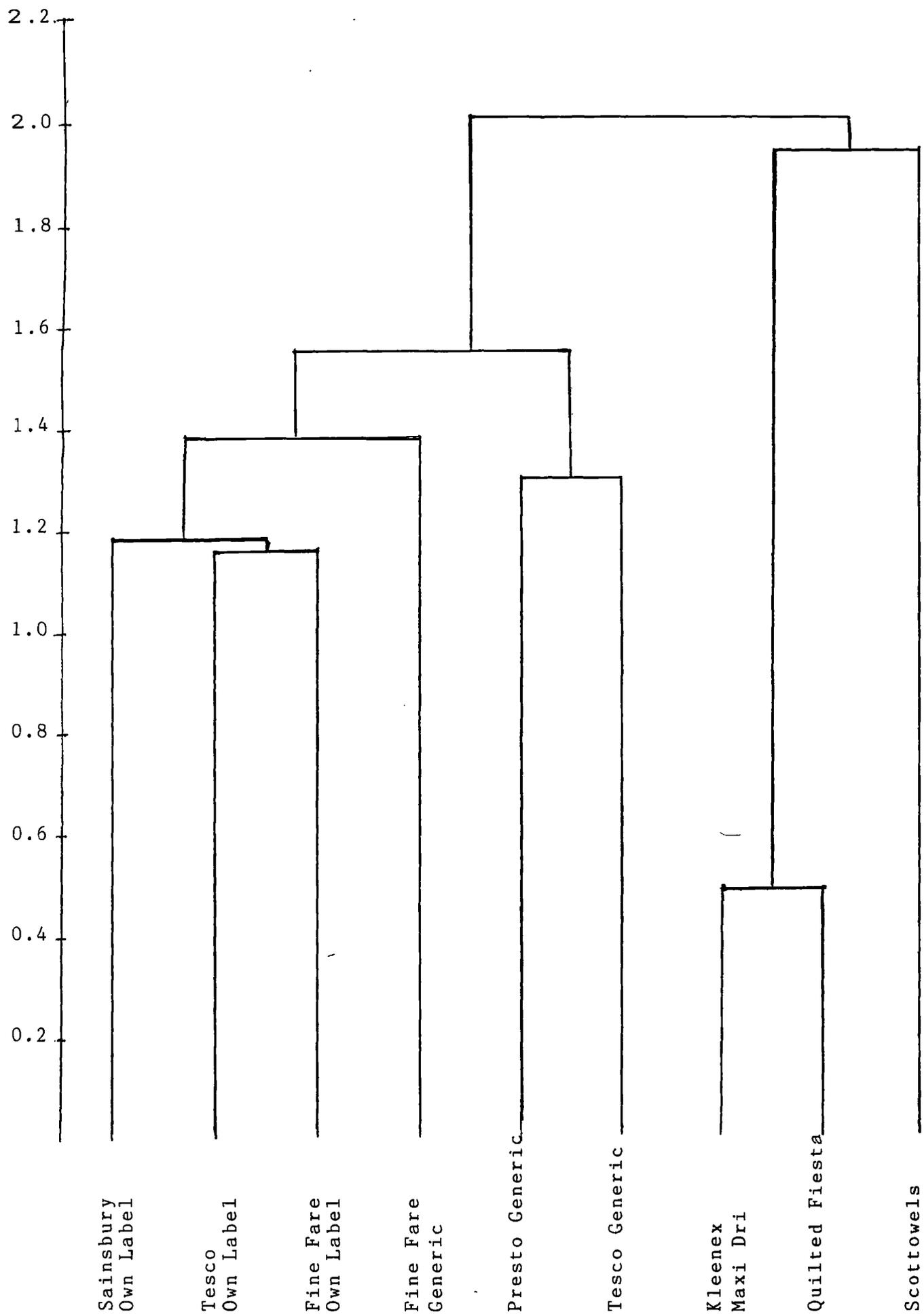


Fig Appen11-11: Kitchen Towels dendrogram (raw)

