A LOYALTY SEGMENTATION MODEL FOR THE SOUTH AFRICAN MEN'S RETAIL CREDIT FASHION INDUSTRY

by

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DEDICATED TO

THOSE WHO ARE NO LONGER WITH US
MY GRANDFATHER, MY MOTHER AND BIBINHA

AND

TO MY WIFE AND CHILDREN
JANE, GINA AND LUKE

AND

TO MY GRANDMOTHER

SUMMARY

This study proposes a loyalty segmentation model for the South African men's retail credit fashion industry. Retailers operate in a highly competitive market where competitors strive for share-of-wallet of the same customer. The likely victor in this battle is the retailer who best understands customer needs, purchase behaviour and utilises this information to influence customer's spending patterns.

The research method comprised a postal survey to randomly selected customers. The process included the construct of the loyalty model which comprised four input models, namely the Competitiveness, Brand Experience, Referral and Credit Appeal models as well as a number of customer demographics.

The Desert scenario, where extreme conditions exist, is used as the analogy for the Segmentation model, with four macro segments (Desert, Oasis, Sand Storm, Rain Clouds) being used to categorise respondents along two criteria, namely that of Value and Relative Risk. Segment characteristics are used to segment the retailer's database.

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INTRODUCTION TO THE STUDY

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1.1 INTRODUCTION

Several elements are addressed in this chapter. *Firstly* the background of the study is provided, and flowing from that, the reason for the study is advanced and the research problem is defined. *Secondly*, the objectives of the study, based on the problem definition, are presented. *Thirdly*, the methodology used to attain the objectives is explained. Finally, an orientation outlining the main components of the research project is presented.

1.2 BACKGROUND

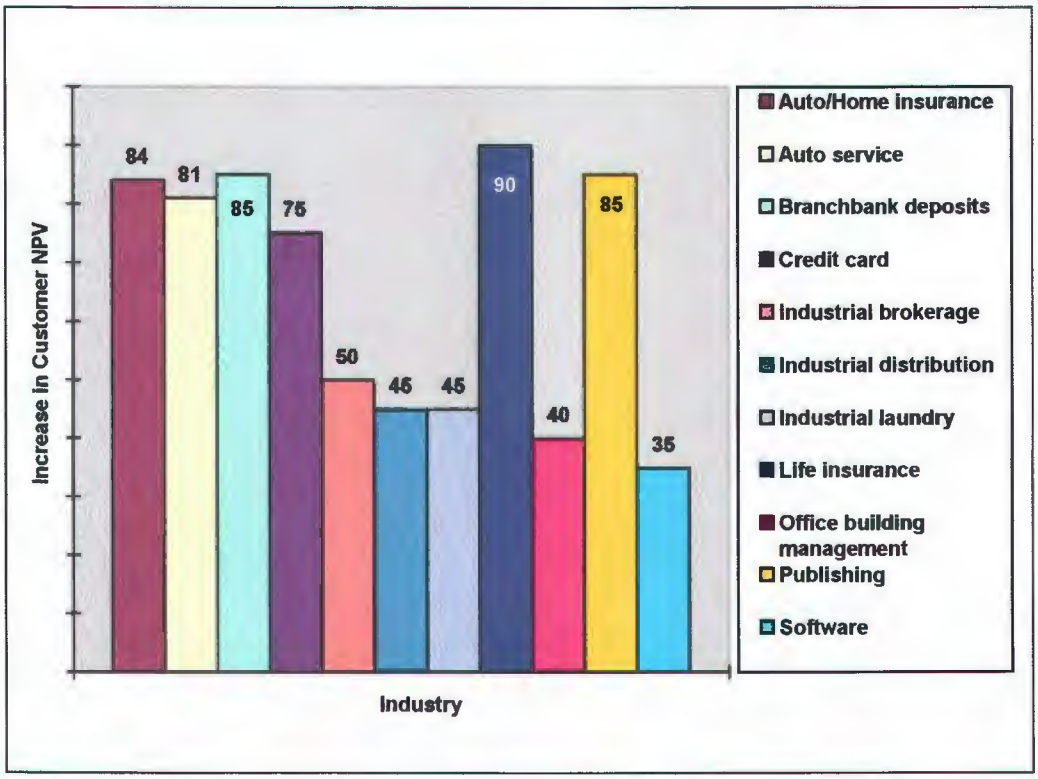
Levitt (1986: xxii) states that the purpose of a business is to get and keep a customer. Without solvent customers in some reasonable proportion, there is no business. Treacy and Wiersema (1997: xiii) go further when they refer to customer-intimate companies which cultivate relationships and do not merely pursue one-time transactions. These companies specialise in satisfying the unique needs of their customers, which they often only recognise by virtue of their close relationship with - and intimate knowledge of - these customers.

Indeed, the importance of loyalty is perhaps best summarised by Reichheld (1996: 2) when he states that customer loyalty is too important to delegate. It has a crucial effect on every constituency and aspect of a business system. He goes on to say that the responsibility for customer retention and defection belongs squarely on the chief executive officer's desk, where it can get the same kind of attention that is lavished on stock price and cash flow. Consistently high retention can create tremendous competitive advantage, boost employee morale, produce unexpected bonuses in productivity and growth, and even reduce the cost of capital.

Reichheld (1996:33) suggests that an organisation that raises its customer retention rate by as much as five percentage points could increase the value of an average customer by twenty five to one hundred percent. This percentage range represents a substantial increase in customer value and ultimately profitability for any industry. The economics of customer retention emphasises the fact that this matter can no longer be ignored.

Figure 1.1 illustrates the impact of a five percentage point increase in retention rate on customer Net Present Value (NPV) across various industries. In all cases the improvement in the value of the customer is substantial.

FIGURE 1.1: IMPACT OF A 5 PERCENTAGE POINT INCREASE IN RETENTION RATE ON CUSTOMER NET PRESENT VALUE (NPV)



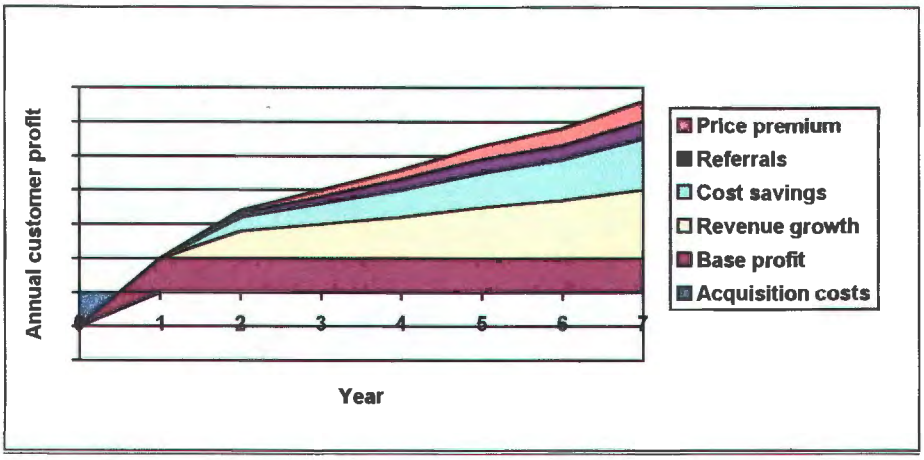
Source: Reichheld F., *The Loyalty Effect*, 1996: 36

Peppers and Rogers (1997: 36) state that if one sees a single customer not as a one-time transaction but a series of transactions over time, not as an on-off switch but as a volume dial, then one can think of the task of generating a greater share of the customer's business as maximising an individual's lifetime value to the business.

Wayland and Cole (1997:4) argue that customer relationships are assets which should be evaluated and managed as rigorously as any financial or physical assets. Wayland and Cole stress that it is the relationship which is the asset, and not the customer. The relationship gives rise to future cash flows that we can estimate and to which we can assign a value.

Reichheld (1996:39-62) states that although every company is unique, the following generic model, as depicted in figure 1.2, captures most of the important economic effects of customer loyalty: acquisition cost, revenue growth, cost savings, referrals, and price premium. In retailing, customer acquisition costs include the expense of opening a new store, as well as the cost of loss-leader pricing to draw new customers. Promotional activity in this respect is planned as an acquisition costs.

FIGURE 1.2: WHY LOYAL CUSTOMERS ARE MORE PROFITABLE



Source: Reichheld F., *The Loyalty Effect*, 1996: 39 (adapted)

Reichheld states that the operating-cost advantages of customer loyalty are particularly strong in retailing. A shop selling to a constantly shifting set of customers needs a lot more stock than a shop serving the same people year after year. The former has to guess which fashions, colors, and sizes will appeal to a group of total strangers; the latter knows its customers, their needs and tastes, even their waist sizes. A stable set of customers can help to streamline stock management, minimise markdowns, and simplify capacity forecasting. One advantage of holding onto one's customers is that in most businesses customer spending tends to accelerate over time. In retailing, for example, customers become more familiar with the store's full product line. After all, the man who repeatedly buys shirts from a specific retailer will also notice that the retailer carries shoes.

A further important benefit of long-term customer retention is that satisfied customers recommend the business to others. Reichheld suggests that customers who show up on the strength of a personal recommendation tend to be of higher quality - that is, to be more profitable and stay with the business longer - than customers who respond to conquest

advertising, sales pitches, or price promotions. Cross and Smith (1995: 59) support this view when they state that the highest form of bonding is when customers take up the advertising megaphone on the retailer's behalf. Cross and Smith suggest that if your customers or supporters think highly enough of you to refer you to others, you have achieved the highest level of trust.

Reichheld (1996: 49) also points out that in most industries including retail, old customers effectively pay higher prices than new ones. This is sometimes the result of trial discounts available only to new customers. Retailers often use special introductory offers of this kind sometimes to the consternation of established customers, who feel they're the ones who deserve to be rewarded. More often, however, the price difference is self selected. A retailer offers a discount coupon to all customers but finds that mature customers are less likely to use it. In retailing the loss-leader, an item that is sold for less than its cost in order to attract customers, works on the higher probability that customers who come in to get the bargain will buy other products with higher margins. However, according to Reichheld, studies show that loss-leaders make up a small fraction of an old customer's shopping basket. Customers who've been around long enough to learn a company's procedures and acquaint themselves with its full product line, will almost invariably get greater value from a business relationship.

It is appropriate to consider Reichheld (1996: 2) when he contemplates the converse effect to loyalty which is characterised by persistent defections, and means that former customers - people convinced that the company offers inferior value - will eventually outnumber the company's loyal advocates and dominate the collective voice of the marketplace. When that moment arrives no amount of advertising, public relations, or ingenious marketing will prop up pricing, new customer acquisitions, or the company's reputation - the end of the business is in sight.

It is now appropriate to consider the industry in which Markhams (the retailer) operates.

1.3 A COMPETITIVE INDUSTRY

The South African retail fashion industry is highly competitive due to the existence of many retailers serving the same markets. Hallberg (1995: 4-5) states that a marketer's best customers are also the competitors' best customers. Increasingly the most valuable

consumers have no dominant brand. "Loyal" high-profit buyers, those who give at least half their purchases to a single brand, are rapidly becoming non-factors in the brand franchise.

In South Africa, a customer typically holds simultaneous accounts at various retailers. A recent survey carried out by the Foschini Group amongst 593 Foschini Group customers, indicates the following simultaneous holding of accounts (Table 1.1):

TABLE 1.1: FOSCHINI GROUP CUSTOMERS' ACCOUNT HOLDING ACROSS THE VARIOUS FASHION RETAILERS IN SOUTH AFRICA

RETAILER	PERCENTAGE OF CUSTOMERS HOLDING ACCOUNTS
Foschini (TFG*)	62%
Edgars	43%
Markhams (TFG*)	22%
Woolworths	19%
Truworths	15%
American Swiss (TFG*)	13%
Pages (TFG*)	11%
Sterns (TFG*)	8%
Jet Stores	6%
Sales House	6%
Milady's	5%
Many others	<5%

Source: Foschini Group Customer Survey, October 1997

* Companies within The Foschini Group (TFG)

The above cross-holding of accounts is a worrying factor not so much with regard to market share but, more importantly, from a perspective of *share of customer spending*. The question retailers should be asking is, "In such a fragmented market, what is the extent of benefit from each customer's spending within my business category?".

Sasser et al, (1997: 10) state that for years managers have been led to believe that share of market is the primary driver of profitability. The PIMS (Profit Impact of Market Share) studies of the mid-1970s reinforced this notion. But in situation after situation, Reichheld and Sasser (1990: 10-11), found this not to be true. Based on the collection of the factual experiences of a number of organisations, they identified customer loyalty, more specifically share of customer spending in the category, to be more often associated with high profits and rapid growth. Peppers and Rogers (1997: 28) support this view when they state that marketers are rethinking the task of selling, visualising it in terms of share of customer, rather than share of market. This paradigm shift is generating not only new insights and marketing strategies, but totally new ways of doing business, and new businesses as well.

Morgan and Hunt (1994: 20-38) propose the Key Mediating Variable Model in measuring customer loyalty. This model attempts to explain the relationship between independent tire retailers and tire suppliers in the USA. Morgan and Hunt argue that "what should be central to understanding relationship marketing is whatever distinguishes productive, effective, relational exchanges from those that are unproductive and ineffective...".

Morgan and Hunt's KMV model focuses on one party in the relational exchange, and that party's relationship commitment and trust. Because it is hypothesised that relationship commitment and trust are key constructs, they are positioned as mediating variables between five important antecedents (i.e. relationship termination costs, relationship benefits, shared values, communication and opportunistic behaviour) and five outcomes (i.e. acquiescence, propensity to leave, co-operation, functional conflict, and uncertainty).

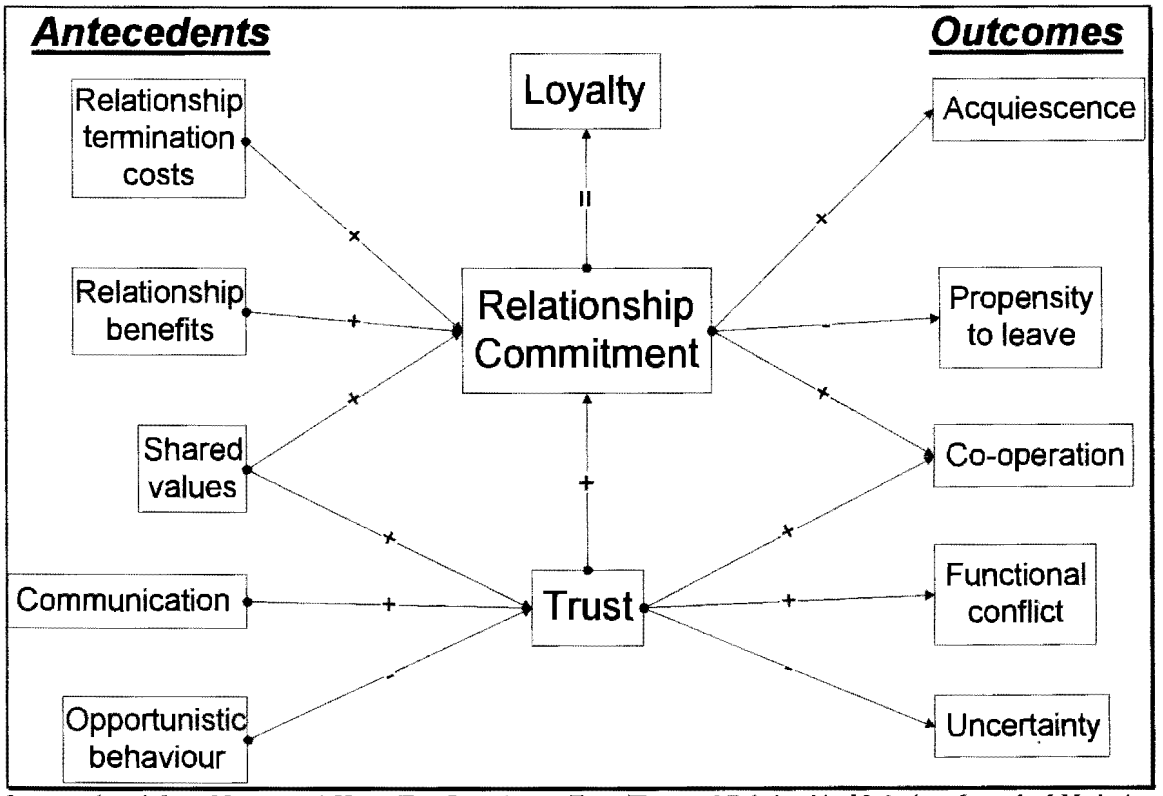
Figure 1.3 illustrates the relationship between the variables in the KMV model. Essentially, for loyalty to be present in a relationship, it is vital that both trust and commitment be present. Morgan and Hunt defines commitment as an enduring desire to maintain a valued relationship to the point where the committed party wants the relationship to endure indefinitely, and is willing to work at maintaining it. It is proposed that relationship commitment is central to relationship marketing.

Aaker (1996: 113) states that a relationship, as in relationship marketing, is based on getting close to customers, understanding their problems, and developing responsive programs. Sasser et al. (1997: 69) supports this view when he refers to relationship marketing as a

process that advocates actions to seek long term relationships with customers rather than merely carry out transactions with them. Aaker et al. (1998:742) refers to one's understanding of customers tastes and preferences on an individual basis as the foundation of relationship marketing. According to Aaker, relationship marketing combines elements of general advertising, sales promotion, public relations, and direct marketing to create more effective and more efficient ways of reaching consumers. It centers on developing a continuous relationship with consumers across a family of related products and services. Morgan and Hunt (1994: 22) propose the following definition: " Relationship marketing refers to all marketing activities directed towards establishing, developing, and maintaining successful relational exchanges".

It seems that the guiding premise for relationship marketing implies the need to know the customer on a one-to-one basis. This implies knowing who he is (demographics), his needs, wants and perhaps, more importantly, his priorities. In other words, it means becoming quite intimate with the customer. Only then can one start the process of developing a relationship over an extended period of time. Critical to this process is the database, which allows for the gathering of data and specific information about each and every customer.

FIGURE 1.3: THE KMV MODEL OF RELATIONSHIP MARKETING



Source: adapted from Morgan and Hunt, The Commitment-Trust Theory of Relationship Marketing, Journal of Marketing, July 1994, 22.

Jones and Sasser (1995:88-99) have a more concerning view on the matter of customer loyalty when they state that "according to conventional wisdom, the link between satisfaction and loyalty in markets where customers have choices is a simple, linear relationship: As satisfaction goes up, so does loyalty. But we discovered that the relationship was neither linear nor simple."

This view is also voiced by Hofmeyer (1996: 32-33) when he confirms that the Research Survey Group research into customer satisfaction and loyalty also shows that satisfaction is a poor predictor of loyalty. Hofmeyer suggests that customer satisfaction is only one aspect of what creates really committed customers, and he proposes that the key is to recognise that true commitment only comes about when there is an emotional bond between customer and product or service. Hofmeyer also brings a second factor into the equation when he proposes that the power of competitive appeals is the measure used to establish true commitment.

This leads to Markhams' problem which is defined next.

1.4 PROBLEM DEFINITION

Markhams, a retailer of men's apparel, is a company within the Foschini group of companies. Markhams credit account base comprises 395,000 customers, Group Credit Management Report (Feb.1999), who in turn account for 71.8% of the Markhams sales transactions (Foschini Group, Turnover System: Feb.1999).

Markhams treats all customers the same way from a marketing point of view. The marketing investment into the relationship with the customers (eg. Communication, mailers, promotions, discounts, etc.) is the same for all, irrespective of whether the customer is Loyal (more profitable) or not (less profitable).

As Woolf (1996:11) clearly puts it, "Customers buy different items when they visit a store. They spend different amounts. Some customers visit regularly, some infrequently, and some just once. Some were in your store today; others last shopped with you months ago. Some come because you advertised specials, some because its convenient, and others come because they prefer your total offering. Customers are different and they yield different

profits - and losses." - the message is clear - one must differentiate between customers because they ARE different.

The problem that exists is that Markhams is currently unable to differentiate between customers on the basis of Loyalty.

1.4.1 Primary objective

The primary objective is to develop a Loyalty Segmentation model for the South African men's retail credit fashion industry.

This model will allow Markhams to:

- Identify the different segments, in its credit customer base, from a loyalty point of view.
- Develop the appropriate customer retention programs for highly valuable customers. These are programs that nurture the relationship with the valuable customers and which, in turn, allow Markhams to retain their custom.
- Develop customer value migration programs for customers who show the potential to become good/valuable customers. These are programs that encourage less valuable customers and potentially valuable ones to move onto the next higher level of value/loyalty.
- Develop harvesting programs for marginal customers. These are programs that take into account the probability that a customer is not profitable and unless the investment in this segment is in proportion to the revenue, a marginally profitable customer may in fact become unprofitable.

Ideally Markhams wants to retain its best customers and make its existing customers more valuable (customer acquisition is another facet of Markhams' objectives but this topic is not covered in the ambit of this research). In the process Markhams wants to minimise costs and invest, through marketing programs, in those segments where it can expect a good return on investment in the short to long-term.

1.4.2 Secondary objectives

The secondary objectives comprise, in their own right, a set of independent diagnostic and value measurement tools that relate and input to the segmentation model. These are to:

- Develop the Brand Experience (BE) model. This model is an adaptation of the KMV model. It will allow Markhams to measure different attributes of the customer's experience with the Markhams brand, service and product range and to monitor it over a period of time. This model summarises the level of customer satisfaction in relation to the Markhams Brand Experience.

- Quantify the degree of market competitiveness amongst Markhams' customers. In other words, the extent to which the competition impacts on Markhams' share-of-wallet.

- Construct a predictive model of credit utilisation amongst Markhams customers. This will serve as the basis for the segmentation model as per the primary objective. Credit Utilisation is to a large extent the financial paradigm for credit customers and serves as the measure of loyalty.

- Identify areas for further study.

1.5 DESCRIPTION OF THE METHODOLOGY FOLLOWED

Quantitative research into the area of customer loyalty was initiated two years ago on the Markhams database (refer to research questionnaire in Appendix A). In essence, the research concept measured customer attitudes to the Markhams brand, as detailed in chapter 4, and their inclination to spend in the future (between 1996 and 1998). Two years later the actual spending at Markhams by the research sample, which comprised 416 respondents (Markhams customers), is measured and a model of Loyalty is derived (the primary objective).

The logic in this approach, using actual purchases made instead of stated intention, is supported by Carr (1999: 18) when he mentions that "...studies indicate that customers who consider themselves "highly satisfied" with a company are much more likely to purchase the company's products than those who say they are just "satisfied". But those

studies have a shortcoming: they focus on customer's stated purchase intentions, not on their actual buying behaviour. As a result, it's been hard to draw solid conclusions about the economic impact of different levels of satisfaction".