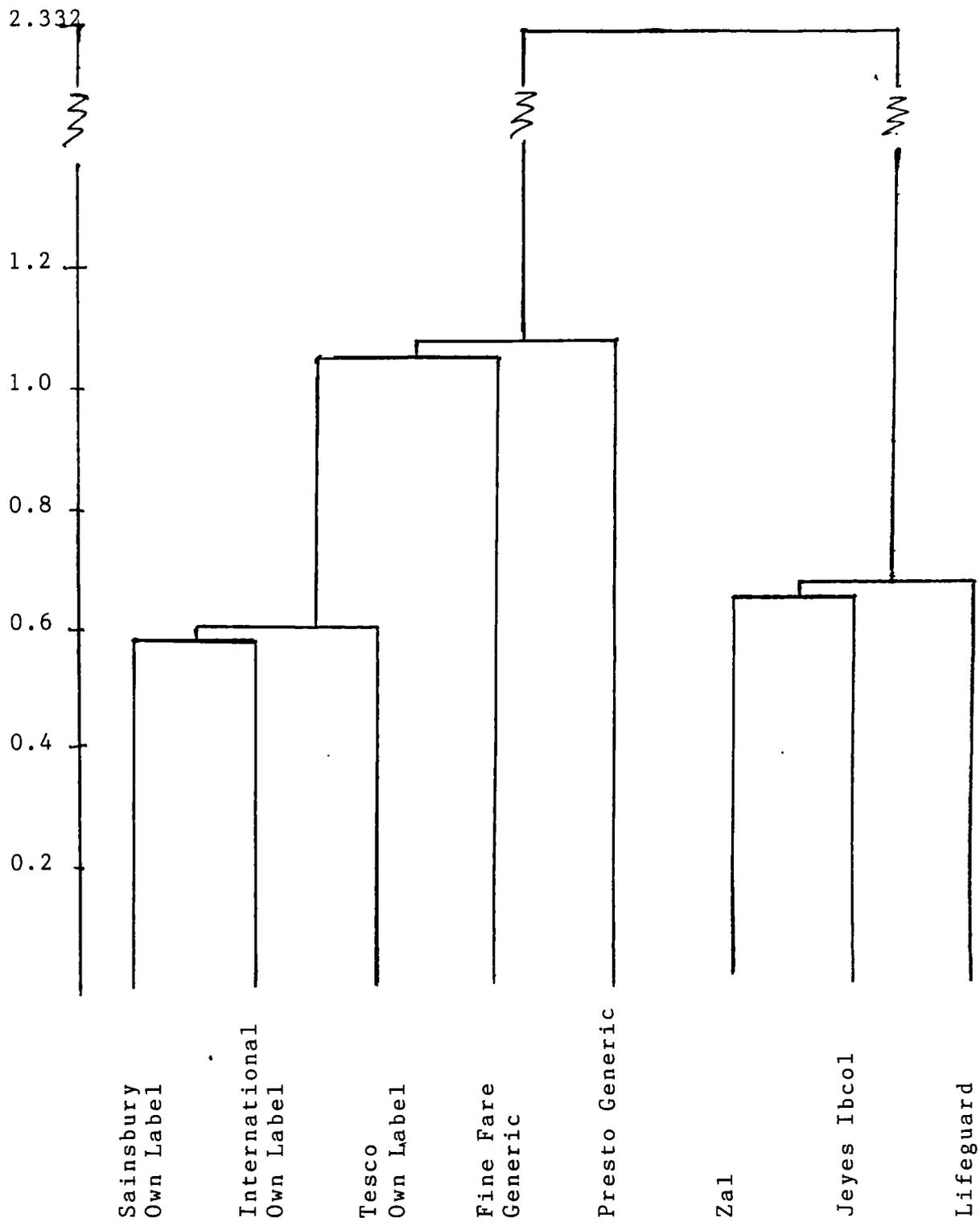


Fig Appen11-12: Disinfectant dendrogram (raw)

APPENDIX 12

ANALYSIS OF PERCEIVED MARKET STRUCTURE BY VERSION OF BATTERY (A/B) AND SPEED OF RESPONSE

Version of battery (A/B) completed

Table App 12-1, shows that, apart from the disinfectant results, the same market structure at the 3 cluster level was perceived by respondents completing either version A or B of the attribute-brand batteries (the attributes on version B being in the reverse order to version A). The disinfectant result at the 3 cluster level may be due to chaining since perception of market structure at the 4 and 2 cluster level is identical between respondents completing versions A or B.

	Bleach	Toilet	Washing	Alum	Kitchen	Disinf
		Paper	Up Liquid	Foil	Towels	
	Dendrogram type:					
Version						
A	4	5	1	2	3	1
B	4	5	1	2	3	4

Table App 12-1: Perceived market structure analysed by version of battery (3 cluster)

At the 2 cluster level, in all product fields except aluminium foil, respondents saw their markets structured as a pure branded cluster and a retailer label cluster. Those completing version B of the aluminium foil

questionnaire saw their market structured in this manner, while version A respondents saw (3 brands + 2 own labels), (1 own label + 3 generics). This latter structure may be due to chaining.

It is concluded from the overall high degree of consistency between version A and B respondents within the 6 product fields that there is no effect from the order in which the attributes were presented.

Speed of response

It has been reported (eg Hoinville et al, 1982) that there are differences between early and late respondents to postal questionnaires. To determine whether there were any differences in perception of market structure between the early and late respondents, the results of those respondents who had replied without any reminder letter ("early" respondents) were compared to those who replied after receiving a reminder letter ("late" respondents). Table 7-1, in section 7.3.4 provides details relating to the number of early and late respondents.