The reason for the two year period as the time frame for purchases evaluation, is to take into account the retail industry's dependency on the various seasons of the year. The two year period allows customers to make at least a purchase in the subsequent equivalent season due to possible pent-up demand, for example, a customer is likely to purchase at least once every two summers. Therefore, this two year period allows for the fashion product "wearing-off" of one season's fashion and product quality, and for the customer to make a subsequent purchase. The Markhams database contains the customer's purchase details, as well as the life-time purchase value (LTV) (that is, 1998's LTV less 1996's LTV = purchases for the two year period). The two year period allows for a realistic purchase average.

The target sample was selected on the systematic sampling method. This method involves systematically spreading the sample through the list of population account numbers, whereby every nth person is selected for the sample. The response sample, which is representative of the Markhams database, comprises 416 respondents (16.6% of the target sample).

The main statistical procedures to be used in the analysis comprises factor analysis (principle component analysis with and without rotation) and multiple regression (least square method). These procedures, amongst others, will be detailed in chapter 4.

1.6 DEMARCATION OF STUDY

The research project is divided into five chapters. **Chapter one** constitutes the introduction to the study, which results in a general discussion of the key issue, loyalty, affecting the environment in which the study is conducted. Furthermore, the problems addressed by the study are defined, the objectives, primary and secondary, are set out and a very brief description of the methodology to be followed is discussed.

Theory

In **chapter two**, the role of credit in the retail industry is discussed. Reference is made to findings of past credit research conducted within the Foschini Group (secondary data), as a

means of identifying some key patterns with regards to consumer behaviour and preferences.

In **chapter three** the theoretical base is supplied in which the development of the Loyalty model, and the various diagnostic tools inputting into this model, are discussed.

In **chapter four** the research methodology and statistical methods to be used in the process are defined.

In **chapter five** the evaluation of the primary data is presented in order to show the empirical results of the study. The underlying dimension pertaining the evaluation criteria is determined through different statistical procedures including, amongst others, factor, cluster and multiple regression analysis.

Chapter 6 consists of a summary, draws inferences from the findings, discusses limitations and offers recommendations.

CHAPTER 2

THE ROLE OF CREDIT IN THE SOUTH AFRICAN FASHION RETAIL INDUSTRY

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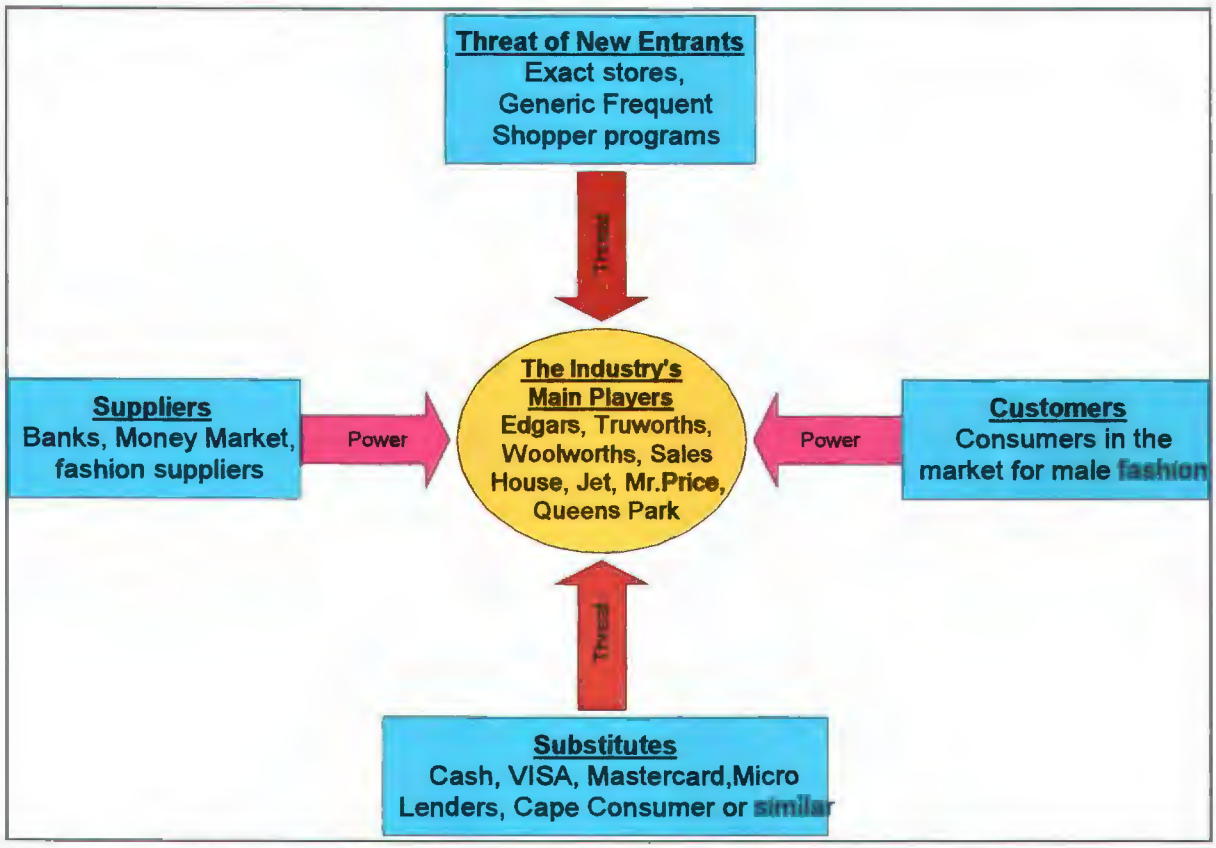
2.1 INTRODUCTION

In this chapter several elements are addressed. *Firstly*, the South African fashion retail industry and the role of the various players is analysed. *Secondly*, the role of credit in the fashion retail industry, including the granting of credit and related issues, are considered. *Thirdly*, credit is placed in context with regards to the marketing mix. *Fourthly*, consumer behaviour and needs from a credit perspective are considered and modeled.

2.2 INDUSTRY'S MAIN PLAYERS AND THE FORCES IMPACTING ON IT

Porter (1979: 1) states that competition in an industry is rooted in its underlying economics, and competitive forces exist that go well beyond the established competitors in a particular industry. Customers, suppliers, potential entrants, and substitute products are all competitors that may be more or less prominent or active depending on the industry. Porter proposes the Five Basic Forces model as adapted in figure 2.1:

FIGURE 2.1: COMPETITIVE FORCES IMPACTING ON THE INDUSTRY



Source: Adapted from Porter M. How Competitive Forces Shape Strategy. Boston: *Harvard Business Review*. March-April 1979: 1-10.

2.2.1 The industry's main players

The industry's main players comprise those who are actively competing for market share and share-of-customer in the men's fashion sector. Rivalry amongst competitors results in them constantly jockeying for position in the customers' minds, using tactics like price competition, product introduction, and advertising. Competition is fierce due to the fact that the number of players in the field are numerous and are roughly equal in size (access to channels of distribution or number of outlets) and power (capital available to fund business strategy). The fashion product lacks differentiation, particularly amongst the top players (Edgars, Truworths, Markhams and Sales House) - fashion styles and range of product tends to be similar.

More detail is covered throughout this study on the various players in the industry.

2.2.2 New entrants

New entrants to an industry bring new capacity, the desire to gain market share, and often substantial resources. The seriousness of the threat of entry depends on the barriers present and on the reaction from existing competitors. Porter identifies six major sources of barrier to entry, namely:

- Economies of scale - These economies deter entry by forcing a new entrant to come in on a large scale or to accept a cost disadvantage.

- Product differentiation - Brand identification creates a barrier by forcing entrants to spend heavily to overcome customer loyalty. Advertising, customer service, being first in the industry, and product differences are among the factors fostering brand identification.

- Capital requirements - The need to invest large financial resources in order to compete creates a barrier to entry, particularly if the capital is required for unrecoverable expenditures in advertising and research.

- Cost disadvantages independent of size - Existing companies may have cost advantages due to experience in the field, proprietary technology, assets purchased pre-inflation prices, exclusive access to best raw materials and, amongst other, favorable locations.

- Access to distribution channels - A new entrant must secure distribution channels. These could include scarce resources like shops in popular shopping centers, and shelf space in supermarkets.

- Government policy - Government can limit or even foreclose entry to industries with such controls as license requirements and limited access to raw materials.

From a competitive point of view, *Exact!* is a new chain that is about to be launched by the Foschini Group, and will compete for a share of the Markhams market. *Exact!* is in fact a repositioning of the PAGES chain that was previously relatively strong in the black market but has of late lost favor with its traditional customer base.

2.2.3 Substitutes

A substitute comprises a product or service which offers an alternative in use or application to the consumer, for example, the consumer can use cash instead of credit when making a purchase.

Frequent shopper programs like newcomer Edgars' "Cash card", "Infinity" and "Leisure Link", may seem more attractive in that they offer additional value, in the form of prizes or discounts once certain point thresholds are reached. However, in order to succeed, these programs have to invest heavily in advertising and have to tie up credible partnerships with retailers. So far none of the above have succeeded in establishing partnerships with any fashion retailer.

Substitute products abound in the credit market. The average credit-worthy consumer has a large number of credit facilities within reach. However, Markhams' credit treads where the banks fear to tread - the emerging market, characterised by low household income, poor (if any) credit references, and first-time credit applicants.

MasterCard, with its Accolades (frequent shopper) program, poses a real threat to the Markhams card, particularly amongst the middle to upper class consumers, because these individuals can accumulate points as they spend money on any kind of purchase. Eventually the consumer, who has accumulated enough points, is able to redeem the points for some valuable item such as bottles of wine, Weber braais, holidays, etc.

Cape Consumer, although limited to the Cape regional area, offers its customer base a thirty day credit facility, with the added benefit of consumers getting five percent of the value of their purchases refunded to them at the end of the year. In the Cape area, this substitute for credit poses a real threat.

The last few months of 1998 and the first two quarters of 1999 has seen an increase in cash spending at Markhams at the expense of credit. Cash poses a threat in that consumers avoid the use of the Markhams credit card and, therefore, impact on Markhams ability to earn interest and accumulate consumer purchasing information. The Markhams brand also suffers in that these consumers will not carry the card in their wallets, thus avoiding the top-of-mind awareness (and temptation) that comes with a consumer carrying the Markhams card in his wallet.

Another substitute for the Markhams credit card is the credit facility offered by micro-lenders. Wood (1999: 60-61) estimates the size of the micro lending industry in South Africa to be around 30,000 micro-lenders with a combined turnover between 6.5 billion and 8.5 billion. These operators offer credit over short periods of time at very high interest rates. Wood confirms that the interest rates charged by some of these operators could be as high as 45 percent per month. Micro-lenders take possession of their customers' bank cards, bank pin-code numbers, and identity documents to ensure payment of micro-loans; a business practice the government is unhappy with.

The more attractive the price-performance trade-off offered by the substitute, the firmer the lid is placed on industry's profit potential.

2.2.4 Power of Consumers

Customers are the ultimate arbiters of value and they are the ones that determine profits. According to Morrison and Slywotzky (1999: 137) where customers are powerful, they capture the value in the form of lower prices and/or higher utility. Suppliers are left with little value to show for their efforts. Porter mentions that consumers tend to be more price sensitive if they are purchasing products that are undifferentiated, expensive relative to their incomes, and of a sort where quality is not particularly important. Both Porter and Morrison refer to the power of consumers when groups of consumers come into play. Where consumers can organise as a group under a banner, such as the Cape Consumer card, then the group acquires power through the purchasing power of its large membership base. Cape

Consumer passes five percent of the value of the purchases back to the consumer - retailers who accept the Cape Consumer card are the ones who subsidise this benefit.

Another source of power for consumers is the case where the industry is fiercely competitive due to its many suppliers, as is the case with fashion retailers, all competing for the same share of the pie. Consumers in this case tend to play one retailer against the other by supporting those that offer price discounts and shifting their allegiance to other retailers when they too succumb to the price wars. The predictable end of season sales and extra discount as the promotion goes on, is a practice many consumers (the cherry pickers - those who buy mostly on sales) have come to appreciate and benefit from, to the detriment of the retailers.

2.2.5 Power of Suppliers

The industry has two types of suppliers: the clothing manufacturers, and the providers of finance to fund the debtors book and the various credit card facilities. Porter states that suppliers can exert bargaining power on participants in an industry by raising prices (price of garments in the case of clothing manufacturers or cost of finance in the case of funds provided by the banks), or reducing the quality of purchased goods and services. Powerful suppliers can therefore squeeze profits out of an industry unable to recover cost increases in its own prices.

The major fashion retailers appear to have succeeded in positioning themselves as providers of quality and fashionable garments. They are differentiated from the rest of the field on this basis and as well as that of credit offer. Considering that credit facilities play an important role in the purchasing process and provide a source of differentiation, they will be considered in more detail.

2.3 THE COMPETITIVE LANDSCAPE

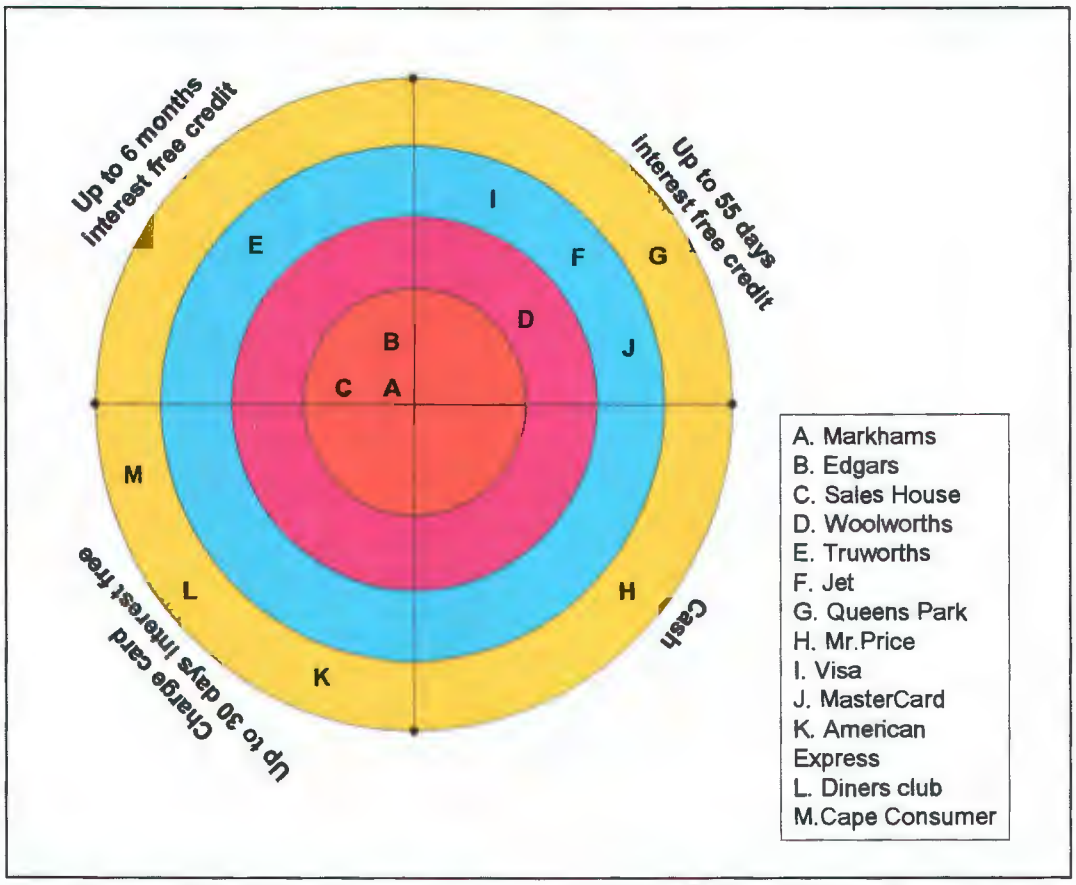
The industry's main men's fashion players in the sector are Edgars, Truworths, Woolworths, Sales House, Jet, Mr.Price and Queens Park. All these retailers are considered to be competitor's of Markhams to a greater or lesser extent.

Figure 2.2 illustrates the perceived competitiveness of the various players in relation to Markhams. The process of classification of the various players comprises an analysis, conducted typically by management, which relies on factual information (such as which player offers what payment mechanism), and a judgment call on the relative level of threat to Markhams by the named competitors/players. The objective of this analysis is to paint a picture that all involved in the analysis subscribe to and, as such, it comprises a point of reference for all strategic discussion.

Those closer to the center are seen to be stronger competitors, the converse applies to those further away from the center. Those that fall into the same quadrant/segment as Markhams will be considered to be like-competitors, particularly with reference to the payment options offered to customers. The different segments/quadrants also illustrate the competitive position one player has in relation to another, particularly if Markhams feels that "customer payment mechanism/option" could be a differentiator from a customer's perception point of view. A typical interpretation is that Markhams (A) does not perceive Mr.Price (H) to be a serious threat. Mr.Price is further away from the center and falls into a different "customer payment mechanism" quadrant/segment. Markhams offers up to six months interest free credit, whilst Mr.Price only offers the "Cash payment option" to individuals in Markhams' target market. The cash payment option is considered (by Markhams' target market) not to be as customer friendly has the Markhams offer (buy now, pay later, interest free). Yet, the mere fact that Mr.Price is positioned somewhere in the Radar Scan implies that Markhams has to keep an eye on Mr.Price as far as future strategic manoeuvre are concerned and customers perceptions of Mr.Price's total offer.

Slywotzky (1996: 63) states that what is required is a broad minded approach to viewing the competitive landscape. The radar scan defines the competitive field of vision as those business designs or processes that customers can choose from in satisfying their priorities and needs. The qualifying criteria for Markhams' purpose are, first and foremost, those businesses in Markhams' industry or processes (as in payment mechanisms) who compete for Markhams customer's share of wallet.

FIGURE 2.2: INDUSTRY PERCEPTUAL RADAR SCAN



Source: Adapted from Slywotzky A. *Value Migration*. Boston: Harvard Business Press. 1996: 68

All mentioned retailer's, with the exception of Mr.Price, have their own private label credit card facility. Mr.Price is a "cash" chain, but it does accept Visa and MasterCard as a payment method. Queens Park, Woolworths and Jet stores offer up to fifty-five days interest-free credit, whilst Edgars, Markhams, Sales House and Truworths offer six months interest-free credit, and all accept Visa and MasterCard. Some of the retailers also accept American Express and Diners Club.

Figure 2.2 depicts the various players compartmentalised by purchase facility available to customers. Although VISA, MasterCard, American Express and Diners Club are not in the business of selling fashion and therefore, under a normal field of vision would not be classified as competitors, they do compete with Markhams in that they do offer a credit/charge card facility and are perceived to be competitors for the following reasons:

- When a customer buys with one of these competing cards, Markhams loses access to the customer behaviour information that would be available from its debtors and marketing database if the customer had used a Markhams credit card instead.

- VISA and MasterCard, encourage consumers to maintain their credit balances as high as possible and pay interest (called a Revolver), as opposed to the Markhams card where Markhams tries to get consumers to pay their accounts as fast as possible so that the customer is in a buying position faster (called a Transactor).

- Markhams also makes money out of the interest portion, particularly with accounts that fall into arrears. Furthermore, there is a fee charged to Markhams by the credit card issuer when a customer purchases with a VISA, MasterCard, American Express or Diners Club. Thus these competing cards are costly and compete for a share of the interest related revenue.

- The competing credit facilities are not exclusive to Markhams, thus they give the customer further choices with regards to men's fashion purchases as compared to someone with only a Markhams card, who would only be able to purchase at Markhams for men's fashion.

- Someone carrying a Markhams card in his wallet would be continuously exposed to the Markhams brand. Markhams may lose top-of-mind awareness when someone carries competing cards instead of the Markhams card in their wallets.

2.4 THE ROLE OF CREDIT IN THE RETAIL INDUSTRY

Plastic cards have proliferated in South Africa in recent years and continue to do so as banks and retailers strive to extend payment services to the unbanked, that is those who do not qualify for a Visa or MasterCard and those who do not have a bank account of any kind. Rolfe (1996: 55) claims that there are nearly 20 million cards in issue in South Africa, this figure does however take into account all forms of payment cards - automatic teller

machines, credit, charge, debit, petrol and private label cards. This figure was expected to double by the turn of the century.

What is interesting is that this 20 million card base represents approximately half a card per head of the estimated 40 million population. Of this, Visa and MasterCard account for only 2.8 million cards (Rolfe 1996:55), whilst the Foschini group and Edgars Stores alone have a private label (own credit card facility) credit account base of 2.3 million (Management report, 12th Feb. 1999) and 3.3 million respectively, a total of more than 5 million cards. The Visa and MasterCard scenario indicates a huge business opportunity in the South African market and the need for the retailers to participate on a more aggressive basis. The end result has been a co-operative effort between the banks and certain retailers on the one hand and, on the other hand, a brave attempt by other retailers, who are more independent in strategic thought and financial resources, to go it alone.

There are about 30 private label credit card programmes in South Africa (Rolfe 1996). However, not all programmes are successful, some in fact run at a loss. The banks argue that for a programme to be successful critical mass is essential. This implies that the ideal candidate for a credit card programme is the kind of business that operates in the mass market and has frequency of shopping. Rolfe (1996:56) confirms this when he quotes ABSA bank saying that; "there is no point in giving someone a credit card to buy parts once a year".

The major difference between Visa and MasterCard on the one hand and retail owned private label cards (credit cards branded and funded by the retailer) on the other, is that Visa and MasterCard are accepted at more than 13 million merchant outlets around the world (Rolfe, 1996: 56), whilst a retail owned private label card is only accepted at the stores of the retailer offering the private label credit card. In most developed countries this means that a visitor from South Africa can use his Visa or MasterCard at a wide range of merchants, including hotels, car rental establishments, restaurants and shops, whilst the use of the private label credit card is quite restricted.

2.4.1 Source of revenue for Banks and Retailers

Private label card retailers like Edgars, Sales house, Markhams, Foschini, American Swiss, Stems and others falling into the same category, make money out of the margins in the merchandise they sell, the predominantly high interest charged to those customers who fail to make the minimum required monthly payment, as well as add-on products and services like lost-card protection plan insurance.

Banks make money out of credit cards in a variety of ways. As well as being issuers, First National Bank and Standard Bank are the major South African "acquirers" of credit transactions. This means that when a card is used at a merchant outlet, they pay the merchant the value of the purchase and transmit details of the transaction to the cardholder's issuing bank, that is the bank that issued the card to the customer. Acquirers generate revenue from merchant service charges - the fee, currently averaging four and half percent in South Africa, which they deduct from the amount they pay the merchant. A major source of revenue for credit issuers, (the bank which issued the card to the customer) is a fee, *interchange*, being a portion of the merchants service charges, which they receive from acquirers. Other revenue sources for issuers are the annual fees imposed on cardholders, for example annual card fee and/or the lost-card protection insurance, and most importantly, the interest charged to accounts which make use of revolving credit.

2.4.2 The risk inherent in credit

Retailers that offer credit fall into two categories, those who own and manage the risk in their credit book, as per the Foschini Group, and those who rely on banks to provide the credit facility and manage the risk. Those who have entered into partnerships with the banks are more likely to be in a situation where the bank owns the debt and establishes the credit policy, for example Ackermans via Boland Bank, Total Sports and Queenspark via Standard Bank. However, it may happen that particular risk related recourse agreements (contracts entered into by both parties and which shift the risk associated with the transaction from one party to the other) are entered into between the bank and the retailer.

There are basically three types of consumers in the credit market. The first group would be those that qualify for credit cards through the banks, ie. Visa and MasterCard, and comprise

a very small portion of the total credit market, 2.8 million to be precise (Rolfe, 1996:57). These individuals have established credit references and pose a relatively minimal risk to the banks. These consumers are traditionally from middle to upper income classes and are predominantly white.

The second group comprises consumers who do not qualify for bank credit and resort to the retailer's credit offers. This group of consumers are likely to hold credit cards of various retailers simultaneously. The main reason for this is that most retail credit card facilities are restricted to purchases in their own stores, thus limiting the application of the credit facility to the said retailer (as opposed to it being used at other retailers). However, for most of these individuals the credit facilities they make use of are in fact the first opportunity they have to prove their credit worthiness.

The third group comprises those who do not qualify for either bank or retailer's credit. These individuals are perceived by the banks and retailers to represent high risk. These customers get declined due to being unemployed, possibly earn less than the minimum income requirement, or are not contactable telephonically - often the employment references are not verifiable, either because they operate in the informal sector or employers are simply unable to provide information on the individual. These individuals are more likely to resort to micro loans from micro-lenders, often at excessively high interest rates. Wood (1999: 60-61) confirms that some micro-lenders are charging as much as 45 percent per month. The reason why high rates are possible is that the amount of the loan falls outside the minimum amount for which interest rates are prescribed by the Usury Act. Retailers on the other hand charge rates close to the maximum rate prescribed by the Usury Act, thirty two percent per annum as at April, 1999.

The Department of Trade and Industry announced the formation of the Micro Finance Regulatory Council (MFRC) in order to regulate the Micro-Lending sector. This body is also aiming at proposing changes to the Usury Act. A special feature on "Your Money" in the Business Day newspaper 10th to 12th September 1999, refers to three critical changes namely, capping interest rates at 10 times the prime lending rate; increasing the loan ceiling to R10,000 from R6,000; and creating a system to compel micro-lenders to become members

of a regulatory authority, the Micro Finance Regulatory Council (MFRC) which was formally approved in July 1999. The abuse in the industry is of such an extent that an article on the main page of Business Times, October 3rd 1999, has the following headline: "State to act on 'zero-pay' loan misery"; micro-loan deductions from salaries are leaving people with no net pay. The victims in this case are often government employees, as micro-lenders have chased "low-risk" loans with payroll deductions. According to Klein (1999: Business Day) government is likely to announce a cap (believed to be 25 percent to 30 percent) on the amount which micro-lenders can deduct from employee payrolls.

The main reason why the banks have avoided the lower end of the market is because of their inherent risk. Rolfe (1996: 58) reports that Standard Bank is still smarting over the Woolworths card programme, which has required write-offs of up to R70 million. Woolworths was the first of a number of private label contracts Standard Bank entered into. Woolworths issued the cards and the bank financed the debtors book without controlling the supply of credit. The extent of the unexpected bad debt "trauma" to Standard Bank was such that senior executives lost their jobs.

The banks have certainly learned from Standard Bank's experience to the extent that those who have chosen to remain in the lower end of the market are actually applying far more stringent criteria to credit granting. The problem is now that retailers operating through the banks are experiencing high levels of declines on new credit account applications, rates of around 60 to 70 percent of applications are not uncommon.

2.4.3 Objectives of the Banks and Retailers - a paradox

What is good for the bank is not necessarily good for the retailer. While banks are after *revolvers*, those consumers who retain high balances and therefore pay considerable interest on their accounts, the retailers are after *transactors*, those consumers who settle their accounts quickly so that they are back in a buying position soon. The banks report that the issue is really one of profitability. A major source of profit for the bank is the interest factor charged on the account, whereas the retailer makes his profit mainly in sales of merchandise. A further problem inherent in the relationship is that banks, in addition to being over cautious, are often too slow in the granting of credit - a consumer may have to wait in

excess of two weeks for a new credit card. Retailers are frustrated by this in that the consumer decision to purchase a garment is often an impulsive one, which in itself requires that the credit facility be available immediately. After all, one wants to "close the deal" before the customer has an opportunity to walk out of the store and be tempted by a competitors' similar fashion offer.

The required payment on a Visa and MasterCard purchase is ten percent of outstanding balance, whilst a private label credit facility like the Markhams credit card, calculates a payment over a six month period. This basically means that the payment required on the Markhams account is much higher than a payment for a similar purchase amount in a Visa or MasterCard account, thus the Markhams customer will get into a buying position a lot quicker than a Visa or MasterCard customer.

Furthermore, a company like Markhams will recalculate the monthly payments on the basis of the highest balance reached, thus maintaining repayments at a high level. An example of the calculation of monthly payments on the Markhams six months payment plan is the following:

Highest balance on the account:	R1,200
Monthly instalment:	R1,200/6 = R200 per month

Customer makes a purchase for R400, thus the new balance is R1,600 (R1,200+R400)
Minimum instalment required: R1,600/6 = R270 per month

Therefore, where the balance exceeds the previous highest balance, the instalment will increase. The instalment can only decrease when the account is settled and a new instalment is recalculated on a new balance. To illustrate the point, assume that the above customer makes no further purchases and continues paying the account until the balance reaches say, R200. Next the customer makes a purchase for R500, thus the new balance is R700. The instalment required continues to be based on the previous highest balance since the account was last fully paid (settled). The customer will continue to be asked for a minimum instalment of R270, despite the fact that the new balance is only R700.

However, if the customer continued to pay his account down to a balance of zero, before making the purchase for R500, then the new balance will be the previous balance of R0 (that is, the account was fully paid) plus the new purchase of R500. The new instalment will be:

New highest balance: R500
Minimum instalment required: R500/6 = R83.33 per month rounded off to the nearest R5 = R85 per month.

Markhams rounds off the instalment calculation to the nearest R5 and the first minimum instalment calculated can never be lower than R20. For example if the above customer had purchased an item for R30 instead of the R500, the first instalment would be R20 and the balance of R10 would be paid in the second instalment.

Where the customer fails to make the minimum required instalment, interest is levied at the going rate, usually the maximum rate allowed by the Usury Act.

Mastercard or Visa, on the other hand, calculate their instalments as follows:

Balance on the account: R1,200
Minimum payment required: R120 (10% of the balance on the account)

If the full amount (R1,200) is paid by the due date, no interest is levied, otherwise the balance will attract interest charges as stipulated by the Bank.

Assume now that the customer makes a purchase for R400, thus the new balance is 1,600 (R1,200+R400). The new minimum instalment required is:

Minimum instalment required: R1,600 X 10% = R160 per month.

As the example illustrates, the customer with a Markhams account is always required to pay a higher minimum instalment than if he had processed the transaction on a Mastercard or Visa account. The Markhams account holder gets into a "buying" position faster, because he

is required to pay more sooner and therefore releases the credit available faster; he is a *"Transactor"*. The VISA or Mastercard account holder is a *"Revolver"*, as he has more time to pay due to the lower required instalments, and additionally gets charged interest which is added to his balance when he fails to pay the total balance by the due date. The drawback of the instalment calculation method adopted by Markhams is that the monthly cash flow, from a customer point of view, may be unexpectedly high for the customer with the result that he may abstain from purchasing until the monthly instalment is "normalised" again, that is until he has settled the account and a new balance is calculated.

The latest trend has been for the banks to be highly selective on their choice of private label card partner, particularly from a profit potential point of view, as they have learned that critical mass is imperative. As far as the retailers are concerned, they are beginning to reconsider the benefits of their association with the banks, particularly from a decline rate (the rate at which the new applications for credit are declined) and speed of credit approval point of view. Woolworths was one of the first to terminate its relationship with Standard Bank and others are considering the same.

2.4.4 The science of credit granting - no gut feel technique

Credit granting and management in South Africa, particularly amongst the largest retail groups, Edgars, Foschini and Woolworths, is done on a scientific basis. This means that credit granting takes into account the probability of a customer's debt being written-off due to non-payment. For this purpose, a predictive statistical model is built from a file of good payers (those who pay their accounts) and a file of bad payers (those whose debt ends up being written-off). This model establishes a correlation between the various variables available (as per the information on the application form) and the instalment/payment performance of the different groups of customers. The result is that variables which are considered to be good predictors of risk are identified and rated.

The Markhams application form includes a number of such variables, for example, age, gender, whether the applicant is employed, salary, credit card information (Visa, MasterCard), whether the applicant owns or rents residential property, Identity number, number of dependents, etc. The predictor variables carry a weight factor which is translated

into a numeric score representing a specific level of risk, for example a score of 640 means that the customer has a one in sixteen (six percent) chance of going bad within the next 6 months. This score would then translate into a credit limit of say, R450. The retailer will determine the credit limit for the various score ranges as well as the decline threshold (the score below which the level of risk is unacceptable to the retailer) at which score the application for credit is declined. The initial credit limit is, in essence, a function of the monthly salary, disposable income percentage attributed to spending in the category and the credit facility repayment period.

To guard against risk, retailers and banks make use of credit scoring systems (the score card), supplied by firms like Fair Isaac in the United States of America, which monitor the individual cardholder's behaviour and flag accounts which appear to be having difficulties in the payment of debt. Systems like TRIAD, from Fair Isaac, allows the retailer to manage the credit line according to the payment performance of the debtor. A good account payer and therefore a low credit risk will get regular credit limit increases, whilst a bad account payer will get credit limit decreases.

Score Cards are calculated on the basis of statistical analysis of historical information pertaining to the specific credit grantor. In essence the aim is to identify, statistically, those variables in the database that represent good predictors of credit behaviour. Ideally, the analyst wants to be able to predict the behaviour of both good account payers as well as bad ones. The business must weight risk and reward in the establishment of its credit policy.

Markhams, as at the 1st of June, 1999, has nine variables contributing to the TRIAD behavioural score, namely:

. Number of months the account has been opened at Markhams.
. Number of times customer has paid less than the minimum required instalment.
. Balance this month as a percentage of last months balance.
. Balance as at last billing date as a percentage of credit limit.
. Last five months payments as a percentage of minimum instalments required.
. Percentage of payments missed over the last 12 months.

. Number of months customer paid less than a third of minimum required instalment over the last 10 months.
. Highest number of consecutive months where customer paid less than a third of the minimum required instalment.
. Number of months in which payments were made as a percentage of number of months account held.

A risk score predicts the odds of an account missing three full instalments in the next six months. The odds are reflected as a score which in turn is converted into a percentage. A 660 score means that the customer has a one in sixteen or 6.25% chance of missing three full instalments in the next six months. The score is in essence a ranking score that allows Markhams to differentiate between "good" (low risk) and "bad" (high risk) customers.

The higher the score the higher the credit limit given to the customer. The higher the score, the softer the actions adopted by collections department when following-up on accounts that are in arrears. The higher the score, the larger the oversell (the amount by which customers are allowed to exceed their credit limit when making a purchase).

Collections department also makes use of a statistical score, the "Payment Projection" score (PPS), when targeting accounts in arrears. The PPS predicts the odds of an account that has missed three full instalments to pay-up the arrears within the next six months. The objective is to target, first and foremost, accounts that are less likely to pay. This allows for the optimisation of resources. The following are the nine variables contributing to this PPS:

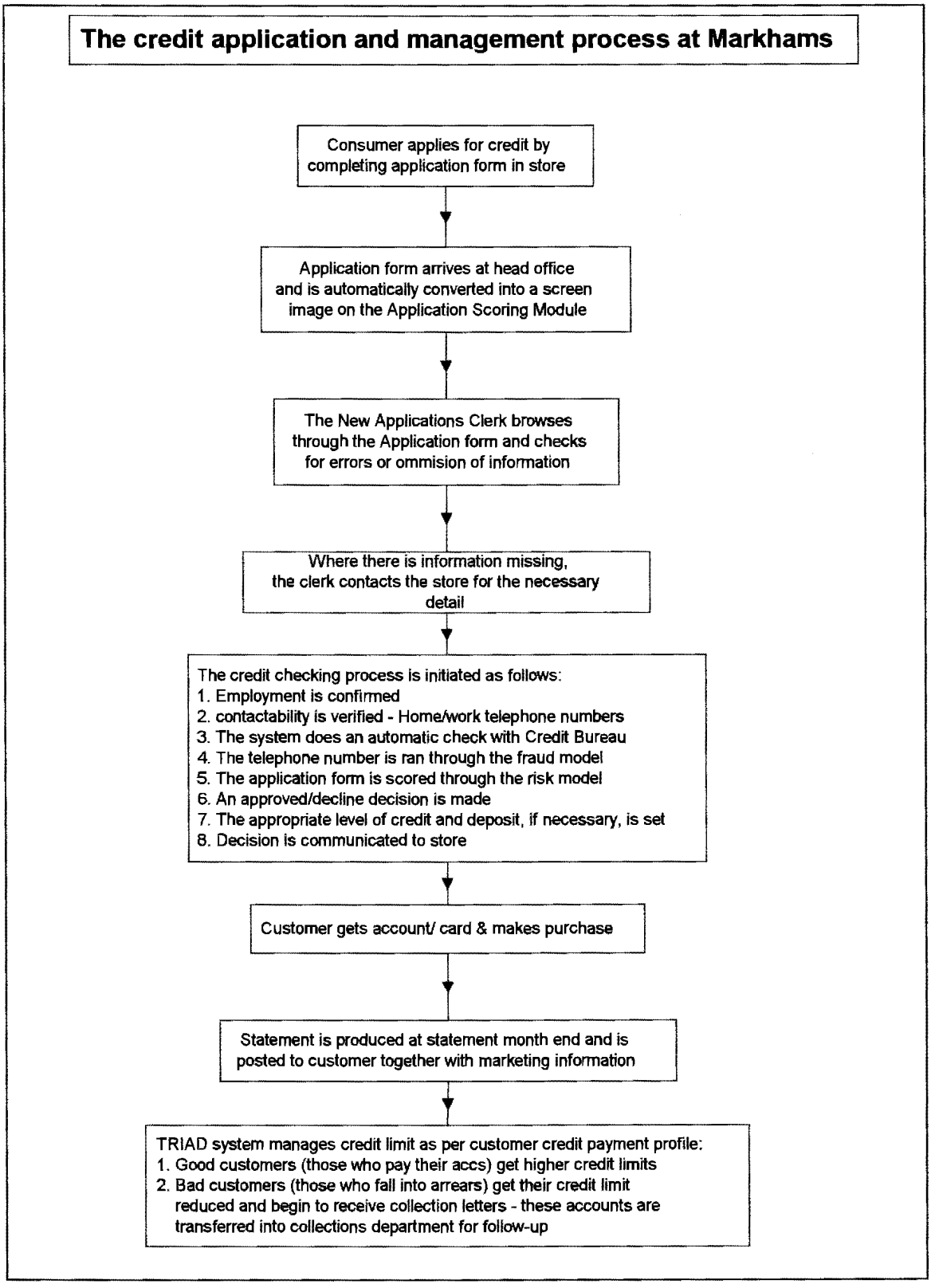
. Number of months the account has been opened at Markhams.
. Number of times, as a percentage, that the customer has paid less than the minimum required instalment in the past six months.
. Balance this month as a percentage of average balance in the past six months.
. Balance this month as a percentage of the highest balance since the account was opened.
. Balance this month as a percentage of credit limit.
. Last five months payments as a percentage of minimum instalments required.
. Percentage of payments missed over the past twelve months.

. Highest number of consecutive months where customer paid less than a third of the minimum required instalment.

. Number of months in which payments were made as a percentage of number of months account held.

The credit process may then be summarised schematically as per figure 2.3. As mentioned previously, this process is critical to the success of the business.

FIGURE 2.3: CREDIT APPLICATION/MANAGEMENT AT MARKHAMS



SOURCE: Own Composition

2.4.5 Credit grantors unite

Most retailers in South Africa, including the Credit Bureau (Information Trust Corporation and Empirica), belong to the Consumer Credit Association. The objects of this body, according to the Constitution of the Association as at May 1999, are the following:

- To promote the highest standards in consumer credit, particularly with regard to information sharing and credit granting, and to ensure that the value of consumer credit, both to the economy and to the individual, is fully appreciated.
- To facilitate the sharing of timeous, accurate, up-to-date and relevant consumer credit information.
- To carry out any activities directly or indirectly related to the consumer credit information and consumer credit granting which will further the interests of its members, consumers and the economy.
- To ensure compliance with the association's code of conduct, as agreed by members.

The code of conduct deals with matters relating to the reputation of the association, compliance with the law of the country as it impacts on the credit granting industry, the association's constitution and fair dealings with consumers.

The main issue dealt with by the above mentioned documents is that of the sharing of consumer credit information amongst members of the association. The Credit Bureau, a member of the association, maintains a database of consumers' credit related payment profiles. Member retailers contribute monthly to this database and are allowed, for a fee, to access consumer information when consumers open credit accounts, thus reducing most of the risk inherent in the granting of consumer credit. Retailers' credit granting decisions are based on the information available in this database. Good consumer risks will get credit, the precise amount varying according to the profile of the consumer and the risk score resulting from other information on the application form, whilst consumers who have a bad history are more likely to be declined credit.

The association also derives its lobbying power from its numbers and the fact that it represents credit based retail in general. These lobbying powers become important in negotiations with government on existing or imminent credit related legislation.

The following are the existing and pending legislation which impact on the granting of credit:

- Usury Act
  - It controls the maximum allowed interest rates.

- Open Democracy Bill
  - Provides a mechanism for the individual to inquire about, and correct information about themselves held by government or private bodies, and provides protection against the abuse of information.
  - In its present format it requires retailers to obtain permission from their customers to pass on their payment profiles to entities like the Credit Bureau.
  - Information may only be used for the purpose for which the information was obtained.

- Constitutional Law
  - Protects the rights of citizens, including the right to privacy and right to have their dignity respected. This certainly impacts on the sharing of consumer credit profiles between the retailers.
  - The party waiving the rights, the consumer in Markhams' case, must be fully apprised of their rights. This is an important issue in that often consumers applying for credit are requested to sign various terms and conditions attached to the credit application form without being fully aware of the fact that, in some cases, they may be waiving their rights.

- Unfair Contractual Terms Bill
  - It aims to regulate principles of contractual fairness and provides protection against unfair or unconscionable terms in contracts. Once again, this Bill will impact on the terms and conditions of credit contracts.

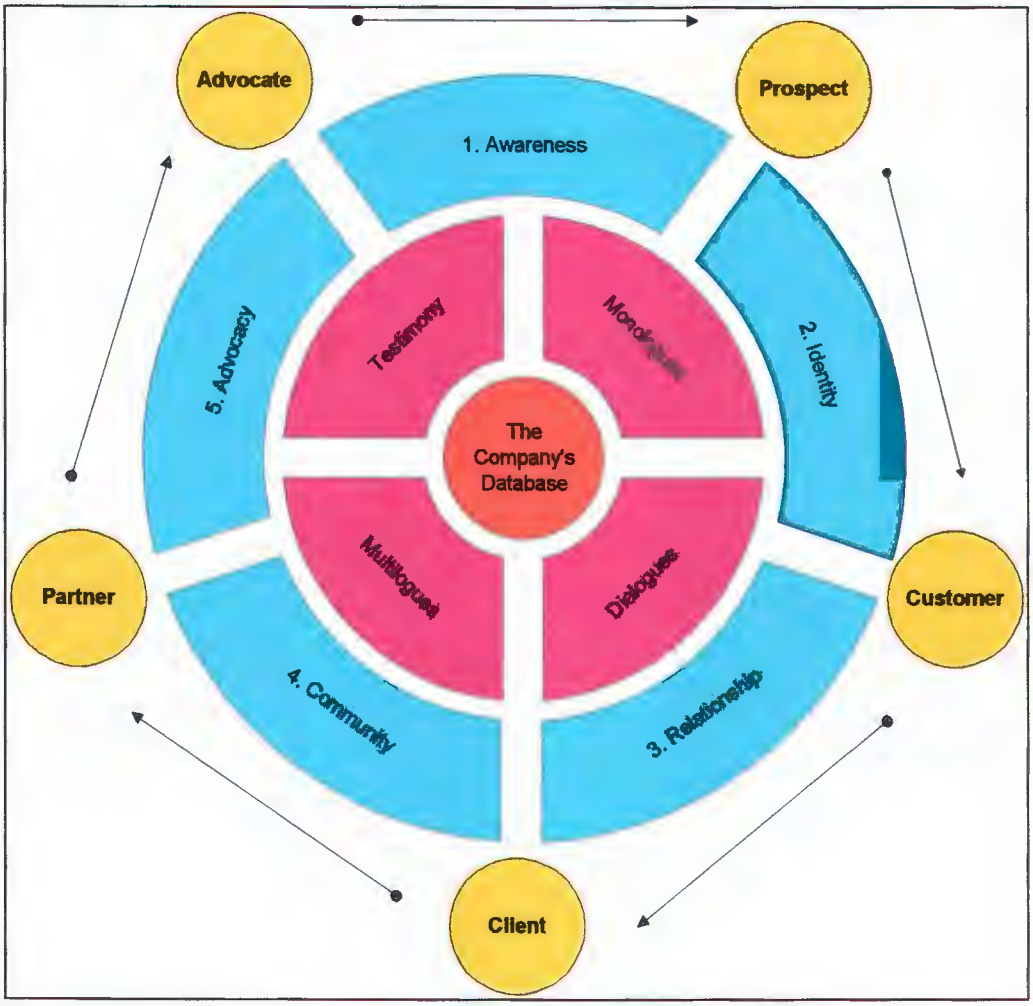
2.4.6 Credit as a facilitator - the means to an end

Cross and Smith (1995: 27) introduce the "Information-driven" Marketing model which includes the five degrees of customer bonding. The information-driven approach of the model provides the backbone for relationship marketing. In essence, these marketing approaches advocate getting to know and interact with the customer on a one-to-one basis, as in the days prior to mass media advertising/marketing. The owner of a shop knew exactly who his customers were, their buying behaviour, and interactions were marked by a certain level of dialogue and intimacy. Henry Ford epitomised the beginning of mass production, volume buying and mass media advertising when he said "we'll give you any color you want, as long as it is black". It can be argued that marketing has gone full circle in the realisation that not everybody wants to buy "a black automobile".

Cross and Smith refer to the customer bonding process as a process comprising five different stages, namely, Awareness bonding, Identity bonding, Relationship bonding, Community bonding and Advocacy bonding, as shown in figure 2.4 (the model is explained in the paragraphs that follow). Cross and Smith argue that the ultimate objective is to take a prospect from the market place and convert that individual into a loyal customer.