Table App 12-2, indicates the high degree of similarity at the 3 cluster level between the early and late respondents in each product field. In only the disinfectant and bleach samples was a difference in market structure apparent between the early and late respondents, albeit at the 4 and 2 cluster level, perception of market structure

was the same between the early and late respondents. Also the cophenetic correlation coefficients between the early and late respondents were 0.99 for both the disinfectant and bleach samples. The overall evidence indicates that the early and late respondents perceived similar market structures at the 3 cluster level.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
	Dendrogram type:					
Replied						
Early	3	5	1	2	3	4
Late	4	5	1	2	3	1

Table App 12-2: Perceived market structure analysed by time taken to reply (3 cluster)

At the 2 cluster level, there is again a high degree of consistency both within and across the 6 product fields. In the bleach, toilet paper, washing up liquid and disinfectant product fields, the early and late respondents all saw a branded cluster and a separate retailer label cluster. In both the aluminium foil and kitchen towels samples, the early respondents saw these product fields structured as brands versus retailer labels, while as table App 12-3 shows, the late respondents exhibited a different perception. In terms of the levels at which the 9 items form clusters in these 2 product fields, there is a notable similarity with cophenetic correlation coefficients of 0.89 and 0.87 in the aluminium foil and kitchen towels samples respectively.

Aluminium Foil Kitchen Towels

2 cluster composition

Replied

Early	(3B) (3OL+3G)	(3B) (3OL+3G)
Late	(3B+2OL) (1OL+3G)	(2B) (1B+3OL+3G)

B = Brand; OL = Own Label; G = Generic

Table App 12-3: Perceived market structure analysed by
time taken to reply (2 cluster)

Thus, when considering the results from the 3 and 2 cluster perception and the similarity of the clustering levels using the cophenetic correlation coefficient, there is evidence of the early and late respondents generally perceiving market structure in the same manner.

APPENDIX 13

VALIDITY AND RELIABILITY OF CLUSTER ANALYSIS RESULTS

The validity of the single link algorithm in evaluating respondents' perceptions of market structure, was assessed by applying complete link, average link and minimum variance clustering algorithms to the data tested at hypothesis 1. If the single link method has construct validity, it should show similar results to those found from the 3 other methods. A limitation of this approach is that each algorithm is based on a different definition of a cluster.

Support for the single link algorithm having construct validity is provided by table App 13-1, showing perceived market structure at the 3 cluster level. In only the kitchen towels and disinfectant samples do the single link results go against the majority view of the 3 other methods, (albeit at the 2 cluster level there is perfect agreement in these 2 product fields).

Consideration of perceived market structure at the 2 cluster level provides further evidence for single link having construct validity. In each product field, except aluminium foil, each clustering algorithm found the 2 cluster composition to be brands versus retailer labels. With the aluminium foil data, single link recorded a pure branded cluster and a retailer label cluster, while the

other 3 algorithms found (3 brands + 2 own labels) as one cluster and (3 generics + 1 own label) as the other.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Dendrogram type:						
Cluster algorithm						
Single link	4	5	1	2	3	4
Complete link	4	5	1	2	1	1
Average link	4	5	1	2	1	1
Minimum variance	4	1	1	2	1	1

Table App 13-1: Perceived market structure analysed by 4 algorithms (3 clusters)

In the majority of cases, at both the 3 and 2 cluster level, the single link algorithm gave similar results to those of the 3 other algorithms. It is concluded that single link is validly measuring perception of market structure.

Reliability of perceptual structures observed at hypothesis 1 was first evaluated using the split half method. Respondents correctly completing the attribute-brand batteries were randomly divided into 2 equally sized groups and their attribute-brand batteries subjected to single link cluster analysis. At the 3 cluster level, there is

support for the reliability of the findings, since in 4 product fields each half of the sample displayed the same perception (table App 13-2). the bleach and disinfectant samples, where the random halves perceived a slightly different 3 cluster structure, perceptions at the 4 and 2 cluster levels were similar. Furthermore, the cophenetic correlation coefficients between the 2 halves in both the bleach and disinfectant samples were 0.99.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
	Dendrogram type:					
First half	4	5	1	2	3	4
Second half	3	5	1	2	3	1

Table App 13-2: Perceived market structure analysed by random split halves (3 cluster)

Perception at the 2 cluster level also supports the reliability of the results. In all product fields except aluminium foil, the split half samples categorised items as either brands or retailer labels. In the aluminium foil samples, one half perceived this type of structure, and the other half grouped the items as (2 own labels) and (3 brands + 1 own label + 3 generics). However, perception at the 4 and 3 cluster level was identical between the 2 halves of the aluminium foil sample and with a cophenetic correlation coefficient between these 2 halves of 0.95, it was concluded that a high degree of perceptual similarity exists.