The customer bonding process is in effect the strategy of the company. The tactics that are applied depends on the stage of the strategy, and the specific goal of that stage. The arsenal of tactics are, inter alia, advertising, point-of-sale material, direct mailing, telemarketing (marketing over the telephone), frequent shopper programs and public relations.

FIGURE 2.4: THE CUSTOMER BONDING PROCESS



Source: Adapted from Cross R. and Smith J. *Customer Bonding*. NTC Business books, 1995: 30.

Cross and Smith argue that for the process to be complete, it is imperative that the organisation is able to acquire data processing and storage capabilities. Cross and Smith state that at the core is the database of information. This information forms the underlying foundation upon which all new marketing choices will be made and will inform and empower every element of the marketing mix, helping to achieve real synergy and optimise every opportunity to earn and reinforce the loyalty of the constituents (Cross and Smith, 1995: 22). This view is supported by Jackson and Wang (1994: 10) when they state that the battle for customers in the future will be won by marketers who understand how and why their customers individually buy their products - and who learn to win them over, one customer at a time. Peppers and Rogers (1997: 171) state that in the one-to-one future, it

won't be how much you know about all your customers that is important, but how much you know about each of your customers. The more information you have about any customer, the deeper a relationship you will be able to develop with that particular customer and the lower the likelihood of that customer leaving.

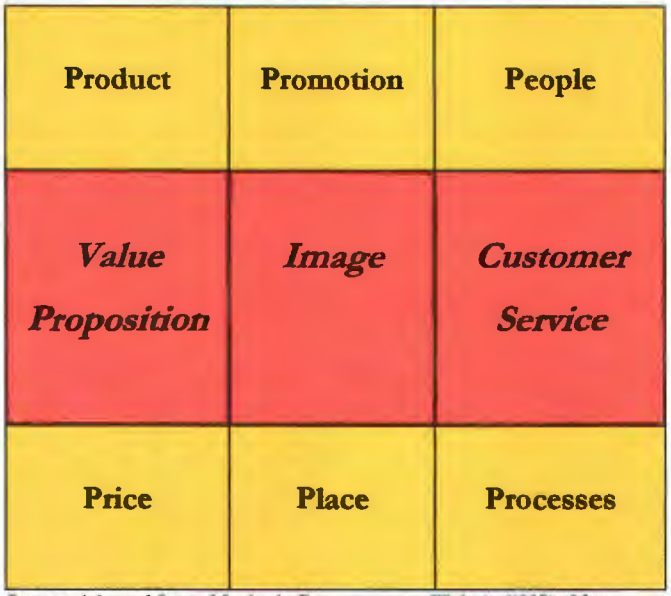
The credit card facility has a dual role in the customer bonding process. Firstly, it provides the means for the customer to acquire the desired item and secondly it becomes the retailers way of gathering vital customer purchasing behaviour information. Customer behaviour in this instance relates to what the customer buys and from which department, how often and recently he has purchased, and his life time contribution towards the profit line. This information is critical to the whole process as it allows the retailer really get to know his customer on a one-to-one basis. Cross and Smith (1995: 27) goes as far as referring to this process of information gathering as "datamotion" (data in motion), implying that this is not a static process but an evolving, dynamic one.

The first two steps of customer bonding, the awareness and identity stages, happen almost simultaneously. A typical example would be the prospect who walks into a shopping center, spots a new fashion store and becomes aware of the nature of its business; the awareness stage. At this point in time, the prospect either identifies with the offer, look and feel of the store, or he doesn't; the identification stage is thus completed. From a communication point of view, the type of communication that takes place at these two stages tends to be predominantly a monologue, from the retailer to the customer, and the media choice is usually mass market related, for example, press or television.

For there to be a successful identification with the brand or offer, it is important that the six P's of the marketing mix (adapted from the four Ps), shown in figure 2.5, be addressed. It is important that the customer feels that there is an acceptable value proposition, that is, the right product at the right quality and price, that the fashion store and its products have and provide the right image (particularly within the apparel/fashion industry), and equally important, that the right level of customer service is provided. Service, from a credit point of view, comprises having correct credit processes in place, that is, business and system processes that address the needs of the customer. This implies allowing the customer to

conclude the purchase, which is often an impulsive one, within an acceptable time frame. To do this, the retailer must for example, be able to conclude the credit granting process within say, 1 hour. Markhams is able to conclude this credit approval process within 20 minutes on average.

FIGURE 2.5: THE 6 PS FRAMEWORK



Source: Adapted from, Machado R. and van der Walt A. (1995), *New Marketing Success Stories*. Southern Book Publishers.

The third step relates to the Relationship stage. Relationship implies the beginning of a dialogue between the retailer and the customer. Typically the retailer will begin to use techniques that invite some kind of response from the customer, for example, the introduction of customer toll-free "help lines" or perhaps something as simple as "Triple-duty" advertising. Rapp and Collins (1988:178) refer to triple-duty advertising as advertising that has a triple function. *Firstly*, it builds the brand image; *secondly*, it makes a powerful sales promotion offer targeted narrowly to prospects who are users in the category; and *thirdly*, it helps build the database by inviting customers to interact by means of some kind of brief questionnaire in respect of a competition. Ultimately, the retailer is also increasing the effectiveness of the advertising (due to its interactive nature which results in longer term top-of-mind awareness/recall).

Another tactic that may be implemented at this stage of the process would be the frequent shopper programme, for example, the Clicks Clubcard (Clicks stores), that enabled Clicks to acquire a wealth of information on its customers. An article titled "Running ahead of the sector" (Financial Mail, 5th December 1997: 103), reports that the Clicks Clubcard boasts 1,4 million members and has proved a powerful marketing relationship tool, gaining about 30,000 new members a month. The Clicks Clubcard rewards customers for their support via a points system. Clicks goes further when it tries to encourage specific buying behaviour via the allocation of double points during specific periods or for purchases made at Musica (sister-chain, selling musical compact discs and tapes). The database has enabled Clicks to be more selective and cost effective in its direct mail marketing campaigns, in that Clicks can now target those customers that are more likely to purchase.

The fourth stage in the process is the community stage. Community in this regard does not necessarily indicate a group of people that live within a specific geographic/cultural community. Community could simply imply a group of individuals who buy at the retailer and who have the same principles and values. A typical example in South Africa could be the case of those individuals who own a Hyundai motor vehicle and therefore are referred to as the "Hyundai family", simply due to the fact that they have a common thread, the Hyundai brand of motor vehicle. This manufacturer goes as far as organising "fun and entertainment" days to which all owners, and their families, of such brand of motor vehicle are invited. Those individuals who do not have such a vehicle brand can also participate, usually for a fee. The real objective here is to get the manufacturer, customers and new prospects together in a relaxed, "fun" environment in order that they may talk to each other and re-enforce their beliefs in the brand. It is also an ideal opportunity for the manufacturer and its representatives, from all functional departments, to get feedback from its community of users. At one of these events, approximately 35,000 people got together at various locations throughout South Africa to celebrate the Hyundai brand.

Retailing in South Africa has adopted an innovative way of integrating with its community of customers via the Club concept. Edgars introduced the Edgars Club, whilst Foschini, Markhams, Sterns, American Swiss, Pages and Lewis Stores introduced the MoneySaver Club. The concept is not unique to the mentioned retailers (there is also the Jet Stores Club,

Sales House Club as well as other retailer's clubs). These clubs are more or less the same in principle. Their objective is two fold, firstly it aims to enrich or "give back" to the community and secondly, it acts as a communication tool via the monthly magazine that is distributed to its members.

These clubs tend to have the same format. Membership is self selective due to the monthly membership fee, approximately R9.50 per month for the Moneysaver club as at September 1999. The club offers monthly cash superdraws where thousands of its members stand a chance to receive a monetary prize. The equivalent of a percentage of the main prize is given, in the case of the Edgars Club, to the customers' choice of school or, as in the case of MoneySaver Club, to the customer's choice of welfare organisation. These clubs often include benefits such as "free" insurance, medical help-line and legal advice help-line.

The mouthpiece of these clubs is the monthly magazine which carries product/brand related advertising, letters from customers (usually complimenting the club and the company on its sterling community efforts), special product offers (usually at a discount), and editorial content that is of interest to its audience.

Clubs are indeed an effective way of communicating with a captive audience. The Moneysaver Club alone has more than 1.8 million monthly paying members. Figures for the Edgars club are similar, whilst Jet stores and Sales house have lower but still significant numbers. Interestingly enough, the benefits to the retailers goes well beyond the marketing exercise in that most of these clubs are in fact profit centers and businesses in their own rights.

The last stage referred to in the customer bonding concept relates to the Advocacy or Referral stage. This stage indicates the highest form of customer loyalty in that the customer acts as a reference for the retailer. The loyal customer provides the retailer with the best form of advertising possible, in that the customer, through the process of referring the retailer's products to another prospect, actually puts his own credibility at stake. The customer, in his business referral, is implying that the prospect will get the same level of service or say, product guarantees, that he received - "if its good for me, it will be good for

you!". This word-of-mouth marketing is indeed the highest form of praise and an exceptional brand building exercise.

The different stages in the customer bonding process represent different stages of a customer's relationship with the retailer. The credit card is the vehicle which allows the relationship to migrate from its inception, the potential customer or prospect, through the stages of customer, client, partner and advocate - all implying different, more meaningful levels of relationship involvement. The credit card/facility and the wealth of information that comes with it, creates the opportunity for and facilitates the conversation process.

2.5 CONSUMER BEHAVIOUR AND NEEDS FROM A CREDIT PERSPECTIVE

Retail Credit Solutions conducted research in 1996, through Markinor research company, in order to identify the issues that appear to motivate the customer most when buying goods on credit. This research also aimed to measure the relative importance of credit facilities in a consumer's decision to open an account and continue to make repeat purchases on credit.

2.5.1 The sample

The quantitative sample comprised 250 holders of credit account facilities in general in South Africa. The holding of multiple accounts among respondents served to ensure that the sample represented the fashion credit market at large, in fact, in addition to the demographic quotas, a minimum number of account holders per store was set. The following is the breakdown of the sample account holding across the various players in the market:

TABLE 2.1: ACCOUNT HOLDING ACROSS VARIOUS RETAILERS

Clothing store	Account Holding	% of Total
Edgars	114	46
Foschini	79	32
Truworths	61	24
Woolworths	61	24
Markhams	60	24
Sales House	35	14
Pages	28	11
Milady's	17	7
Other clothing stores	16	6
Smart Centre	15	6
Topics	13	5
Jet	10	4
Bee Gees	4	2

Source: Research report: Project Glad Rags. Markinor (1996: 3)

The results as per table 2.1 indicate that the major player in the field is Edgars, this is mainly due to the fact that Edgars caters for the family unit, as opposed to Foschini and Markhams whose positioning is a lot more focused on specific market segments, namely the female and male segments of the population respectively.

Markhams is well placed with as much as twenty four percent of the sampled population holding a Markhams credit account and compares favourably with Truworths and Woolworths from a share of account holding point of view.

The demographics of the sample are as follows:

TABLE 2.2: SAMPLE DEMOGRAPHICS

Demographics	Attribute	Number	% of attribute
Gender	Male	98	39
	Female	152	61
Age	18-24 yrs	50	20
	25-29 yrs	67	27
	30-34 yrs	56	22
	35-39 yrs	48	19
	40 yrs +	29	12
Race	Black	106	42
	White	80	32
	Coloured	33	13
	Indian	31	13
LSM Group	4-6	73	29
	7	61	25
	8	116	46

Source: Research Report:: Project Glad Rags. Markinor (1996: 2)

Personal interviews were conducted by trained Markinor interviewers. Strict controls were placed on the fieldwork and editing phases of the job. A minimum back-check of twenty percent was conducted on each interviewer's work to ensure consistency and accuracy. A total back-check was conducted on thirty eight percent of all interviews.

Extensive qualitative research was conducted prior to this quantitative phase, the results of which were considered when designing the quantitative questionnaire. Furthermore, the quantitative questionnaire was translated from English into Afrikaans, Xhosa, Sotho, Tswana and Zulu, to enable respondents to be interviewed in the language of their choice.

The qualitative research comprised the six focus groups (55 respondents) as depicted in table 2.3

TABLE 2.3: NUMBER OF FOCUS GROUPS HELD

	Gauteng	Cape town	Durban
Black male cardholders	1	-	-
Black female cardholders	1	-	-
Black Males and females from the informal sector	1	-	-
Coloured Male & female cardholders	-	1	-
White male and female cardholders	-	1	-
Indian Male cardholders	-	-	1

Source: Report: on Research into Credit Facilities. Markinor. (1996: 5)

The focus groups' respondents were generally aged between 25 and 35, with monthly incomes ranging from R2500-R3500. Of the total sample of 55 respondents, 23 were married and 32 were single. In each instance, the language preferred by the respondents was used by the moderators.

2.5.2 General findings

Respondents in the qualitative research were asked their reasons for purchasing on credit and the following, as per table 2.4, is what credit meant to them:

TABLE 2.4: THE MEANING OF CREDIT TO CONSUMERS

Description/definition	**Explained**
Credit is security	Cash can be kept on hand for emergencies
Credit addresses immediate need	I need that fashion/garment right now
Credit enables merchandising/fashion upgrade	I can now afford to buy a more pricey dress
Credit is a shock absorber	Cost is spread over period
Credit is affordability in times of need	Double credit over christmas
Credit is status symbol	Aspirational within community. "I've arrived!".

Source: Adapted from Report on Research into Credit Facilities. Markinor. (1996: 5)

The above definitions are a guideline for potential positioning strategies by a credit Retailer.

One of the main aims of the quantitative research was to gauge account holder's awareness and understanding of the various credit options offered in the market. Respondents were thus asked to name all the credit options they knew of, this was done without prompting. Results indicate that awareness of the two established credit options, namely the six months no interest and the twelve months with interest is relatively high, 65 percent and 56 percent respectively.

The six months, no-interest, option was clearly the most popular among clothing account holders. More than three quarters (77 percent) of respondents named this as their favourite credit option, with an additional 10 percent naming it as their second choice.

The research indicates that respondents with accounts at Markhams appear to be the most loyal to their brand. As depicted in table 2.5, as much as 28 percent of all Markhams account holders indicated that they shopped at Markhams the last five times they purchased clothes. The store with the least loyal clients was Truworths. Only 8 percent of Truworths account holders had shopped at Truworths out of the last five times. The average number of times they had purchased clothes on credit was only 1.54 times. However, this may indicate an element of overclaiming, where respondents may have mentioned Truworths as one of their accounts, but did not name this store as one at which they actually purchase clothing. Indeed, the aspirational element with regard to an account at Truworths is apparent throughout the results of this study.

TABLE 2.5: FREQUENCY OF PURCHASES AT VARIOUS STORES

	N	Number of times bought clothes at...out of last 5 credit purchases						Average No. of times out of last 5
		0	1	2	3	4	5	
Markhams	60	12%	18%	22%	15%	5%	28%	2.67
Pages	28	14%	21%	4%	43%	0%	18%	2.48
Woolworths	61	3%	20%	36%	20%	11%	10%	2.46
Sales house	35	9%	11%	40%	17%	14%	9%	2.43
Edgars	114	9%	23%	29%	20%	8%	11%	2.28
Foschini	79	11%	29%	20%	22%	6%	12%	2.19
Truworths	61	29%	25%	28%	7%	3%	8%	1.54

Source: Research Report:: Project Glad Rags. Markinor (1996: 10)

The value of outstanding balances at each of the stores presents a slightly different picture, refer table 2.6. Woolworths clients claim to have the largest outstanding balance, an average of R562. However, this probably includes the value of grocery purchases. Sales House has the highest average balance among strictly clothing stores, at R393, with a relatively large concentration (58 percent) of Sales House account holders claiming to have an outstanding balance in excess of R300.

TABLE 2.6: CURRENT OUTSTANDING BALANCE - CLOTHING STORES

	N	Current balance outstanding on clothing accounts						Average Balance
		< R100	R100-R199	R200-R299	R300-R499	R500-R749	> R750	
Woolworths	61	2%	7%	15%	17%	20%	39%	R562
Sales House	35	24%	12%	6%	26%	24%	8%	R393
Edgars	114	22%	17%	8%	20%	13%	20%	R383
Foschini	79	18%	17%	17%	17%	18%	13%	R378
Truworths	61	32%	12%	8%	22%	15%	11%	R341
Pages	28	19%	12%	27%	23%	12%	7%	R331
Markhams	60	31%	16%	14%	17%	12%	10%	R310

Source: Research Report: Project Glad Rags. Markinor (1996: 11)

One of the market credit granting practices is to levy a deposit on risky account applications. Respondents attitudes towards this practice was unfavourable. Less than 30 percent indicated that they would be "very" or "fairly" happy to put down a deposit. Indeed, almost half (48 percent) of respondents indicated that they were "not at all" happy with this idea.

The focus group feedback with regards to the paying of accounts is that there are basically three types of account payers, namely, the honest/responsible individual, those who take a chance and those who are dishonest.

Those falling into the honest group will pay their accounts on time, pay more than the minimum requirement when possible and generally have a fear of debt build-up.

Those falling into the group that take chances (probably the vast majority), will juggle the payment of accounts. The proliferation of credit in South Africa did open the flood gates for credit, as the various retailers in clothing and in other sectors, tried to capture the so-called emerging market. The result was that many consumers ended up getting more credit than they could afford - and the temptation to spend was there. Retailers, on the other hand, are landed with the awesome task of collecting the debt outstanding on these accounts.

Chambers (1998) confirms the point by highlighting how easy it is to get credit when he asks:

"How would you like to have R62,000 to spend? It's easy! Just apply for the numerous store and bank credit cards that are breeding like rabbits in the retail sector's ever-escalating campaign to grab a slice of your spending power".

Chambers (1998) goes on to say:

"Add to the cards available from retailers who do not have branches in Cape Town, where my survey was conducted, and it isn't difficult to imagine being able to spend close on R100,000". What is alarming is that this survey was done over a very short period of time and "it was only when I applied for my 17th account application that the alarm bell rang somewhere in the country's credit checking corridors".

Table 2.7 shows which accounts are likely to be paid first by individuals falling into this group, the "chancers":

TABLE 2.7: REASONS FOR PAYING STORE ACCOUNTS

Account characteristic	Comment
Highest balance	To reduce monthly payments.
Strictest store	To avoid legal action and embarrassment of debt follow-up phone calls. Also to avoid losing the account.
Accounts where there is an up-coming sale	To open up the credit facility so that the customer may take advantage of the sale.
Best service	Afraid of losing credit with stores offering "good service".
Interest bearing	"because these accounts are are dangerous!".

Source: Adapted from Report on Research into Credit Facilities. Markinor. (1996: 6-7)

The third group, the dishonest customer, will not pay an account unless he receives a statement in the post. This customer "hopes that the store has forgotten about me" and will use the money for other purposes. This group comprises a real problem for retailers due to the less-than-optimal postal service in South Africa, which results in consumers not receiving the statements either on time, that is prior to end of month, or at all. The result is that once a payment is missed, the interest factor adds on to the debt and the monthly burden on the consumer cash flow increases. It is important to emphasise that even the so called "6 months interest free account" attracts interest, once the customer misses a payment or pays less than the minimum required.

2.5.3 The credit purchase behaviour model

A model of credit purchase behaviour was developed to measure the effect of respondents' perceptions of the leading stores and their credit purchase behaviour. In other words, the objective was to measure which aspects of a store appear to motivate them most to buy goods on credit at that store. Furthermore, it was important to know how critical a store's credit facilities are in a consumer's decision to open an account at that store and make repeat credit purchases.

The credit behaviour model was developed through the use of LISREL, a statistical procedure that essentially solves simultaneous structural equations. Measures of each of the elements /variables within the credit research were entered into the equation. The most significant output of the model is an indication of "impact scores" - measures that indicate the strength of the relationship between certain variables and credit purchase behaviour.

Respondents were first asked at which stores they had credit accounts. In order to obtain a measure of purchase behaviour, or store preference, they were then asked to indicate how often they purchased items at each of these stores where they had accounts, out of their last five purchases, and what their outstanding balances were on each of these accounts. The next step was to determine respondents' perceptions/valuations of each of the main stores. As indicated previously, the ultimate goal was to measure the effect of these perceptions on purchase behaviour.

Two sets of statements were developed to gauge respondents' perceptions of the stores. The first set related to general aspects of clothing stores, including the range of items they sell and whether or not they are deemed to keep up with the latest fashions. The second set of statements related specifically to credit facilities - whether the stores are deemed to offer a wide range of credit options and the way they are perceived to treat new applications. Respondents were asked to rate each store on each statement, using the following five points scale:

1 = the statement does not fit the store at all, to
5 = the statement fits the store very well

TABLE 2.8: GENERAL ATTRIBUTE ASSOCIATIONS: CLOTHING STORES

Mean scores: 1 = statement does not fit the store at all; 5 = statement fits the store very well

Attributes	Edgars	Foschini	Markhams	Mr.Price	Pages	Sales House	Milady's	Tru-worths	Wool-worths
Trustworthy	4.27	4.19	4.17	3.8	3.29	3.88	3.98	4.3	4.63
Wide range	4.6	4.05	4.18	3.86	3.37	4.16	3.63	4.21	4.65
Keeps up with fashions	4.54	4.22	4.32	3.83	3.36	4.06	3.76	4.41	4.45
Good value for money	3.9	3.93	3.88	3.89	3.41	3.76	3.62	3.95	4.43
My kind of store	3.92	3.57	3.52	3.26	2.62	3.31	3.02	3.74	4.32
Conveniently situated	4.37	4.24	4.07	4.11	3.43	4.06	3.57	4.27	4.37
Items of high quality	4.36	4.1	4.37	3.39	3.43	4.09	4.08	4.38	4.61
Good discount/sales	4.11	3.86	3.65	3.77	3.17	3.7	3.29	3.74	3.86
Good customer service	4.2	4.07	4.13	3.71	3.51	3.88	3.67	4.04	4.42
Club with good benefits	4.36	3.51	3.26	2.3	2.96	3.91	3.05	3.3	3.46
Staff treat you respectfully	4.15	4.1	3.99	3.64	3.62	3.85	3.77	4.04	4.33
Superior store	4.32	3.9	4.18	3.28	3.19	3.86	3.68	4.16	4.51
Good credit facilities	4.47	4.21	4.12	2.35	3.46	4.09	3.83	4.22	4.25
Attractive store layout	4.51	4.15	4.3	3.39	3.57	4.13	3.82	4.37	4.5

Source: Research Report: Project Glad Rags. Markinor (1996: 24)

Table 2.8 shows that Markhams best general attribute is "Items of high quality", while its worst attribute is "Club with good benefits". With regards to "Items of high quality", Markhams ranks on the top two among all retailers in the sample and first among retailers whose business is purely fashion.