A further analysis was undertaken, based upon the way respondents had been divided to test each hypothesis. Hypotheses 2 through to 8C, along with the further analysis (version of battery and speed of response), showed that none of the independent variables identified appeared to influence perception of market structure. To quantify the reliability of the perceptual structures found at hypothesis 1, the number of instances, where the dendrogram type exhibited by any particular group of respondents conformed to that observed at hypothesis 1, was recorded. The perceptions found by dividing respondents to test hypotheses 2 through to 8, plus the analysis on version of battery and speed of response, were considered. Table App 13-3 shows, at the 3 cluster level, the frequency with which the perceptual structure recorded for each group of respondents was the same as that seen by respondents as a whole at hypothesis 1. The same type of structures as those seen at hypothesis 1 were frequently observed. The bleach analysis, representing the lower end of consistency, showed that on 53% of occasions the same type of perception was found as that at hypothesis 1. The most consistent findings were seen amongst the washing up liquid sample, where on 86% of occasions the same perceptual structures as those found from hypothesis 1 were recorded. While a greater degree of consistency in the bleach and disinfectant samples would have enabled a more definite finding on reliability, the consistency of results within each product field are indicative of reliable findings at the 3 cluster level.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of groups of respondents	45	45	50*	44**	49***	45
Proportion of groups showing similar perception to H1	53%	80%	86%	68%	84%	56%

Table App 13-3: Frequency with which 3 cluster perception of different groups conformed to that of total sample at hypothesis 1

Note

- *: washing up liquid and kitchen towels results include groups from hypothesis 3 (price perception)
- ** : at hypothesis 2 (advertising perception) only 4 rather than 5 groups emerged
- ***: at hypothesis 5 (perceived risk) only 4 rather than 5 groups emerged.

At the 2 cluster level, table App 13-4 shows, for each product field, the frequency with which the different groups of respondents categorised the items as either brands or retailer labels. In 4 product fields, virtually all of the different groups of respondents saw their markets structured as brands versus retailer labels, providing further evidence of the reliability of perceptual structures. While the brands versus retailer labels perception was less frequently noted in the kitchen towels and aluminium foil results, an analysis of the 2 cluster structures showed this particular structure to be most frequently recorded. Further details about these 2

product fields are presented in Appendix 14.

	Bleach	Toilet Paper	Washing Up Liquid	Alum Foil	Kitchen Towels	Disinf
Number of groups of respondents	45	45	50	44	49	45
Proportion of groups showing perception of brands vs retailer labels	98%	100%	98%	41%	49%	100%

Table App 13-4: Frequency with which 2 cluster perception of different groups conformed to that of total sample at hypothesis 1

Therefore, similarity of market perception recorded with the split-half method and the analysis of the dendrograms resulting from the dependent variables, support the reliability of perceptual structures observed at hypothesis 1.

APPENDIX 14

THE 2 CLUSTER PERCEPTIONS OF KITCHEN TOWELS AND
ALUMINIUM FOIL

At the 2 cluster level, perceived market structure of the kitchen towels and aluminium foil product fields did not show the brands versus retailer labels structure as frequently as was observed in the 4 other product fields. An analysis of the 2 cluster structures in these 2 product fields across hypotheses 2 through to 8C, including the analysis by type of attribute-brand battery and speed of response, is shown in table App14-1. Of the different types of 2 cluster structures evident in these 2 product fields, the most frequently noted structure is that of brands versus retailer labels. One other structure was also frequently observed in each of these product fields, as table App 14-1 shows.

	Aluminium Foil	Kitchen Towels
Number of times seen:		
(3B) (3OL+3G)	18	24
(3B+2OL) (1OL+3G)	17	0
(2B) (1B+3OL+3G)	0	22
Other structures	9	3

B = Brand: OL = Own Label: G = Generic

Table App 14-1: Perceptual structures seen at the 2
cluster level by different sub-groups

For the aluminium foil, no reason could be found for the frequently seen alternative structure at the 2 cluster level. The alternative 2 cluster structure seen in the kitchen towels product field, may be due to the positioning strategy adopted by Scott Limited. Amongst the kitchen towels sample, the frequently recorded alternative perceptual structure was:

(Quilted Fiesta + Kleenex Maxi Dri) and

(Scottowels + 3 own labels + 3 generics)

Scott Limited market both Quilted Fiesta and Scottowels, yet in their trade advertisements (The Grocer 21 February 1987, p14) they state that Scottowels are positioned as an "economy brand". An inspection of kitchen towels prices confirms this, with the 2 leading brands priced at 80p, while Scottowels are priced at 61p, which is below the average own label price (73p). While the Scottowels brand name is clearly visible, it is a plain white product unlike the other 2 brands. Apart from "the good value kitchen towel" claim on the pack, it lacks the quality claims printed on the other brands (eg Kleenex Maxi Dri "Stronger, thicker, more absorbent" and Quilted Fiesta "Mops up more so you use up less"). The different perceptions at the 2 cluster level may result from some respondents scanning the photograph and by placing more emphasis on presence or absence of brand name, may perceive the items as brands versus retailer labels. Those undertaking a more detailed search may become aware of the difference between Scottowels and the other brands and group the items in the alternative form. Further research

would help clarify this by investigating whether a more or less detailed examination of the photograph by the respondent resulted in a different perception.

APPENDIX 15

UNIVARIATE ANALYSIS OF THE GROUPING OF ITEMS

To better understand how respondents categorised the competing "brands", the average scores given to each of the items on each of the attributes were analysed (as shown in tables App15-1 to App15-6). This univariate analysis shows similarities to the multivariate analysis undertaken through cluster analysis, particularly on the branding dimensions which were consistently used by respondents to group the 3 brands in each product field as a distinct category from the retailer labels.

When considering the attributes elicited from respondents about bleach (table App 15-1), 5 of the 9 statements are factual rather than opinion (ie this is a branded product, this is not a supermarket brand, this had been advertised, this looks familiar, this cannot only be bought in the bigger shops). On these 5 statements, the clustering of competing items reflects that recorded by the cluster analysis at the 2 cluster level. Thus at the elicitation stage of this research if these 5 factual statements were the only ones to come through, the univariate results would have made the cluster analysis stage redundant. When now considering the 3 physical product statements, (thick bleach, high quality, multipurpose) only 2 of these statements (thick bleach, high quality) show groupings which tie in with the cluster analysis results. It is interesting to note that comments, such as this one, were

obtained from the elicitation stage which did not give a clustering solution similar to that resulting from multivariate analysis. As so few attribute statements were used, the cluster analysis was not repeated for different combinations of attributes, but instead attention was focused upon averaging the results across several of the similarly associated statements (eg product comments).

All of the average scores for each product field have been presented in tables App 15-1 to App 15-6 with the polarity of each statement consistently showing the brands always at the upper end of the scales.

The bleach results show that when averaging the physical product comments, the brands clearly form a unique cluster. This also occurs when averaging the branding comments and when averaging all of the product related comments. The same brands vs retailer label structure is also recorded when averaging the non-product comments.

The toilet paper results (table App15-2) are the first ones to show the Sainsbury own label product being at the top end of the own label group. However, only on the statement "this is good quality packaging" does this own label start to approach the branded domain. Interestingly across all of the statements the brands are consistently separated from the retailer labels. When examining the scores which have been averaged over several attributes, it becomes clear that Andrex is perceived as a premium brand

compared with Kleenex Velvet and Dixcel. Furthermore from this averaging procedure it would appear that the Sainsbury own label item is a premium own label due to product related reasons.

The washing up liquid results in table App 15-3 are interesting in so far as 2 of the 10 statements (would catch my eye on the shelf, not from the bigger shops) do not give the 3 cluster structure seen on all the other statements (ie brands, own labels, generics). Averaging the packaging comments provides the clearest indication of the brands, own labels, generics clusters, as was also recorded by the multivariate analysis. Across the physical product comments, the brands emerge as a distinct cluster, albeit the own labels are not markedly dissimilar from the generics. When averaging the scores across the branding comments, the brands emerge as a clear cluster and 2 of the generics form a group perceived as dissimilar from the cluster consisting of the 3 own labels plus Fine Fare generic.

An analysis of the aluminium foil results in table App 15-4 shows that the dimension primarily separating the 3 brands from the retailer labels is the average of the branding comments. Across the average of the packaging statements the brands are perceived as being similar to Sainsbury and Tesco own label. Across the average of all of the product comments the 3 generics and Fine Fare own label form a cluster (as was the case in the multivariate analysis)

while again Sainsbury and Tesco own label merge with the 3 brands. The average of the non-product comments shows Alcan as a unique premium item.

A consideration of the kitchen towels scores in table App 15-5 again brings out the issue of Scottowels being an economy brand (as discussed in Appendix 14). Across the average of the packaging comments (and also across the average non-product comments), Kleenex Maxi Dri and Quilted Fiesta form a distinct cluster with Scottowels being perceived as more similar to the own labels. It is the average of the branding comments (and also at a broader level the average of the product comments) that show respondents categorising Scottowels as being part of a brands cluster.

The disinfectant results in table App 15-6 show that only 1 of the 2 physical product comments (this would kill more germs) result in respondents categorising the items as brands versus retailer labels. The average of the packaging comments shows respondents perceiving the brands and own labels as a similar category, distinct from the generics (albeit no clear clustering is evident on "this is a convenient size"). A similar perception of market structure (brands versus retailer labels) is seen across the average of all the product comments and also across the non-product comments.