TABLE 2.9: CREDIT FACILITIES ATTRIBUTE ASSOCIATIONS: CLOTHING STORES

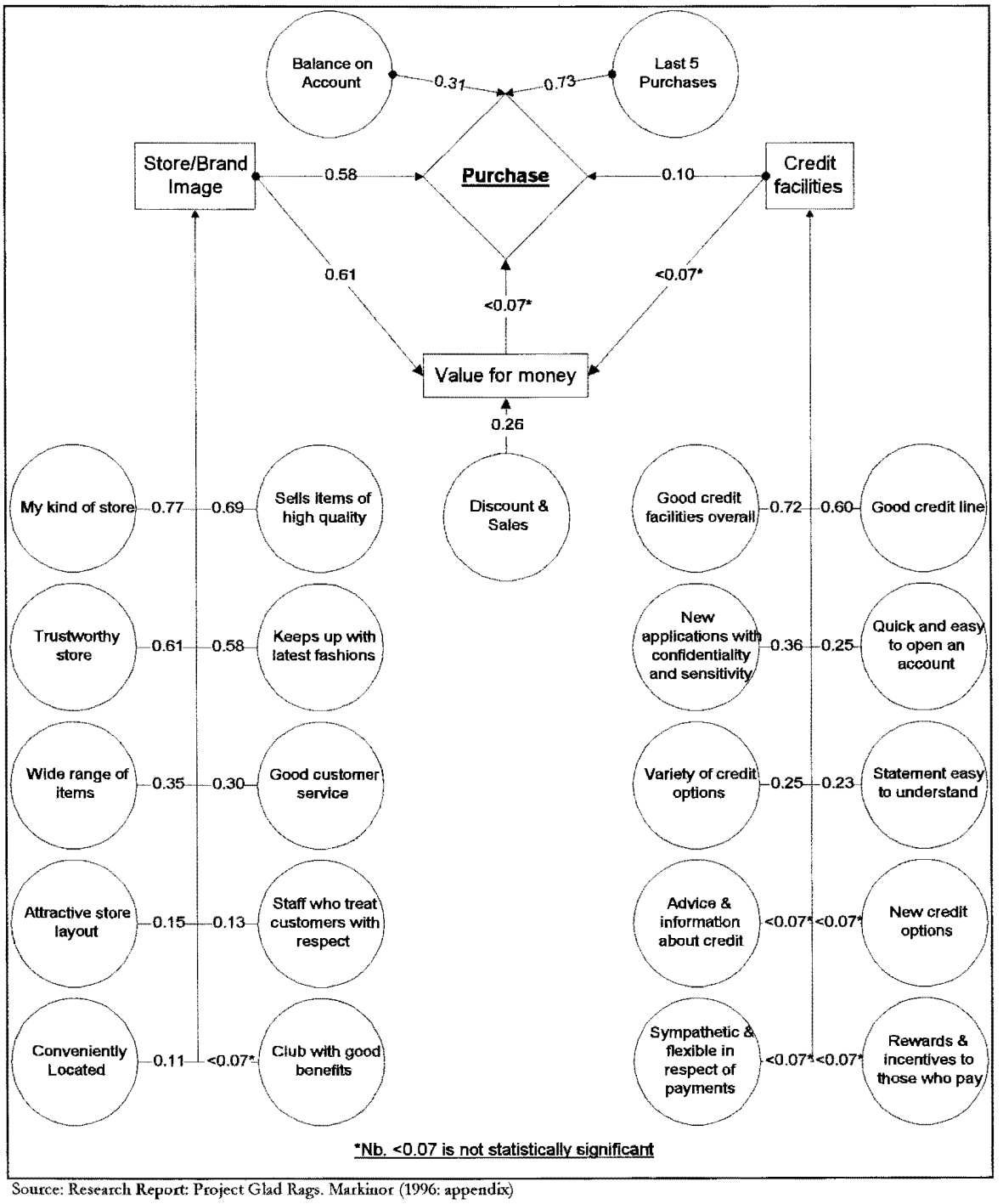
Mean scores: 1 = statement does not fit the store at all; 5 = statement fits the store very well

Attributes	Edgars	Foschini	Markhams	Mr.Price	Pages	Sales House	Milady's	Tru-worths	Wool-worths
Offers good facilities overall	4.6	4.33	4.31	1.5	3.46	4.2	3.92	4.3	4.35
Treats new applications with confidentiality & sensitivity	4.37	4.29	4.24	2.29	3.5	4.05	3.9	4.31	4.5
Quick & easy to open accounts	4.39	4.31	4.28	2.19	3.45	3.95	3.8	4.11	4.0
Variety of credit options	4.39	3.86	3.72	1.81	3.27	3.91	3.47	3.79	3.75
Offers advice & information	3.99	3.86	3.76	2.25	3.45	3.81	3.67	3.93	3.98
Sympathetic & flexible towards customers unable to pay	3.33	3.28	3.27	1.73	2.89	3.18	3.04	3.38	3.31
Offers rewards/incentives to those who pay on time	3.23	2.74	2.71	1.59	2.3	3.0	2.4	2.81	2.84
Account statements easy to understand	4.6	4.4	4.38	2.43	3.67	4.2	4.01	4.32	4.44
Always at the forefront of providing new options	4.3	3.61	3.45	1.91	2.83	3.86	3.29	3.64	3.58

Source: Research Report: Project Glad Rags. Markinor (1996: 26)

Table 2.9 depicts the individual retailers' strength or weakness with regards to the respective attributes. Of particular importance is the scores of one player in relation to another's, particularly where the other player is a major competitor. Markham's main competitors are Edgars, Sales House, Truworths (Truworths Man in particular) and Woolworths. The actual determinants of credit purchase behaviour are depicted in figure 2.6.

FIGURE 2.6: DETERMINANTS OF CREDIT PURCHASE BEHAVIOUR - APPAREL RETAILERS



Source: Research Report: Project Glad Rags. Markinor (1996: appendix)

The model in figure 2.6 is split into table 2.10 and table 2.11 for analysis' purpose.

Table 2.10 depicts the model output of key attributes driving credit purchases, including the impact score of the various characteristics. To calculate the impact score of any contributing characteristic, ie. "My kind of store", on the purchase decision, simply multiply the impact

score of the contributing characteristic by the relevant main factor's, ie. "Store/Brand Image", impact on purchase. For example, "My kind of store" has a 0.45 (0.58X0.77) impact on the purchase decision. The impact scores of the contributing characteristics serve as a ranking tool in that they highlight the relative importance of the characteristics to the customer.

The following is the interpretation of the results of the study in terms of consumer credit behaviour:

- The study confirms that store/brand image and all that impacts on it, for example "My kind of store", "Sells items of high quality", "Trustworthy store", "Keeps up with the latest fashion", etc., is the main driver of consumer behaviour. Credit facilities play a significant role, but customers will not, generally speaking, make a purchase simply because they have a credit facility. The results indicate that "Store/Brand Image" is six times more important than "Credit facilities" (0.58/0.10=5.8).

  An important point to highlight is that all the characteristics impacting on the "Store/Brand image" are in fact elements of the marketing mix, the traditional four P's of marketing, Product, Place, Promotion and Price, as shown in figure 8.

- The characteristics impacting on "Store/Brand Image" are ranked in table 2.10:

TABLE 2.10: RANKING OF ATTRIBUTES RELATING TO BRAND IMAGE

Rank	Characteristic	Comment
1	My kind of store	Relates to the shopping experience - you feel just right shopping in it. The look and feel (aesthetics), the customer is not rushed by sales assistants and is treated well, as well what the store has to offer are critical issues.
2	Sells items of high quality	Items that will last. Quality that is worth paying for.
3	Trustworthy store	Relates to returns policy, not being taken for a ride. Reputable/credible brand.
4	Keeps up with the latest fashions	Fashionability.
5	Good customer service	Service that meets expectations.
6	Attractive store layout	Contributes to the "experience" of shopping.
7	Staff who treat customers with respect	Always critical, particularly during peak shopping hours and when customers return merchandise.
8	Conveniently located	Goes without saying - convenience is vital.
9	Club with good benefits	Not critical to the purchasing decision - a nice to have - it facilitates the relationship.

Source: Adapted from Report on Research into Credit Facilities. Markinor. (1996: 6-8)

Note. The Comment comprises feedback from Focus groups held for the same research project.

As far as credit facilities are concerned, they do have a significant role to play in the purchase decision. The point to make however, is that the credit facility is the means to an end - the satisfying of a want/need, that culminates with the purchase of the apparel. The significant role of Credit is best reflected in the fact that it accounts for 71.8% of the Markhams sales revenue (Foschini Group, Turnover System, February 1999).

Table 2.11 depicts the ranking of the credit related attributes, in other words, what is important to the customer from a credit point of view:

TABLE 2.11: RANKING OF ATTRIBUTES RELATED TO CREDIT FACILITIES

Rank	Characteristic	Comment
1	Good credit facilities overall	This relates to the total package, comprising all the various elements of credit, ie. Interest rate, repayment period, easy to understand statements, etc.
2	Good credit lines	This impacts on the value of the purchases that the customer can "afford" on credit
3	New applications with confidentiality and sensitivity	This is important in that the matter is perceived by the customers to be a private one - "its my life, don't expose it", yet stores have to confirm salaries with employers, reference checks, etc. Customers do not enjoy applying for credit in a store where everybody around them can "hear and see".
4	Quick and easy to open an account	Credit application, for most individuals, is a stressful occasion - the store has to decide whether you're "good for the credit" and how much to give you. Also, the customer wants to satisfy his/her needs immediately - the purchase has to be made now, not two weeks later. Credit is still perceived to be aspirational/ a status symbol.
5	Variety of credit options	This relates to the option to pay over the short or the long term (on "budget") if necessary. It really deals with flexibility from an affordability point of view.
6	Statement easy to understand	The need here is to be able to reconcile the purchases made with the billing. Clarity in communication and relevant detail are important.
7	Advice and information on credit	Not critical. There seems to be a reasonable understanding of credit.
8	New credit options	Not critical. The needs of the market seem to be addressed by the 6 months, no interest, and the 12 months, with interest, options.

9	Sympathetic and flexible in respect of payments	Not critical. This deals mainly with accounts falling into arrears. It seems that most individuals are aware that credit implies contractual obligations that must be met. Also, most people applying for credit do not necessarily believe that they will be bad risks.
10	Rewards and incentives to those who pay	Not critical. Once again, the previous comment applies.

Source: Research Report: Project Glad Rags. Markinor (1996: 30-31)

- The results indicates that "Where the customer makes most of his last five purchases" is twice (0.73/0.31=2.35) more significant than the "Balance on the account" from a purchase decision point of view. In other words, the first variable is a stronger predictor of purchase behaviour than the second one.
- "Store/Brand Image" also impacts significantly on "Value for money", however, the "Value for money" impact factor on the purchase decision is of little significance when considered on its own. Basically, there is a lot more to purchasing than just value for money.
- Discount and Sales impact significantly on "Value for money", however, this alone will not necessarily result in a purchase - other criteria have to be met eg. fashionability, etc.. The focus group highlighted that customers are increasingly discerning about the different types of sale - customers claim that "some stores still have "real" sales, but not all".

2.6 SUMMARY

Markhams operates in a very competitive market. In order to understand the field of play it is important that one adopts a less myopic view of the competitive landscape and considers all potential players in the field, whether they be directly involved in retail business or simply providing a service to consumers in the retail market. After all, consumers do have limited levels of disposable income and all players, retailers and others, do compete for the same share of the consumers disposable income.

The ultimate goal of any retailer is to take a prospect from the market place and convert him into a loyal customer over a period of time. This process, referred to as customer bonding, provides an holistic framework within which a retailer can systematically target consumers needs and priorities.

Credit plays an important role in the fulfillment of customers needs and priorities. Credit is the facilitator, the means to an end as far as the consumer is concerned. The credit card account also provides a means, to the retailer, to better understand the consumer's purchasing behaviour through the accumulation of consumer data, be it demographics or actual purchase data.

Research indicates that consumers are not created equal. As Woolf (1996:11) clearly puts it, customers buy different items when they visit a store. They spend different amounts. Some customers visit regularly, some infrequently, and some just once. Some were in your store today; others last shopped with you months ago. Some come because you advertised specials, some because its convenient, and others come because they prefer your total offering. Customers are different and they yield different profits - and losses. It is therefore essential to be able to differentiate between the various types of customers. The next chapter proposes a theoretical framework to better understand and manage customer relationships in the South African apparel retail sector.

Note that the chapters that follow will use the terms Markhams and "the retailer" interchangeably.

CHAPTER 3

LOYALTY SEGMENTATION - THEORETICAL BASIS

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LOYALTY SEGMENTATION - THEORETICAL BASIS

3.1 INTRODUCTION TO MARKET SEGMENTATION

Segmentation is the process whereby organisations divide their markets into relatively homogenous groups. Rushton et al (1988: 48) states that effective market segmentation is about banding customers together into manageable groups so that the organisation can tend to common individual needs on a large enough scale to be both profitable to the organisation, and satisfactory to the customers.

Bovee and Arens (1989, 163) are more specific in their definition when they refer to market segmentation as the strategic process of aggregating subgroups within a total market in order that the organization may;

- Locate and define target market segments,
- Identify the needs of the segments,
- Design products/services to fill those needs,
- Promote the products/services to the target segments.

With regard to reaching the target segment both Mowen (1993: 18) and Cox and Brittain (1993: 67) go further when they refer to the need to have in place a distinct marketing mix for each of the target segments. In other words, the approach must be all encompassing. The full marketing mix needs to be considered from the point of view of each segment.

According to Peter and Olson (1987: 474-475) there are two general valuable patterns for segmenting markets, namely an **a priori** and **post hoc** segmentation approach. In terms of the **a priori** approach, the decision of the appropriate basis for segmentation is decided in advance (prior to) of doing any research on the market. For example, the decision could be that the market should be divided on the basis of whether consumers are heavy or light users of a product or say, on the basis of geographical (regional/province) location. Segmentation research is then conducted to determine the size of each of these groups, and appropriate descriptors are selected to provide demographic or psychographics profiles. In

post hoc segmentation, consumers are grouped into groups on the basis of research findings. For example, consumers could be interviewed on say, their attitudes towards a product/service, and these consumers are then grouped/segmented according to their responses. The size of these segments and their descriptors , psychographics/demographics, are then determined.

Both the **a priori** and **post hoc** approaches are valid and the question of which method to follow really depends on how much is known about the market, consumer behaviour and attitudes, cognition and environments for that particular product and/or service which is aiming to meet some consumer need/want. The segmentation approach proposed in this document follows the **a priori** method.

Aaker et al (1998: 45) mentions that the task of identifying segments is difficult, in part, because in any given context there are literally hundreds of ways to divide up the market. Aaker goes on to say that in order to avoid missing a useful way of defining segments, it is important to consider a wide range of variables. These variables need to be evaluated on the basis of their ability to identify segments for which different strategies are (or should be) pursued.

Rushton et al (1988:49) goes on to mention several reasons why an organisation should try to achieve a sensibly segmented market. The first reason relates to matching the organisation's resources with the customer's needs. The main focus is to identify consumers who have similar requirements/characteristics to each other, but who differ in these requirements/characteristics from the general market profile. If the organisation separates out these consumers as a distinct market segment, then this process enables it to;

- Develop offers that match customer requirements more accurately
- Focus its marketing activity on those customers whose requirements are most compatible with the organisation's resources.

The second advantage of a segmented market is that the organisation can develop more sharply focused marketing strategies, in other words the marketing planning process can be based on a detailed knowledge and understanding of individual market segments.

Aaker et al (1998: 46) state that a segment needs to be large enough to support a unique business strategy. Furthermore, that business strategy needs to be effective with respect to the target segment in order to be cost-effective. In general, it is costly to develop a strategy for a segment because often the fixed costs associated with the strategy will be carried/amortised by a smaller number of people - a segment is likely to be smaller than the market and the economies of scale are reduced.

In citing the disadvantages of segmentation, Cox and Brittain (1993: 72) refer to the dangers associated with segmentation, namely;

- The retailer could become too myopic in serving only one segment and, in the process, could miss out on opportunities that may arise in other segments.
- The retailer could become cost inefficient. That is, by targeting a small group the retailer may lose some of its economies of scale.
- The retailer could be trying to compete in too many different segments. This is a lesser risk in that the actual process of segmentation implies making decisions on which segments to pursue.
- The retailer could be locking itself into a segment that is declining. It is possible that in the analysis, the retailer could misinterpret the changing market conditions, particularly with regards to developments in the long-term and be swayed by short to middle term developments.

Rushton et al (1988:54) provides a checklist of five questions which, if the answer to all the questions is positive, will help identify a sound segmentation strategy;

- Are the needs that differentiate the customer groups genuinely different and easily discernible?

- Are the customers in one segment broadly similar in behaviour?
- Are the benefits/characteristics the retailer has chosen to use to describe a particular segment really relevant to the choice the customer makes when making buying decisions?
- Is each segment of sufficient size to yield an adequate return on effort?
- Can potential customers in each segment be readily identified and reached?

In deciding which segments to serve, Cox and Brittain (1993, 73) also suggest that it is important that the retailer takes into account the following issues;

- The objectives of the retail organization. In other words, the target segments must be compatible with the objectives of the retailer.
- The organization strengths and weaknesses, for example resources available to compete in the identified market segments, must be considered.
- Competitors' strengths and weaknesses. It is often preferable to attract a small segment where competition is weak than a large segment which is adequately served by strong competitors. In such situations, competing against strong competitors may drain the resources (financial and otherwise) of the smaller retailer. This could in fact be catastrophic to the smaller retailer.
- Channel relations. It could, for example, be difficult to break into a new segment because intermediaries provide a significant barrier to entry. For example, a product distributor could have an exclusive contract with a competitor of the retailer, on delivery of particular products or for deliveries within a particular geographic region. If no other distributor is available for the job, then the retailer will face a barrier to entry.
- Company image is equally important. A market segment could offer significant profit potential but it may not provide consistency with the company image. A manufacturer of cars, say BMW, could decide that a new model needs to be introduced for a potentially profitable "lower/middle/cheaper" market (a lower entry level). This strategy would be conflicting with its image, which is derived

from an existing "high/prestigious" segment such as aggressive, financially secure, image-driven professionals.

The case for market segmentation is defended by Peter and Olson (1993, 550) when they state that,

> "Market segmentation analysis can seldom (if ever) be ignored. Even if the final decision is to mass market and not to segment at all, this decision should be reached only *after* a market segmentation analysis has been conducted. Thus, market segmentation analysis is critical for sound marketing strategy development."

3.2 INTRODUCTION TO LOYALTY SEGMENTATION

Aaker et al (1998: 273) define attitudes as a mental state used by individuals to structure the way they perceive their environment and guide the way they respond to it. According to Aaker et al, there is a general acceptance that three related components form an attitude: a cognitive or knowledge component, a liking or affective component, and an intentions or actions component, with each component providing a different insight into a person's attitude.

The cognitive or knowledge component represents a person's information about an object/issue. This information includes awareness of the object/issue, beliefs about the characteristics or attributes of the object, and judgments about the relative importance of each of the attributes. The affective or liking component summarises a person's overall feelings toward an object, a situation or person. The intention or action component refers to a person's expectations of future behaviour toward an object or, as in this case, the retailer's brand.

The proposed Loyalty Segmentation model, discussed hereunder, incorporates a measurement of attitudes and covers the components mentioned above.

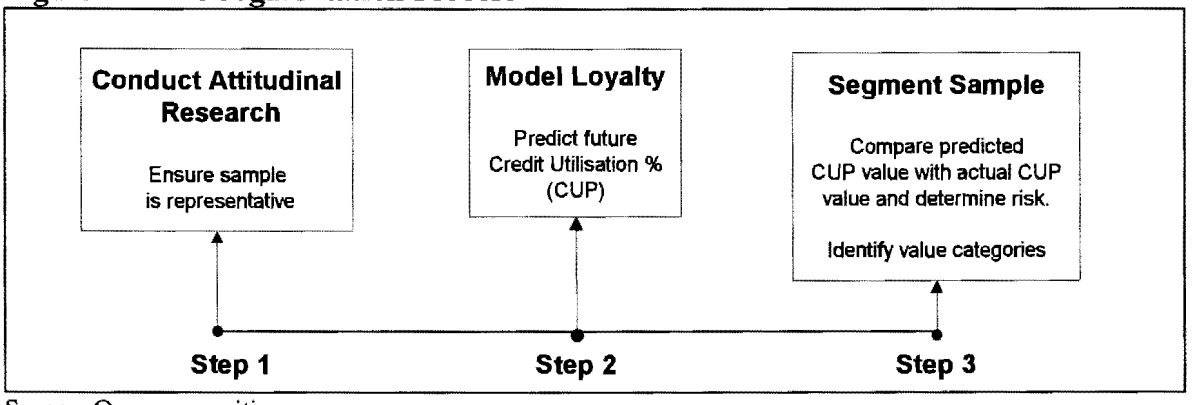
3.3 A LOYALTY SEGMENTATION MODEL

The ultimate indication of loyalty, from a retail point of view, is the extent to which the consumer is prepared to support the retailer. The consumer demonstrates his loyalty by spending that portion of his disposable income, which is available for the relevant category of purchases with a particular retailer. In other words a consumer will, consciously or unconsciously, allocate part of his budget towards clothing/apparel purchases. In turn, this spending is reflected on the utilisation of the credit that is available to each and every account holder at a specific retailer. This utilisation of the credit that is available can be expressed as a percentage, and will be termed the credit utilisation percentage (hereafter referred to as CUP).

The CUP becomes the dependent variable in the predictive model. In other words, the CUP becomes the variable that is predicted for each customer in the sample with respect to future behaviour.

The proposed segmentation process is reflected in figure 3.1. Broadly, the first step is the research of attitudes and perceptions of the population sample (discussed in detail in chapter 4).