Abbreviations used in tables

Domest = Domestos

Kleen = Kleenex Velvet

S'light = Sunlight

P'olive = Palmolive

Snap's = Snappies

Kleen = Kleenex

Fiest = Fiesta

Scots = Scottowels

L'guard = Lifeguard

SOL = Sainsbury Own Label

TOL = Tesco Own Label

IOL = International Own Label

FFOL = Fine Fare Own Label

PG = Presto Generic

TG = Tesco Generic

FFG = Fine Fare Generic

* = Attribute polarity and scores reversed.

Physical product comments

This is a thick bleach	4.1	4.1	3.9	2.5	2.6	2.6	2.4	2.7
This is high quality *	4.1	3.7	3.8	3.3	3.2	3.0	2.8	2.9
This is a multi-purpose bleach	3.6	3.2	3.4	3.5	3.4	3.3	3.2	3.2
AVERAGE PHYSICAL PRODUCT COMMENTS	3.9	3.7	3.7	3.1	3.1	3.0	2.8	2.9

Branding comments

This is a branded product	4.5	4.4	4.4	2.4	2.4	2.4	2.1	2.3
This not a supermarket brand *	4.2	4.1	4.2	1.3	1.3	1.7	1.6	2.7
AVERAGE BRANDING COMMENTS	4.4	4.3	4.3	1.9	1.9	2.1	1.9	2.5

Packaging comments

This bleach container looks easier to hold	4.2	4.2	3.3	3.5	2.3	2.4	2.5	3.1
AVERAGE PRODUCT COMMENTS	4.2	4.1	3.8	2.8	2.4	2.5	2.4	2.8

Promotion comments

This has been advertised	4.7	4.4	3.6	2.3	2.3	2.1	2.1	1.9
This looks familiar	4.7	4.0	3.9	3.5	3.1	2.5	3.3	1.9

Place comments

This cannot only be bought in the bigger shops *	3.6	3.3	3.4	2.4	2.5	2.7	2.6	3.1
AVERAGE NON PRODUCT COMMENTS	4.3	3.9	3.6	2.7	2.6	2.4	2.7	2.3
AVERAGE ALL COMMENTS	4.3	4.0	3.7	2.8	2.5	2.5	2.6	2.6

Table App 15-1: Average raw scores for bleach

Physical product comments

This is a soft paper

4.5	4.4	4.2
-----	-----	-----

 | 3.6 3.4 3.4 | 3.0 3.2 3.1

Larger number sheets/roll

4.0	3.6	3.5
-----	-----	-----

 | 3.1 2.8 2.7 | 2.3 2.6 2.7

AVERAGE PHYSICAL

PRODUCT

COMMENTS

4.3	4.0	3.9
-----	-----	-----

 | 3.4 3.1 3.1 | 2.7 2.9 2.9

Packaging comments

Is standard size pack

4.1	4.1	4.0
-----	-----	-----

 | 3.1 3.6 3.6 | 3.4 2.8 2.5

Not a plain pack*

4.4	3.9	3.9
-----	-----	-----

 | 3.5 2.3 2.2 | 1.8 2.3 1.6

Good quality packaging*

4.0	3.9	3.8
-----	-----	-----

 | 3.5 3.1 3.1 | 2.9 3.0 3.3

AVERAGE PACKAGING

COMMENTS

4.2	4.0	3.9
-----	-----	-----

 | 3.4 3.0 3.0 | 2.7 2.7 2.5

Branding

Is a branded product

4.6	4.5	4.4
-----	-----	-----

 | 3.0 2.6 2.7 | 2.1 2.4 2.0

Not a supermarket brand*

4.3	4.3	4.1
-----	-----	-----

 | 1.5 1.9 1.5 | 1.9 2.6 2.1

AVERAGE BRANDING

COMMENTS

4.5	4.4	4.3
-----	-----	-----

 | 2.3 2.3 2.1 | 2.0 2.5 2.1

AVERAGE PRODUCT

COMMENTS

4.3	4.1	4.0
-----	-----	-----

 | 3.0 2.8 2.7 | 2.5 2.7 2.5

Promotion comments

Has been advertised

4.8	3.9	3.6
-----	-----	-----

 | 2.2 2.1 2.0 | 2.0 2.0 1.9

Place comments

Cannot only be bought in the bigger shops

3.9	3.7	3.7
-----	-----	-----

 |

2.5	2.8	2.7
-----	-----	-----

 |

2.8	3.0	2.6
-----	-----	-----

Price comments

Doesn't look economy* type product

4.0	3.9	3.7
-----	-----	-----

 | 2.6 2.6 2.5 | 2.0 1.9 1.7

AVERAGE NON-PRODUCT

COMMENTS

4.2	3.8	3.7
-----	-----	-----

 | 2.4 2.5 2.4 | 2.3 2.3 2.1

AVERAGE ALL

COMMENTS

4.3	4.0	3.8
-----	-----	-----

 | 2.7 2.6 2.6 | 2.4 2.5 2.3

Table App 15-2: Average Raw Scores for Toilet Paper

Physical product comments

Concentrated wash up liquid	4.2	3.9	3.8	2.8	2.8	2.8	2.6	2.6	2.6
Looks as if will get dishes clean	3.8	3.8	3.9	3.0	3.1	3.0	2.7	2.5	2.5
Would smell fresh	4.0	3.8	3.7	2.8	2.9	2.8	2.7	2.7	2.7
AVERAGE PHYSICAL PRODUCT COMMENTS	4.0	3.8	3.8	2.9	2.9	2.9	2.7	2.6	2.6

Packaging comments

Not plain pack*	4.1	4.3	4.2	3.2	3.1	3.4	1.6	1.5	1.9
Attractive pack	3.7	3.9	3.8	2.7	2.7	2.9	2.1	2.0	1.9
Eye catching	4.1	3.9	3.8	2.8	2.6	2.6	2.8	2.1	2.0
AVERAGE PACKAGING COMMENTS	4.0	4.0	3.9	2.9	2.8	3.0	2.2	1.9	1.9

Branding comments

Branded product	4.6	4.6	4.6	2.5	2.4	2.5	2.1	2.0	2.0
Not supermarket brand*	4.1	4.1	4.1	1.4	1.5	1.6	2.0	2.9	3.2
AVERAGE BRANDING COMMENTS	4.4	4.4	4.4	2.0	2.0	2.1	2.1	2.5	2.6
AVERAGE PRODUCT COMMENTS	4.1	4.1	4.0	2.6	2.6	2.7	2.3	2.2	2.4

Promotion comments

Well known name	4.7	4.5	4.6	3.6	3.3	3.0	2.3	1.9	1.8
-----------------	-----	-----	-----	-----	-----	-----	-----	-----	-----

Place comments

Not from the bigger shops*	2.4	2.5	2.5	1.9	2.2	2.5	2.5	3.1	3.4
AVERAGE NON PRODUCT COMMENTS	3.6	3.5	3.6	2.8	2.8	2.8	2.4	2.5	2.6
AVERAGE ALL COMMENTS	3.9	3.8	3.8	2.7	2.7	2.8	2.4	2.4	2.5