Figure 3.1: The Segmentation Process



Source: Own composition

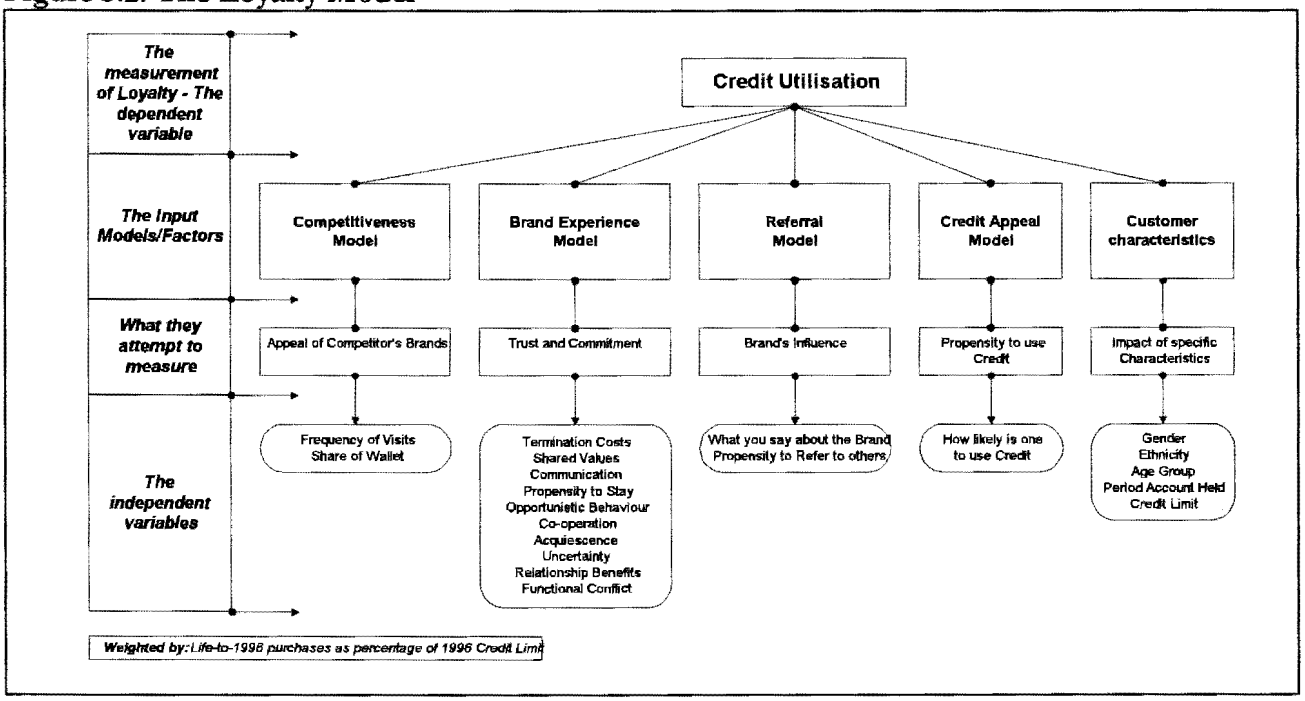
The second step of the process comprises the development of the loyalty model. At the heart of the loyalty model, which is summarised in figure 3.2, and is discussed in more detail later in this chapter, is a regression equation that maps out the various input variables and

their relative weights. The regression model comprises the dependent variable, CUP, and a series of independent variables, as per the various input models.

The third step is to segment the sample on the basis of purchases value (the value of the consumer's purchases at the retailer) and relative risk (the extent to which the consumer's purchases value is predictable) as determined by behaviour volatility (a measure of deviation in consumer's purchases value from the expected or predicted value). The long term objective is to monitor the changes in loyalty from one period to the next.

Figure 3.2 depicts the proposed complete loyalty model. This model maps out the relationship between the dependent variable, the CUP, and the independent variables as per the four input models and one other factor (the customer characteristics).

Figure 3.2: The Loyalty Model



Source: Own composition - based on the work of Hofmeyer and Morgan & Hunt.

Figure 3.2 identifies four different models namely, Competitiveness, Brand Experience, Referral and the Credit Appeal models. A fifth area of input are various customer related characteristics, some of which are demographic in nature, and which will contribute to explaining customer behaviour with regards to CUP. The study will now consider these four models and one factor in more detail.

The Competitiveness Model attempts to measure the appeal of competitive brands. Hofmeyer (1996: 32 - 33), states that the Research Surveys Group research into customer satisfaction and loyalty also shows that satisfaction alone is a poor predictor of loyalty. Hofmeyer suggests that customer satisfaction is only one aspect of what creates really committed customers, and he proposes that the key is to recognise that true commitment comes only when there is an emotional bond between customer and product or service. Hofmeyer also brings a second factor to the equation when he proposes that the power of competitive appeals is the measure to establish true commitment.

The competitive model includes the second factor mentioned by Hofmeyer when it compares the retailer's brand with that of its identified competitors. The contributing variables comprise "frequency of visits", being how frequently a customer is likely to visit the various retailers, and "share-of-wallet", which is the portion of the consumer's spending committed to the various retailers. From a competitiveness point of view it is important to determine which retailers pose the biggest threat to Markhams.

The Brand Experience model is based on the Morgan and Hunt's (1994: 20-38) Key Mediating Variable (KMV) model as depicted in figure 3.3. In essence, this model aims to measure the customer's experience with the Markhams brand as reflected in the customer's level of trust and commitment (attitudes). The Brand Experience model includes the cognitive/knowledge, liking/affective and intention/action components forming an attitude, as raised by Aaker (1998: 273).

Morgan and Hunt propose the KMV model in relationship marketing. This model attempts to explain the relationship between independent tire retailers and tire suppliers in the USA.

Morgan and Hunt (1994: 22) argue that "what should be central to understanding relationship marketing is whatever distinguishes productive, effective, relational exchanges from those that are unproductive and ineffective..." .

Morgan and Hunt's KMV model, focuses on one party in the relational exchange and that party's relationship commitment and trust. Relationship commitment according to Morgan and Hunt (1994: 23) is defined as an exchange partner (someone who is involved in a

transaction) believing that an ongoing relationship with another is important enough to warrant maximum efforts at maintaining it; that is, the committed party (the one who wants the transaction or series of transactions to take place) believes the relationship is worth working on to ensure that it endures indefinitely. Morgan and Hunt, conceptualise trust as existing when one partner has confidence in an exchange partner's reliability and integrity.

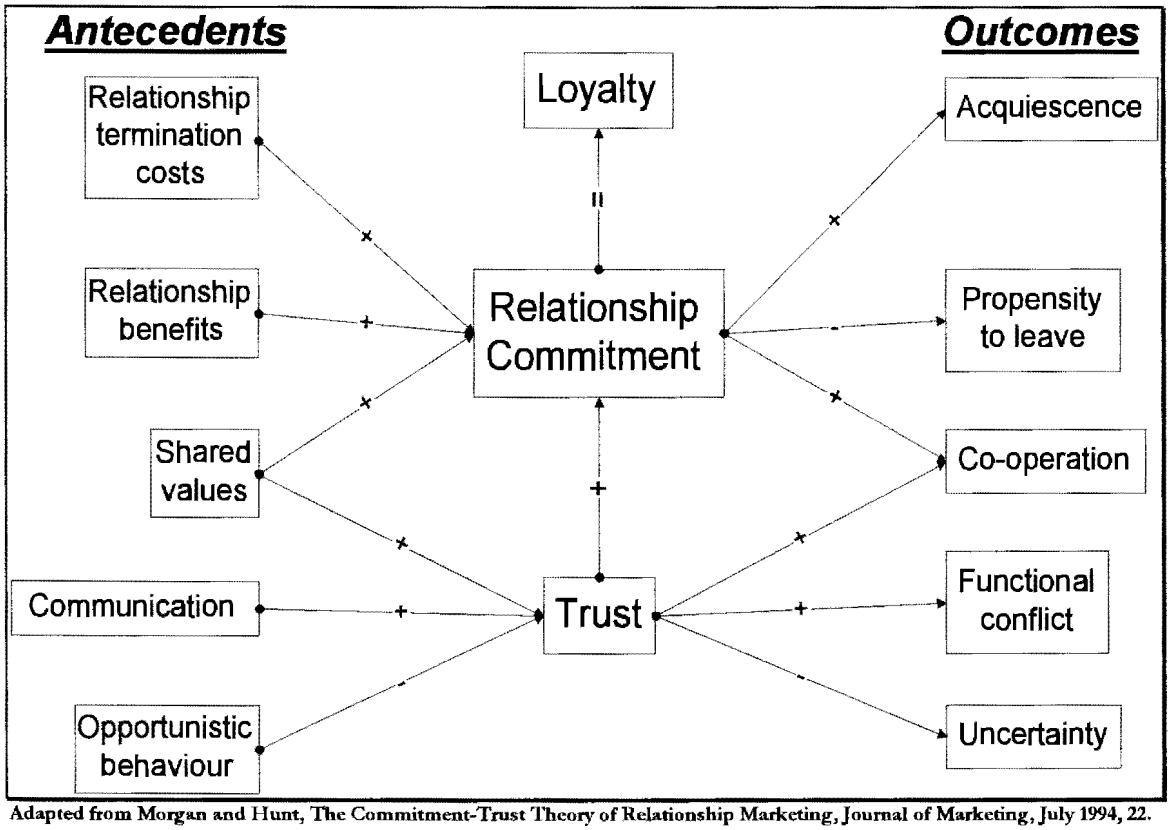
Commitment and trust are key issues because they encourage marketers to:

- Work at preserving relationship investments by cooperating with exchange partners (Markhams' customers);
- Resist attractive short term benefits of staying with existing partners and;
- View potentially high-risk actions as being prudent because of the belief that their partners will not act opportunistically.

Therefore, when both commitment and trust - not just one or the other - are present, they produce outcomes that promote efficient, productive, and effective behaviour by both parties to the relationship. In short, Morgan and Hunt (1994: 22) state that commitment and trust lead directly to cooperative behaviours that are conducive to relationship marketing.

Because it is hypothesised that relationship commitment and trust are key constructs, they are positioned as mediating variables between five important antecedents (i.e. Relationship termination costs, relationship benefits, shared values, communication and opportunistic behaviour) and five outcomes (i.e. acquiescence, propensity to leave, co-operation, functional conflict, and uncertainty). Each of these is now discussed.

Figure 3.3: The KMV Model of Relationship Marketing



Adapted from Morgan and Hunt, The Commitment-Trust Theory of Relationship Marketing, Journal of Marketing, July 1994, 22.

Relationship termination costs are defined as expected losses from relationship termination (when one or both parties in the relationship decide to end the relationship) and result from the perceived lack of comparable potential alternative partners, relationship dissolution expenses, and/or substantial switching costs. There are also non-economic costs, including the loss of social satisfaction from the association. These expected termination costs lead to an ongoing relationship being viewed as important, thus generating commitment to the relationship.

Relationship benefits relate to the retailer's ability to add value to his offering. Value may be construed to be a question of for example, product quality, product fashionability, product range, level of service, appropriate communication or perhaps simply an overall positive shopping experience.

Shared values, the only concept Morgan and Hunt posit as being a precursor of both relationship commitment and trust, is the extent to which partners in a relationship have

beliefs in common about what behaviour, goals, and policies are important or unimportant, appropriate or inappropriate, and right or wrong.

Communication is defined broadly as the formal as well as informal sharing of meaningful and timely information between partners. The perception by a partner in a relationship that past communication from another party have been frequent and of high quality - that is relevant, timely, and reliable - will result in greater trust (Morgan and Hunt, 1994: 25). As far as credit fashion retailers are concerned, communication with the customer is vital to the success of the relationship. This communication covers both the issue of letting customers know what the latest seasonal fashion is about, the special offers that take place (sales and promotions), as well as the status of the customer's account (how much is owed and when it is payable).

Opportunistic behaviour is defined as "self-interest seeking with guile", (Morgan and Hunt,1994: 25). In a credit fashion retailer's context, the situation would be related to the manner in which the retailer handles the customer's account - are the terms of payment acceptable to the customer? what about the manner in which the retailer charges interest on overdue accounts - is it fair and are competitive rates charged?. Hunt posits that when a party believes that a partner engages in opportunistic behaviour, such perceptions will lead to decreased trust. It is postulated that such behaviour results in decreased relationship commitment because partners believe they can no longer trust their partners.

Morgan and Hunt (1994: 25) posit five additional qualitative outcomes. *Firstly*, acquiescence and propensity-to-leave flow directly from relationship commitment. *Secondly*, functional conflict and uncertainty are the direct results of trust. *Thirdly*, and most importantly, Morgan and Hunt propose that cooperation arises directly from both relationship commitment and trust. Morgan and Hunt theorise that these outcomes, especially the crucial factor of cooperation, promote relationship marketing success.

Acquiescence is defined as the degree to which a partner accepts or adheres to another's specific requests or policies, and that relationship commitment positively influences acquiescence, whereas trust influences acquiescence only through relationship commitment. Propensity to leave is the perceived likelihood that a partner will terminate the relationship

in the reasonably near future. It is posited that strong negative relationship between organisational commitment and propensity to leave the organisation will also hold in relationships between organisations. Just as excessive employee turnover is costly for employers, so too is partnership instability. Therefore, it is desirable to have stability and this can be achieved through fostering commitment.

Cooperation is, from the Latin "co", meaning "together", and "operari", "to work", refers to situations in which parties work together to achieve mutual goals. Morgan and Hunt propose that partners can have ongoing disputes about goals but continue to cooperate because both parties relationship termination costs are high. Cooperation is not the same thing as acquiescence. Cooperation is proactive, acquiescence is reactive. Cooperation implies a party's intentional desire to be involved/participate in a relationship, whilst acquiescence implies an adherence to a set of rules or principles established by the other partner. A partner committed to a relationship will cooperate with another because of the desire to make the relationship work. Morgan and Hunt quote theory that indicates that trust also leads to cooperation; Deutsch's (1960) findings, using prisoner's dilemma experiments, suggest that the initiation of cooperation requires trust, and Pruitt (1981) suggests that a party will undertake high-risk, co-ordinated behaviour if trust exists. Anderson and Narus (1990: 45) state that when trust is established between organisations, these entities learn that coordinated, joint efforts will lead to outcomes that exceed what one organisation would achieve if it acted on its own and in its own best interests.

Functional conflict, according to Morgan and Hunt, relates to disagreements or "conflict" in relational exchanges. The hostility and bitterness resulting from disagreements not being amicably resolved can lead to such consequences as termination of relationships. However, when disputes are resolved amicably, such disagreements can be referred to as "functional conflict", because they prevent stagnation, stimulate interest and curiosity, and provide a "medium through which problems can be aired and solutions arrived at". Functional conflict, therefore, may increase effectiveness/productivity in relationship marketing, that is make one or both parties more attentive to delivering on the expectations of the other party to the relationship, and be viewed as "just another part of doing business". Hunt and Morgan posit that it is trust that leads a partner to perceive that the future conflictual

episodes will be functional. Hunt and Morgan propose that past communication and cooperation result in increased functionality of conflict as a result of increasing trust.

Uncertainty in decision-making refers to the extent to which a partner in the relationship *firstly* has enough information to make key decisions, *secondly* can predict the consequences of those decisions, and *thirdly* has confidence in those decisions. Morgan and Hunt posit that trust decreases a partner's decision-making uncertainty because the trusting partner has confidence that the trustworthy party can be relied upon.

Morgan and Hunt's (1994: 26) research tested the following 13 hypotheses:

- H1: There is a positive relationship between relationship termination costs and relationship commitment.
- H2: There is a positive relationship between relationship benefits and relationship commitment.
- H3: There is a positive relationship between shared values and relationship commitment.
- H4: There is a positive relationship between shared values and trust.
- H5: There is a positive relationship between communication and trust.
- H6: There is a negative relationship between opportunistic behaviour and trust.
- H7: There is a positive relationship between relationship commitment and acquiescence.
- H8: There is a negative relationship between relationship commitment and propensity to leave.
- H9: There is a positive relationship between trust and relationship commitment.
- H10: There is a positive relationship between trust and relationship commitment.

- H11: There is a positive relationship between trust and cooperation.

- H12: There is a positive relationship between trust and functional conflict.

- H13: There is a negative relationship between trust and uncertainty.

The above hypotheses are important to the retailer in that they clearly identify the components of the trust and commitment variables, and the individual components' effect on these variables (the key mediating variables). This is particularly critical in that the retailer must know what it is that he is measuring (what comprises trust and what comprises commitment) and what the effect is on the key mediating variables (whether there is a positive or negative effect).

By using this information the retailer can decide what action must be taken to increase the levels of trust and commitment on the part of the consumer/customer. For example, looking at hypothesis 13 (functional conflict), the hypothesis is that the relationship between trust and functional conflict must be positive, that is when the customer has a problem in the relationship with the retailer, the customer must feel free to raise the issue, in the knowledge that the retailer will listen to him and will act to sort out the problem. If the customer's expectations are met, that is the retailer will listen to him and will act accordingly, then the customer will continue to speak-out when necessary (should further functional problems arise in the relationship with the retailer) in the knowledge that he will be listened to. This sequence of events will give rise to higher levels of trust towards the retailer on the part of the customer.

The risk that exists when the retailer stops or refuses to listen is that the customer will stop complaining (he no longer trusts the retailer to act) and eventually walk away from the relationship due to higher levels of dissatisfaction. The usual cry of dissatisfied customers who simply just walk away from the relationship is: "why complain when they don't listen".

In addition to the variables already identified, Morgan and Hunt's research questionnaire raised two questions dealing specifically with trust and relationship commitment. Theorising that commitment and trust are key variables that mediate successful relationship marketing, Morgan and Hunt developed a causal model containing the mentioned 13 hypotheses that

they tested in the context of automobile tire relationships. Morgan and Hunt's correlation analysis supported all 13 hypotheses. In their model, not only do the hypothised antecedents explain over half the variance in relationship commitment and trust, they also explain a substantial amount of the variances in five outcomes, including almost half of the variance of the crucial variable, cooperation.

The proposed Loyalty model takes cognisance of the findings of the KMV model and uses the antecedents and outcomes as input variables in the Brand Experience model. The individual variables and research questions supporting these variables are detailed in chapter four.

Note that the input models in the Loyalty Model can be used independently as diagnostic tools monitoring various aspects of customer attitudes.

The Referral Model, which is based on the principle of advocacy (the highest form of loyalty) as highlighted by Cross and Smith (1995), aims to measure customers' response to the brand experience, in particular what they have to say to others about the brand, whether it be positive or negative feedback, and the extent to which the customer refers the brand to others.

The Credit Appeal Model is important in light of the fact that customers have two choices when making a purchase, either they buy on credit or for cash. It is likely that there would be a relationship between the propensity to spend on credit and actual credit utilisation. The customer's propensity to use credit is likely to be a contributing factor in predicting CUP (Credit Utilization Percentage).

Customer Characteristics, such as ethnicity, age group, period account held, credit limit and gender are likely to be contributing factors in the prediction of CUP. The impact of these will be analysed in chapter 5.

3.4 OUTCOME MEASURES OF THE LOYALTY SEGMENTATION MODEL

The outcome of the loyalty model is a CUP prediction for each individual in the sample. When one compares the prediction with the actual CUP, one is able to quantify the level of risk inherent in the customer's relationship with the brand.

Shim and Siegel (1998: 300) state that risk refers to the variability of cash flow (or earnings) around the expected value (return). The measure of relative risk and the value of purchases over the period are used to segment the sample. In essence the objective is to consider each customer as an asset who is expected to give the retailer a return on his investment in the relationship. Risk relates, in this case, to the volatility that exists in consumer purchasing behaviour at the retailer, whilst value relates to the actual purchases on credit made by the customer over the analysis period.

The retailer's investment, in its simplest and most significant form, comprises the credit limit allocated to the customer. One may refer to this "investment" as an opportunity cost, a symbolic investment (for a retailer with limited financial resources, this would in fact comprise an opportunity cost). The actual credit limit, as explained in chapter 2, is not an arbitrary figure estimated by the retailer but the result of calculated risk and return. The loyalty model takes this credit limit, amongst other things, into account when predicting the expected CUP for every customer in the sample.

The difference between the actual CUP and the predicted CUP is CUP volatility; a measure of the dispersion of actual outcomes for a specific customer. The larger the variance the greater the dispersion and the greater the risk. Risk may be either neutral (customer's CUP is as predicted), positive (customer's CUP is better than predicted) or negative (customer's CUP is worse than predicted). Neutral risk can be categorised into Medium High risk or Medium Low risk. The reason for this is to allow for small variances around the predicted value. This is to say that the predicted value is calculated at, for example, the 95% confidence level.

The proposed segmentation model, as reflected in figure 3.4, measures risk in relative terms through the coefficient of variation, in other words it measures the variation between the customer's actual purchasing value in relation to his credit limit, and the model's predicted purchasing value in relation to the same credit limit for the respective customer. In essence, Markhams' wants to see how predictable the customer's purchasing behaviour is and the aim is to be able to categorise this level of predictability or risk inherent in the customer's purchasing behaviour. It represents the degree of risk per unit of return.

This relative risk is calculated by dividing the difference between the actual and predicted credit utilisation percentages, by the expected or predicted value. Four levels of risk are identified, on a micro level, as High, Medium high, Medium Low and Low risk. These four levels are summarised at the Macro level as two levels, namely High and Low risk levels (see figure 3.4).

The determination of what comprises the various levels of risk is based either on values pre-determined/agreed to by management (from experience) or, as adopted by the model, on the outcomes of clustering procedures which identify the required four groups/levels of risk.

Equally important is the value of the customer to Markhams. Value in this regard relates to the actual purchases made by the customer. The extent of these purchases is the principal component impacting on Markhams' profitability. Figure 3.4, reflects four levels of customer value on a micro level, namely the High, Medium high, Medium Low and Low value levels. These four levels of value are summarised as two levels on the macro level, namely the High and Low levels of value.

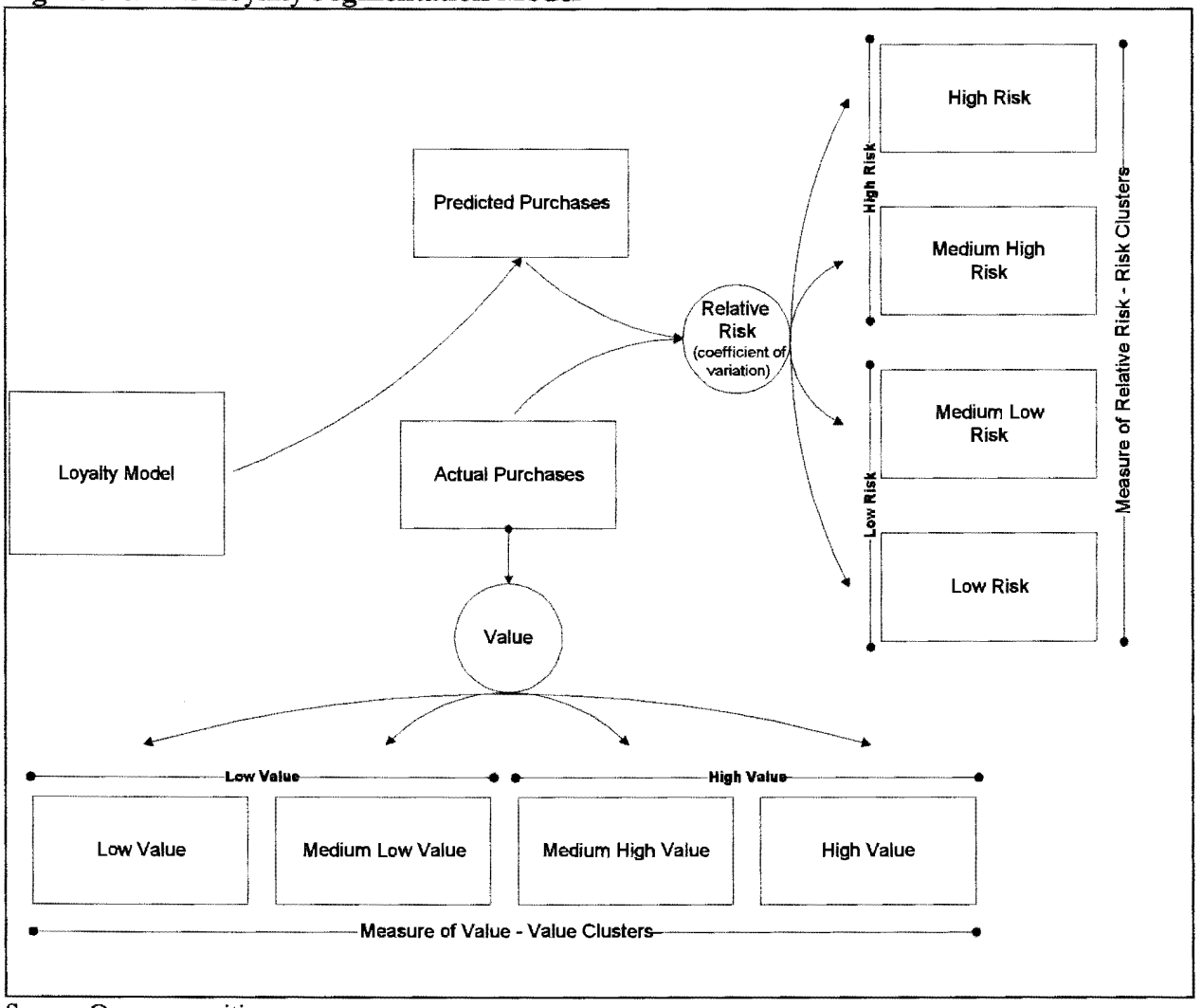
The determination of what comprises the various levels of value is based, either on values pre-determined/agreed to by management (from experience) or, as adopted by the model, on the outcomes of clustering procedures which identify the required four groups/levels of value.

Segmentation can be done on an ongoing basis through the use of this model and the timing/frequency thereof will vary from industry to industry. The timing must take

cognisance of the volatility of consumer behaviour, as reflected on purchase frequency and value, in the respective industry as well as the dynamics of customer/segment management adopted by the retailer. Pro-active or aggressive retailers (those who want to be close or alert to the possible changing behaviour of their customer base) will want to segment their customer base more regularly. After all, the more up-to-date the information is at the hands of the retailer, the faster the retailer may act on threats, for example, the threat of customers leaving the relationship for whatever reason. In this situation the retailer will want to correct any problems which may exist in his relationship with the customer, or capitalise on opportunities.

The segmentation exercise could, in its simplest form, be an annual exercise (the snapshot) that allows the retailer to measure the levels of loyalty of its customer base (what percentage of its customer base falls into which segment). The annual or periodic shift in the size of the segments would allow the retailer to see whether its customers are becoming more or less loyal; as determined by the extent to which value and relative risk is shifting.

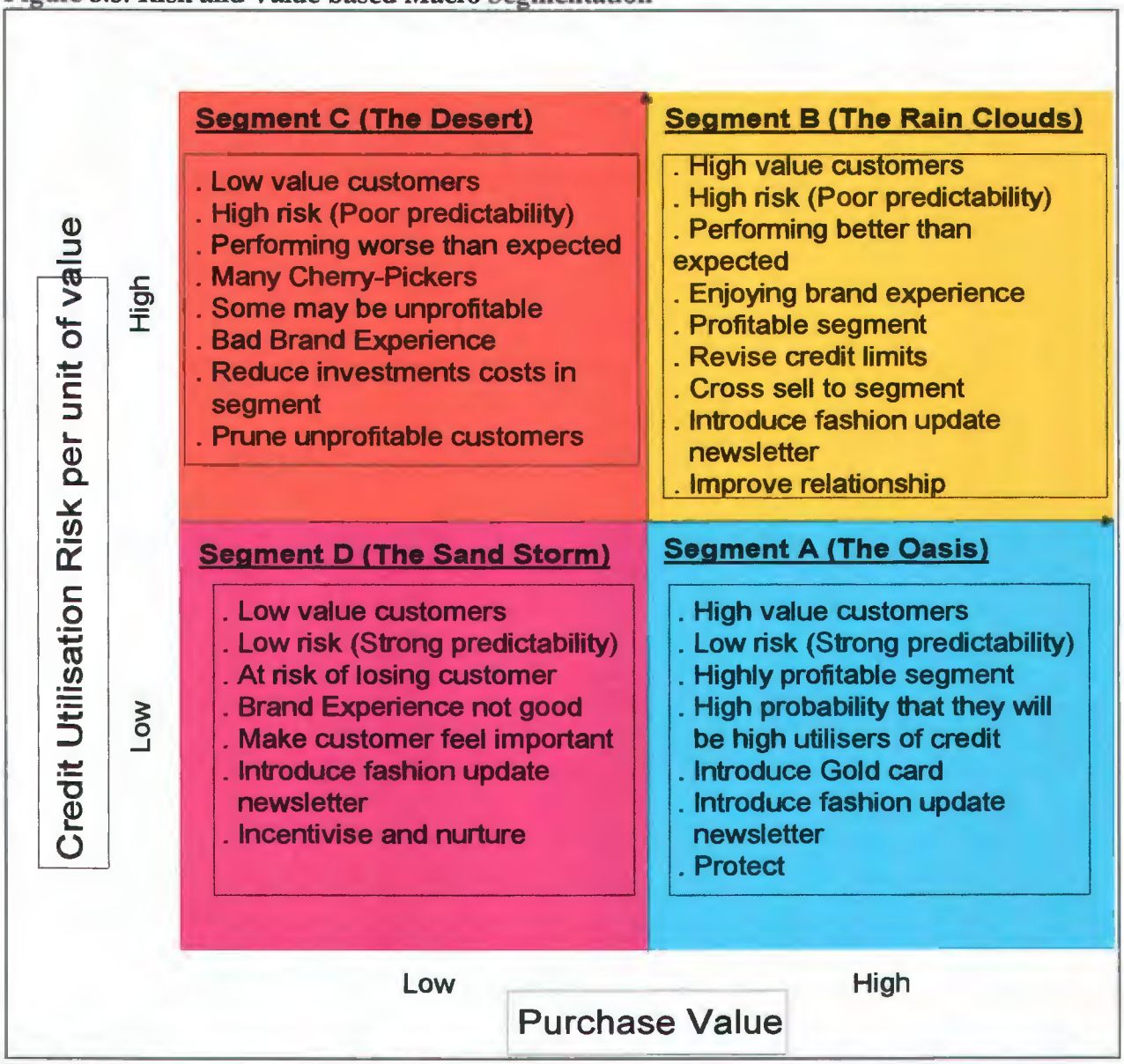
Figure 3.4: The Loyalty Segmentation Model



Source: Own composition

The final analysis will reflect a segmentation that is, on a macro level, identified by four macro segments as portrayed in figure 3.5. The analogy used is that of "The Desert" where extreme conditions exist and which are ideal to describe the identified segments.

Figure 3.5: Risk and Value based Macro Segmentation



Source: Own composition

The characteristics of each one of these segments and potential strategies will be considered next.

3.5 MACRO SEGMENTS AND POTENTIAL STRATEGIES

The following are the mentioned macro segments and respective potential strategies:

- **The Oasis Segment**

The Oasis segment is a place of consistent abundance. This is where the most valuable customers exist. These customers are characterised by purchases of high value (over given period of time) and low risk per unit of expected credit utilisation percentage, in other words their CUP is as expected. These customers are also likely to continue to be good profitable customers in the future.

The retailers' action with regards to customers in the Oasis segment is, first and foremost, to ensure that competitors' offers do not result in a shift in loyalty. This is where future profitability is assured. The retailer should monitor customer performance over time, if the account becomes dormant for a period longer than the average for the segment, a courtesy/customer service orientation call would be appropriate to determine if there is any problem, to get customer feedback about the merchandise in the store, or simply to assure them that the retailer values their business.

It might be appropriate for the retailer to communicate with these individuals intelligently, that is to avoid bombarding them with mail. The retailer should consider sending out a better quality brochure, the equivalent of a mini magazine with fashion advice for the new season or a fashion update newsletter. The retailer might want to invite these individuals to pre-season previews of the latest fashions (an evening cocktail function "by invite only" in the main stores would be appropriate) and there could also be some form of purchase incentive to the customer (a X% discount on purchases made on these evenings).

Another opportunity lies in the area of customer service. The retailer could, for instance, issue gold cards to these individuals and could have an exclusive speedy toll-free line printed on the card (best telephone response times would be guaranteed to the customer). This would ensure that the customer does not have to wait on line for help and that the correct treatment/service, "the extra mile", is given to the customer. Customers seen with this card

in store could be treated differently by simply ensuring that they do not have to wait in long queues at the till; an "emergency" till could be available.

Another area that merits particular attention is the debt collections area. Sensitive and intelligent treatment applied to these customers in early collections can have a very positive influence on their loyalty. A courtesy call, as opposed to a generic collections letter or call, can work wonders and make the customer feel that the retailer cares about him and is treating him as an individual. The retailer should consider delaying the first collections letter until a later period, for example, the letter could go out on the second month of arrears instead of the first.

These customers, because of their value to the retailer, could have a lower interest rate (instead of the current maximum usury act rate) applicable to their arrears. It is in fact likely that this would be perceived as a substantial customer benefit, at little cost to the retailer. After all, these customers are likely to be good account payers and are not charged interest often.

The credit line must be regularly reviewed, in line with expected CUP. The retailer should ensure that these customers are aware of the fact that they do have an "oversell" facility (the amount by which they are allowed to exceed their credit limit) on their credit line.

The retailer payment policy is that the required installment must be paid by the 7th of the following month, but the system only processes the monthly statements on the 12th. Therefore, customers really do have an extra five days to pay their accounts before penalties are levied. These customers could be allowed to pay their accounts by the 12th instead of the 7th and they therefore stand to benefit by avoiding the queues of customers paying their accounts at the tills at the end of the month.

These customers are good targets for cross selling opportunities within the the retailer's brand and in the case of Markhams, within the Foschini Group. Typical cross selling opportunities comprise financial products like insurance and personal loans, as well as special offers from other companies within the Foschini Group, for example, jewellery from

the jewellery division, and for those customers who are married (information is available on the application form), perhaps an account at Foschini stores for his wife.

- **The Rain Clouds Segment**

The Rain Clouds segment stands for a promise of future abundance. Customers falling into this segment have credit limits that are lower than those of the "Oasis" and "Sand Storm" segments. However, the Rain Clouds segment credit utilisation percentage is, on the one hand, lower than the "Oasis" segment but, on the other, higher than the "Sand Storm" and "Desert" segments. The value of their purchases will rank second to that of the "Oasis" segment. These customers are considered to be high value customers. Their Brand Experience is likely to be very positive, in fact their position in this regard could be that of "highly satisfied", bearing in mind that they are high utilisers of their respective credit limits.

Rain cloud segment customers perform better than expected, in other words, their CUP is better than the forecast. It is from these "clouds" that the Oasis segment gets its future "water". The strategy that should be adopted is to nurture the segment. These customers, although currently profitable, are a soft target for other retailers in that they could, in the near future, expect the retailer to meet their high demand for credit and unless the retailer acts on this need, these customers become easy prey for competitors.

One has to question why these customers are performing better than expected. Considering that credit utilisation is higher than expected, the first question to be asked is whether the customer's credit limit is adequate. In deciding on credit limit increases, it is important to take into account the customer's past account payment performance. Customers with good account payment records (possibly those whose accounts are up-to-date and seldom fall into arrears) might warrant a credit limit increase. The way that this increase is implemented is important. The opportunity for the retailer to be seen as caring for these individuals personal needs must be capitalised upon. Ideally the customer should get a phone call informing him that he qualifies for the credit increase. This phone call should be followed-up with a "thank-you for your support" personalised letter from a credible source in the business, for example the Marketing Manager. The issue is that the customer must perceive/believe that he is special and important to the retailer. Budget permitting, these

customers should also receive the fashion update newsletter, or at least a better or more frequent fashion brochure.

It is likely that these customers will give a good rating for the retailers' communication effort. After all the value of their purchases seems to reflect high awareness of fashion.

- **The Sand Storm Segment**

This segment comprises customers who are somewhat disatisfied with the overall brand experience. The CUP and value is lower than expected. It is likely that these customers' allegiance lies elsewhere. Customers in this segment could also be trying to avoid credit.

The strategic objective with this segment should be to try to increase the customer's credit utilisation. It is likely that the customer's average period in the retailers' books is high in comparison to both the Rain Clouds and Oasis segments. It is essential to re-activate these customers' interest in shopping at the retailer.

The communication with these customers has to emphasise any new leading fashion at the retailer. These are customers who have been around for some time. They probably do not visit the retailer's stores as often as customers in the top two segments. Therefore, it is critical to make these customers feel important again. This could take the form of invitations to new store openings or refurbishing, as these "new" stores are likely to have an injection of "new", more modern look. Brand building activities (strongly positioning the brand) are essential if the retailer is to change perceptions. There is a strong need for the retailer to work on and change these customers' negative perceptions.

Sand storm segment customers are likely to be slow account payers. This in itself is not a negative thing as the retailer earns interest in its own book, particularly on accounts in arrears. It is important however, to make sure that these customers are not over penalised for late payments, that is that their credit available, in the best risk cases, is not suspended/withdrawn. The largest threat that exists is that because these customers are in arrears, they are likely to be the target of aggressive collection strategies. It is possible that these customers are constantly being reminded that they must pay their accounts. This in

itself is likely to be a negative experience. The solution is willingness on the part of the retailer to negotiate favourable payment terms with these customers, extreme courtesy on the side of the debt collectors and a non-offending tone used in collections letters/messages.

Credit limits do not seem to be a problem. After all the average CUP is likely to be low. The focus should be on the fashion offering and attentiveness towards the customer as an individual. The retailer should certainly focus on the value proposition (fashionable merchandise, right quality and price of its merchandise). This customer is likely to be cautious in his spending (after all there is far too much credit available for spending - the CUP is low).

The relationship period with this customer is likely to be longer than average, but perhaps a bit stale (the customer has been around for some time and his purchase values are less than expected). The customer must have a well defined/entrenched perception of the retailer.

The retailer has to make the customer feel important and consider ways to rejuvenate this relationship. One of the possible approaches would be for the retailer to emphasise the benefits of credit ("buy now pay later", six months interest free credit, low monthly payments, budget account - more than six months to pay with "competitive" interest, a means to afford the current season's fashion immediately while being able to pay for it during the season). The retailer might have to invest in the relationship by using incentives in order to bring the customer back into the store.

- **The Desert Segment**

This is the least valuable and most risky segment of all. The CUP and customer satisfaction level for this segment is the lowest amongst all four segments. These customers have low credit limits, pay their accounts late and possibly not the full amount, and are the most likely to pursue sales. This is the segment from which the retailer is likely to experience the worst bad debt. Revenue contribution from these customers contribute is far less than expected. These customers' accounts are likely to run at a loss, once all costs are taken into account, or are only marginally profitable.

The strategy with this segment should be to prune out those customers who pose the greatest risk and to reduce the marketing communication investment. Ideally, one wants to keep costs as low as possible. Some of these customers may be worth keeping on the credit facility, particularly those who are not resulting in incremental losses to the retailer, and assuming that the retailer has spare capacity in its infrastructure. In essence, contributions from the marginally profitable customers, or those who are simply breaking even, would contribute towards recovering the fixed costs in the retailer's financial structure.

Considering that credit purchases are low, these customers are also likely to make use of cash in order to purchase clothing. Perhaps here in lies an opportunity to capture this portion of their spending (Edgars' cash card? or perhaps a cash incentive card similar to the Clicks card or Edgars - discussed in chapter 2).

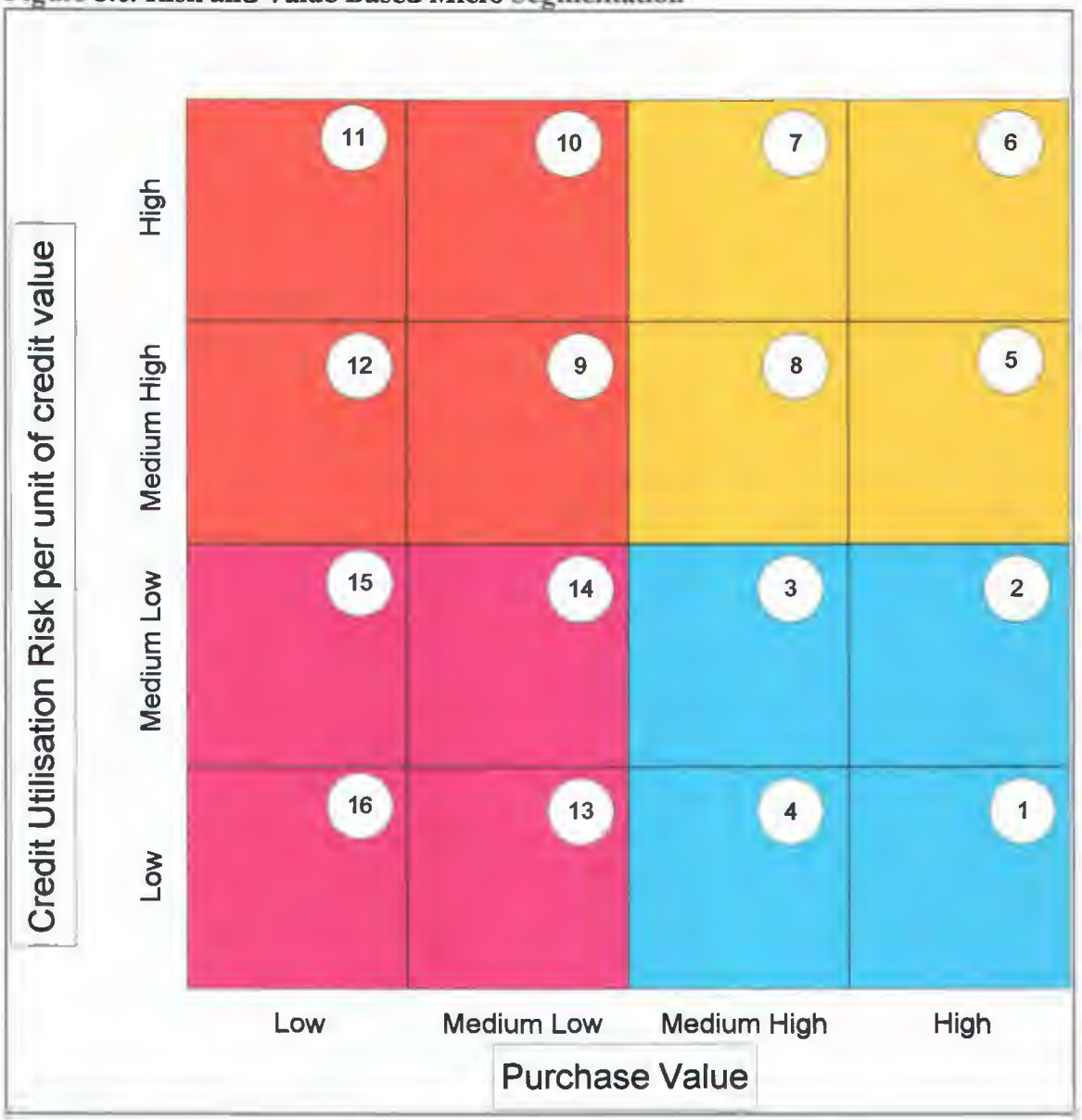
Some of these customers do have a role to play in that they clear up the retailer's stock at the end of a season. After all the fashion retailer does not want to carry stock from one season to the next, this stock is simply not salable and the next time that season comes around, chances are the fashion style has changed. The trick is to reduce costs in maintaining these customers. One method is for the credit facility to attract an annual fee in order that some costs may be recovered. The annual fee is also likely to make some of the customers (possibly the most unprofitable) migrate to competitors or simply chose to buy for cash on sales.

As far as Markhams is concerned, it is in the Sand Storm and Desert segments that one is likely to find most of the female account holders. The reasons are both economic (lower earnings which result in lower credit limits), and the fact that Markhams is seen as a men's fashion specialist, as the logo states "in here its a mans world". Thus, unless they are married, women are less likely to be attracted by Markhams' positioning and product offer. It is a known fact that the Markhams' credit granting model did discriminate against woman opening accounts at Markhams for risk related reasons. This particular peculiarity in the credit policy was changed recently.

3.6 THE MICRO SEGMENTS

The four macro segments can be further segmented into sixteen micro segments as depicted in figure 3.6. The reason why the retailer might want to consider these micro segments is because of possible scarce marketing financial resources, and to better understand the nature of the macro segments. Furthermore, movement from one micro segment to another will allow the retailer to identify subtle shifts in loyalty a lot sooner than if only the macro segments are considered. The reason for this is that a macro segment reflects the average of the 4 micro segments within it. Thus, an analysis of the micro segments is likely to remove the bias that comes with results reflected as an average. In essence, an analysis of this shift/movement from one micro segment to another also allows the retailer to ascertain whether the strategy adopted for the macro segment is working or not. In other words, the question that one should ask is whether there are noticeable movements or shifts in the micro segments comprising a macro segment. If there are movements, and the movement is in the desired direction (for example, more customers are moving into a more predictable, less risky or less volatile position), and more valuable micro segment, one can assume that the strategy is producing the intended results.

Figure 3.6: Risk and Value Based Micro Segmentation



Source: Own composition

The micro model essentially allows the retailer to allocate its marketing and other financial resources to those micro segments that matter most from a strategy point of view. The retailer could, for example, find itself in a situation where the marketing budget would not allow every segment to be targeted effectively. In this situation, the retailer would prioritise and target, within the budget constraints, the micro segments that need the most attention.

3.7 SUMMARY

Effective market segmentation is about banding customers together into manageable groups so that the organisation can tend to common individual needs on a large enough scale to be both profitable to the organisation, and satisfactory to the customers.

There are two general patterns for segmenting markets, namely an **a priori** and a **post hoc** segmentation approach. In terms of the **a priori** approach, the decision of the appropriate basis for segmentation is decided in advance (prior to) of doing any research on the market. In **post hoc** segmentation, consumers are grouped into segments on the basis of research findings. Both the **a priori** and **post hoc** approaches are valid and the question of which method to follow really depends on how much is known about the market, consumer behaviour and attitudes, cognition and environments for that particular product and/or service which is aiming to meet some consumer need/want. The segmentation approach proposed in this document follows the **a priori** method.

Segmentation strategies are not without risk and in this regard, Cox and Brittain's (1993: 72) findings were highlighted in the text. However, market segmentation analysis should never be ignored. Even if the final decision is to mass market and not to segment at all, this decision should be reached only *after* a market segmentation analysis has been conducted. Market segmentation analysis is critical for sound marketing strategy development. Effective market segmentation strategies are essential if the full profit potential of the retailer is to be realized.