Table App 15-3: Average raw scores for washing up liquid

Alcan Snap's Hygex SOL TOL FFOL PG TG FFG

Physical product comments

Would feel confident cooking with this 4.3 3.8 3.4 | 4.1 4.1 3.6 | 3.1 3.3 3.6

Packaging comments

This is a colourful pack 4.1 4.1 3.6 | 3.9 4.1 1.8 | 1.7 1.7 3.1

Is an attractive pack 3.9 3.7 3.2 | 3.6 3.8 | 2.5 2.0 2.1 2.6

This does not look cheap packaging * 4.1 3.9 3.4 | 3.4 3.8 2.6 | 2.0 2.0 2.4

AVERAGE PACKAGING COMMENTS 4.0 3.9 3.4 | 3.6 3.9 | 2.3 1.9 1.9 2.7

Branding comments

Is a branded product 4.6 4.0 | 3.5 3.1 3.2 | 2.6 2.6 2.4 2.5

This is not a supermarket brand * 3.9 3.7 3.7 | 1.4 1.5 2.1 | 3.2 2.5 2.1

AVERAGE BRANDING COMMENTS 4.3 3.9 3.6 | 2.3 2.4 2.4 | 2.9 2.5 2.3

AVERAGE PRODUCT COMMENTS 4.2 3.9 3.5 | 3.3 3.5 | 2.8 2.6 2.6 2.9

Promotion comments

This has been advertised 3.9 2.9 2.4 | 2.5 2.6 2.2 | 2.2 2.3 2.4

Looks familiar 4.4 2.9 2.0 | 4.0 3.9 3.2 | 1.8 2.8 3.4

Place comments

Cannot only be bought in bigger shops * 3.3 3.0 3.2 | 2.5 2.4 2.9 | 3.2 3.0 2.9

AVERAGE NON PRODUCT COMMENTS 3.9 2.9 2.5 | 3.0 3.0 2.8 | 2.4 2.7 2.8

AVERAGE ALL COMMENTS 4.1 | 3.4 3.0 | 3.2 3.3 | 2.8 2.5 2.7 2.9

Table App 15-4: Average raw scores for aluminium foil

Kleen Fiest Scots SOL TOL FFOL FFG PG TG

Physical product comments

Has a larger number of sheets/roll

3.6	3.6
-----	-----

 3.0 | 3.0 2.9 3.2 | 2.9 2.7 2.6

Packaging comments

This packaging is good quality

4.0	4.0
-----	-----

3.3	3.2	3.0	3.3
-----	-----	-----	-----

 |

2.8	2.8	2.8
-----	-----	-----

This is an attractive pack

3.9	4.1
-----	-----

3.2	3.0	2.7	3.4
-----	-----	-----	-----

 |

2.2	2.4	2.4
-----	-----	-----

Would catch my eye on shelf

4.1	4.1
-----	-----

 3.1 | 3.2 2.8 3.4 | 2.7 2.7 2.4

AVERAGE PACKAGING COMMENTS

4.0	4.1
-----	-----

 3.2 | 3.1 2.8 3.4 | 2.6 2.6 2.5

Branding comments

Is a branded product

4.6	4.5	4.0
-----	-----	-----

 3.2 2.8 2.9 | 2.4 2.6 2.3

This is not a supermarket product *

3.7	3.7	3.8
-----	-----	-----

 1.3 1.7 1.4 | 1.9 2.8 2.7

AVERAGE BRANDING COMMENTS

4.2	4.1	3.9
-----	-----	-----

 2.3 2.3 2.2 | 2.2 2.7 2.5

AVERAGE PRODUCT COMMENTS

3.9	3.9	3.4
-----	-----	-----

2.8	2.7	2.9
-----	-----	-----

 |

2.6	2.7	2.5
-----	-----	-----

Promotion comments

This looks familiar

4.2	4.3
-----	-----

 2.5 | 3.6 2.8 3.2 | 3.3 2.1 2.6

Place comments

Cannot only be* bought in bigger shops 3.1 2.9 3.0 | 2.4 2.7 2.6 | 2.8 3.2 3.0

AVERAGE NON PRODUCT COMMENTS

3.7	3.6
-----	-----

2.8	3.0	2.8	2.8
-----	-----	-----	-----

 |

3.1	2.7	2.8
-----	-----	-----

AVERAGE ALL COMMENTS

3.8	3.8
-----	-----

3.1	2.9	2.8	2.9
-----	-----	-----	-----

 |

2.9	2.7	2.7
-----	-----	-----

Table App 15-5: Average raw scores for kitchen towels

Zal Ibcoll L'guard SOL IOL TOL FFG PG

Physical product comments

This would kill
more germs

3.1	3.4	3.2
-----	-----	-----

 |

2.8	2.8	2.8	2.7	2.7
-----	-----	-----	-----	-----

Would smell
of pine 4.0 3.5 3.1 | 4.0 3.8 3.8 | 3.8 3.6

AVERAGE PHYSICAL
PRODUCT
COMMENTS 3.6 3.5 3.2 | 3.4 3.3 3.3 | 3.3 3.2

Packaging comments

Is convenient
size 3.5 3.4 3.3 | 3.6 3.5 3.4 | 3.5 3.4

Easy to pour
out of this 3.1 3.4 3.5 | 3.8 3.7 4.0 | 3.1 3.2

Not a flimsy
container * 3.4 3.4 3.4 | 3.4 3.3 3.1 | 2.9 3.1

Would catch my
eye on shelf

3.4	3.4	3.2
-----	-----	-----

 |

3.3

 |

2.9	2.8
-----	-----

 |

2.3	2.1
-----	-----

AVERAGE PACKAGING
COMMENTS

3.4	3.4	3.4
-----	-----	-----

 |

3.5	3.4	3.3
-----	-----	-----

 |

3.0	3.0
-----	-----

Branding comments

This is not a
supermarket
brand *

4.1	4.1	4.0
-----	-----	-----

 |

1.4	1.6	1.5	1.8
-----	-----	-----	-----

 |

2.9

AVERAGE PRODUCT
COMMENTS

3.7	3.7	3.5
-----	-----	-----

 |

2.8	2.8	2.7	2.7	3.0
-----	-----	-----	-----	-----

Promotion comments

This is a well
known name 4.2 4.3 4.0 | 3.7 3.1 3.3 | 2.7 2.1

Place comments

Cannot only be
bought in
bigger shops* 3.5 3.4 3.3 | 2.3 2.6 2.5 | 2.6 3.2

AVERAGE NON PRODUCT
COMMENTS

3.9	3.9	3.7
-----	-----	-----

 |

3.0	2.9	2.9	2.7	2.7
-----	-----	-----	-----	-----

AVERAGE ALL
COMMENTS

3.8	3.8	3.6
-----	-----	-----

 |

2.9	2.8	2.8	2.7	2.8
-----	-----	-----	-----	-----

Table App 15-6: Average raw scores for disinfectant

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