The segmentation analysis in this study takes cognizance of research work done by Morgan & Hunt and by Hofmeyer, as the foundation for the proposed loyalty segmentation model.

The Desert scenario, where extreme conditions exist, is used as the analogy for the Segmentation model, with four macro segments (Desert, Oasis, Sand Storm, Rain Clouds) being used to categorise respondents along two criteria, namely that of Value and Relative Risk. Segment characteristics are used to segment the retailer's database.

Chapter four considers the research methodology and chapter five will provide the detailed analysis encompassing the segmentation described above.

CHAPTER 4

THE RESEARCH PROCESS AND METHODOLOGY

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4.0 INTRODUCTION

This chapter presents the research process used in the study. This process provides a systematic, planned approach ensuring that all aspects of the research process are consistent with each other. Martins et al (1996: 81) refers to this process as a series of steps which can not be viewed in isolation, but which should be seen and dealt with as an integrated whole. The research process is reflected in figure 4.1.

The first step in the process is the identification of the research objectives and posing of the research question or problem. The objectives of this study are identified in chapter one and the research problem is outlined. These objectives are frequently revisited throughout the process in order to ensure that all the objectives set out in chapter one are in fact accomplished.

The second step involves exploratory work on secondary data sources such as the retailer's in-house statistics, prior research conducted by the retailer, research projects conducted by individuals outside the organisation and various literature on the topic under consideration by this research. Chapter one and two consider a number of such sources which are relevant to the identified research problem. Chapter three considers work done on the KMV model by Morgan and Hunt (1994) as well as other work conducted by various individuals on related topics. The information contained in these secondary data sources set the scene and contributes to the identification of consumer behaviour, needs and priorities in a credit based retail environment, refer to chapter two.

The third step comprises revision and fine-tuning of the research problem/question. The richness of the secondary data allows the research question to evolve systematically. This is accounted for when the final research question/problem is set/identified. Chapter one details the final research problem.

The fourth step considers the design of the research study. This design aims to answer the questions originating from the objectives identification and the research question/problem. The loyalty model comprising the framework for the study is defined and described in chapter three. The process of setting of the questions affecting the various input models of the Loyalty Model is described in this chapter, chapter four, and the survey statements/questions are considered individually.

The fifth step relates to the identification of the target population and the determination of the sample characteristics. It is critical to ensure that the sample is perceived to be representative of the target population. To this end, considerable consultation took place with the retailer in question. Sampling error is considered together with ways of eliminating or reducing such errors. Chapter four details the process undertaken. Another aspect considered was the budget implication for the research project and, once again, the retailer was involved and approved the final budget. This was an important step in that there is a need to ensure that the sample is representative of the target population, yet budget constraints have to be taken into account. After all, the sample size together with collection methodology of primary data do account for most of the budgeted costs.

The sixth step relates to testing of the research survey. The objective here is identification of weaknesses in design and instrumentation, and to ensure that there will not be any functional conflict with the application of the research survey to the target sample. In essence it allows the researcher to fine tune both the research survey and the sample. Chapter four details the process that was followed.

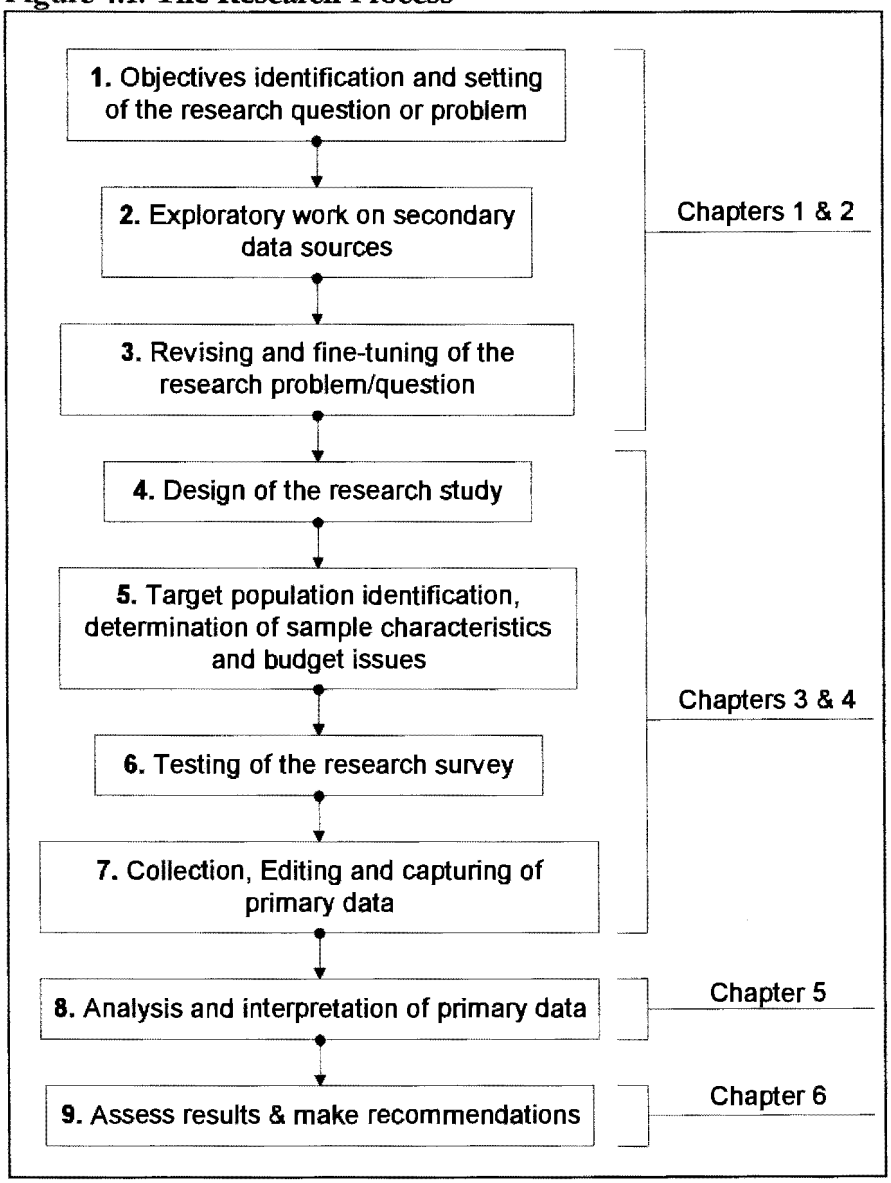
The seventh step deals with the collection, editing and capturing of the primary data. Chapter four details this process. An issue under consideration are the costs associated with such activities. The collection method adopted, as discussed in chapter four, ensures that costs are maintained within budget constraints and that the data is collected in a reasonably short period of time.

The eighth step in the process deals with analysis and interpretation of the primary data. The process essentially comprises the reduction of the primary data to a manageable size

from an interpretation point of view. This entails summarising, comparing and transforming the primary data, as well as using statistical methods, bearing in mind that the objective is the interpretation of the results in answering the research problem/questions. Chapter five focuses on this issue.

The final part of the process entails the assessment of the results and recommendations. Chapter 6 details these issues and mentions the limitations related to this research. In addition areas for further research are identified.

Figure 4.1: The Research Process



Source: Adapted from Martins J.H. et al (1996: 81). Marketing Research - A South African Approach. Pretoria: Unisa Press.

The above represents a broad overview of the research process. The issues relevant to chapter four are now considered.

4.1 THE DATA SOURCES

There are two types of data sources namely, primary data and secondary data (Aaker et al 1998: 77). Primary data sources are original data collected specifically for the purpose of the research in question. Secondary data is existing data which can be used for the purposes of the research in question. Secondary data may be from an internal source, that is data generated by the business in the course of its business or from an external source that is, data from outside the business (Martins et al 1996:99-103). This research makes use of both primary data (described in this chapter) as well as secondary data (considered in chapters 1 to 3).

4.2 DATA COLLECTION METHODS

Research can be either qualitative or quantitative in nature. The purpose of qualitative research is to find out what is on the respondents' mind (Aaker et al 1998:186) and not to generalise about the specified population (Martins et al 1996: 134). In essence, qualitative research is used to obtain greater clarity on a vague research problem. The purpose of quantitative research, on the other hand, is to collect primary data from a large number of individuals with the intention of projecting the results of the analysis to a wider population (Martins et al 1996:125).

The primary research data required for this research is of a quantitative nature as the research findings will be generalised to the retailer's population.

There are various methods of collecting quantitative primary research data namely, personal (also known as face to face) interviews, telephone interviews or mail based self-administered questionnaires.

Personal interviews involve asking respondents specific questions. It is the interviewer's responsibility to contact the respondents, ask the questions and record the answers.

According to Aaker et al (1998: 237) and Martins et al (1996: 125-133), some of the advantages of a personal interview are the following:

- Interviewer can arouse interest in the respondent, reduce respondent anxiety and increase the rate of participation and continuing rapport
- Interviewer may demonstrate products or show advertisements and obtain reactions
- Pictorial and mechanical aids can be used to clarify misunderstandings and probe for more complete answers
- This method makes it more feasible to ask complex questions or probe for deeper meaning or feelings
- A personal interviewer's questionnaire has a high degree of flexibility - The interviewer can skip or add questions depending on the answer given to a previous question
- The depth or detail of data that can be secured is more superior than that of telephone or mail surveys

Some of the disadvantages associated with personal interviews are the following (Aaker et al (1998: 238):

- Prestige seeking, social desirability and courtesy bias are possible problems that may arise when the respondent is "face-to-face" with the interviewer
- Personal interviews are time consuming, administratively difficult and costly
- Respondents may be reluctant or refuse to answer sensitive or embarassing questions
- Personal interviewers are reluctant to visit or may refuse to visit at night certain geographical areas (specific townships or inner cities like Hillbrow in Johannesburg). This may contribute to non-response bias.
- Interviewers' tone of voice, body language or other intentional or unintentional cues may influence the respondents' response.

- Interviewers mainly work independently with limited supervision, possibly given rise to cheating (interviewers complete whole or parts of questionnaires themselves)

(2) Telephone interviews are interviews that are conducted over the telephone between the interviewer and the respondent. The following are the advantages of such interviews (Aaker et al (1998: 242) and Martins et al (1996: 130-133):

- By far the quickest data-collection method
- Are usually conducted from a central area, allowing for close supervision
- Supervisors can double-record the interview by listening in on an extension and can, as a result, weed out incompetent interviewers or retrain them
- May be conducted from the interviewer's home, albeit unsupervised (Back-checks may be necessary to ensure quality of data) - could be more convenient for interviewers (mothers with babies/small children)
- More interviews can be conducted than on the personal interview basis
- More hours of the day are productive - people may be contacted at home or office
- Repeated phone call-backs at different times can be made at relatively little cost
- This method allows for fast collection of data, absence of administrative problems in comparison to personal interviews and relatively low cost per completed interview
- Effective method to access hard-to-reach people like busy executives
- Likely to be less sample bias due to non-response (mainly due to the easiness of call-backs when the respondent is not at home)
- Provides for greater anonymity than the case of the personal interview and therefore it lessens the interviewer bias
- Allows for the use of complex interviewing procedures such as skip-patterns, probes and refer-backs

Some of the disadvantages of the telephone interview are the following (Aaker et al 1998: 243) and Martins et al (1996: 130-133):

- Poor sample control remains one of the most critical drawbacks related to telephone surveys. In South Africa, and amongst the retailer's customers in particular, there is a possibility of sample bias due to a large portion of its customer base not having direct access to telephones. This problem is becoming less of a problem with the introduction of cell phones, but even here one finds that customers are more likely to make use of the short term temporary phone cards (eg. the 15 days Vodago card which provides limited usage) with the result that either the card is fully utilised before the end of the month (when the next card is purchased) or the individual moves onto a new card and telephone number (cards have their own unique telephone numbers)
- It is impossible to employ visual aids or very complex tasks. For example it is not feasible to ask respondents to retain in their memory the name of eight different retailers and then ask them to choose one retailer
- The time of the call may be irritating for the respondent (Respondent may be watching specific television program, having dinner or sleeping already)
- The interviewer has to rely solely on verbal cues to judge the reaction and understanding of respondents
- The use of certain measurement scales such as constant-sum scale poses a problem
- Use of lengthy interviews is a problem (respondents get bored, lose focus and interest) - interviews are usually short and this limits the quantity of data that can be collected in that specific interview
- The amount of information that can be collected over the phone is questionable

(3) Mail based self-administered questionnaires comprise a structured questionnaire which is sent to a group of target respondents who complete it in their own time and return it to the research unit (Martins et al, 1996: 150). The advantages of mail surveys are the following (Aaker et al (1998: 244-245) and Martins et al (1996: 160-161)):

- Highly cost effective data collection method which is often the main reason for using this method
- Useful when the geographical area being covered is extensive
- Type of stimulus respondents receive is the same (no interviewer interference). Individual variations can be ascribed to the individual's response and not to the questionnaire (same for all respondents)
- There is consistent evidence that mail surveys yield more accurate results. This is due to the respondent answering the mail questionnaire at his own discretion, the replies are likely to be more thoughtful and others related to the respondent can be consulted for necessary information
- Sensitive or potentially embarrassing data topics, for example finances and sexual behaviour, are likely to be better covered in this method of data collection, mainly due to the anonymity of the respondent

The disadvantages associated with mail based self-administered questionnaires are the following:

- The questionnaire is impersonal and anonymous
- Respondent has to be literate. This is a problem in South Africa where not only is literacy low but there are eleven official languages. Respondents are not necessarily able to communicate in other languages or the language used in the questionnaire
- High non-response rates are likely to introduce a bias in the data
- Absence of an interviewer means that response control may be inadequate
    - One does not know whether the respondent was the person that was being targeted (spouse or an assistant may have answered the questionnaire).
    - Respondent may ask others to help with answering the questions
- Speed of response may be slow
- The order in which the questions are answered - respondent may look ahead to see where the questions are leading to and therefore it is impossible to lead the

questions from the general, non threatening issues, to the specific (say, more sensitive)

- Respondents may need clarification of some questions - often questionnaires are returned partially completed because there is no opportunity for the respondent to clarify his understanding of the question.

The decision as to the data collection method to use is based mainly on budget constraints, and the fact that the targeted respondents live in a dispersed geographical area throughout South Africa. The decision was consultative in nature and included the retailer's Marketing Manager.

(4) Questionnaires come in many forms and to a large extent the questionnaire format depends on the following three factors (Martins et al, 1996: 215):

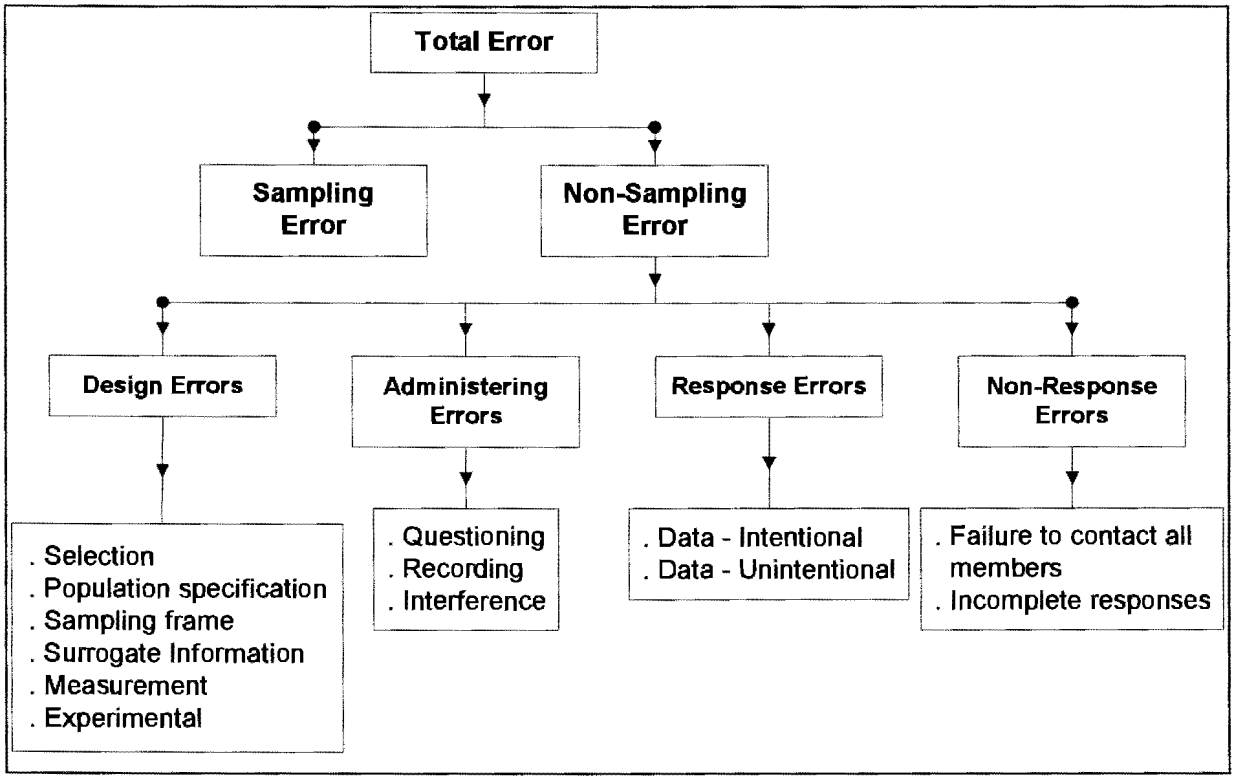
- The information required
- The target group that will answer the questionnaire
- The survey method

One of the disadvantages associated with this option is that it is likely to have a low response rate unless perceived substantial incentives and follow-ups are used (Aaker et al., 1998: 79). To this end the covering letter included in the research mailer (see 4.5 below) informed customers that respondents who returned the completed questionnaire before a specific date would be entered into a lucky draw where two gift vouchers to the value of R500 would be given to two customers. The reason why the gift vouchers were used as an incentive is that it effectively reduces the cost to the retailer (using "own" money - customers will use the gift vouchers at the retailers' stores and therefore the cost of the incentive is absorbed in the profit of the item purchased). Furthermore, these customers (the target sample) currently buy from the retailer and perceive the gift voucher as a benefit to purchase "that fashionable, expensive suit" (a merchandise attribute), and thus the gift voucher is perceived to have greater value than its face value.

4.3 ERRORS IN RESEARCH DESIGN

The overall quality of the research design and the quality of the data collected and analysed will determine the usefulness of a research project (Aaker et al, 1998:81). Errors can creep into the design and these will influence the various stages of the research process. Figure 4.2 identifies the types of errors that can affect research design.

Figure 4.2: Errors in Research Design



Source: Adapted from Aaker et al (1998: 82). Marketing Research, sixth edition

There are effectively two types of error namely, sampling and non-sampling error. Sampling error is discussed later (refer to 4.4.5). Non-sampling errors may be broadly classified as either design errors, administrative errors, response errors or non-response errors (Aaker et al, 1998: 92). These categories are now considered.

4.3.1 Design errors

These are also called researcher-induced errors and are mainly due to flaws in the research design. The types of design errors are the following:

- Selection errors

  This occurs when a sample obtained through non-probability sampling method is not representative of the population. This study tested population representativeness for the sample drawn and for the respondent sample (refer chapter 5).

- Population specification errors

  This occurs when an inappropriate population is chosen from which to obtain the research data. This study is quite specific with regards to the target population, Markhams (the retailer) account base, and therefore the probability of population specification error is non-existent.

- Sampling frame errors

  This type of error occurs when the sample is drawn from an innacurate sampling frame (a directory of population members from which a sample is selected). This study employed statistical checks (see chapter 5) to ensure that the sample was representative of the population in question. Furthermore, there was consultation with the retailer's marketing manager in this regard.

- Surrogate information errors

  This type of error is the difference between the information required for the study and the information being sought. The error was minimised through consultation with the retailer. The retailer's marketing manager, someone who has considerable experience in retail and in research in the retail industry, was involved in the formulation of the questionnaire.

- Measurement error

  This is the difference between the information sought and the information generated by a particular measurement procedure employed by the researcher. This type of error can occur at any stage of the measurement process, from the development of an instrument to the data analysis and interpretation stage. For example, if the study seeks to find the individual respondent annual income and the question is worded in such a way that the annual household income is obtained, a measurement error occurs. This study attempted to minimise such errors by testing the questionnaire amongst ten people representative of the sample (refer to 4.6).

- Experimental error

  This is an error caused by the improper design of the experiment. An experiment is designed to determine the existence of any causal relationship between two variables. This error was minimised by ensuring that the design of the study took into account the profile of the target sample.

4.3.2 Administering errors

These are errors that are induced by the interviewers. Considering that this study did not make use of interviewers, these errors did not occur.

- Questioning error

  This error occurs whilst the interviewer administers questions to the respondent. If the question is not worded exactly as designed by the researcher, a questioning error is induced.

- Recording error

  This error arises when the respondent's answers are recorded incorrectly. If the interviewer misinterprets the response or hears it inaccurately, this induces a recording error.

- Interference error

  This type of error occurs when the interviewer interferes with or fails to follow the exact procedure while collecting data. A typical example would be when the interviewer fabricates the responses to the survey.

4.3.3 Response or data errors

This type of error arises when the respondent gives, intentionally or unintentionally inaccurate answers to the survey. Some of the reasons for this could be because the respondent either misinterprets the question or it may be due to fatigue or boredom or the respondent simply fails to comprehend the question. Sensitive or embarrassing questions can also result in the respondent, intentionally, giving an inaccurate or false answer to the question. This error was minimised by ensuring that the study was tested on the relevant issues (refer to 4.6).

4.3.4 Non-response errors

Non-response errors occur if

- Some members of a sample are not contacted.
- Some of the members contacted provide an incomplete or no response to the survey instrument.

Contacting or reaching the respondents in the target sample was always going to be a problem. This is due to the fact that the retailer's customers and target sample live throughout South Africa, a large geographical area which includes remote, difficult to reach areas. The contactability risk was minimised through the use of a mailed survey.

The risk of non-response is always going to be high with mailed surveys. To reduce the risk, a response incentive was included. To this end, the covering letter included in the research mailer (refer to 4.5) informed customers that respondents who returned the completed questionnaire before a specific date would be entered into a lucky draw where two gift vouchers to the value of R500 would be given to two customers. This incentive strategy is discussed under point 4.2.

The risk of incomplete mailed questionnaires is always present. This risk was minimised by ensuring that the questionnaire was tested on a number of issues that might lead to incomplete questionnaires (refer to 4.6). Only three of the respondent's questionnaires received had non-responses on one or two items in questions 1 to 21 of the questionnaire. These omissions were easily corrected due to the nature of the questionnaire (refer to 4.7.2).

4.4 SAMPLING

A sample is any subset of a population. A population (also called the target population) is defined as the total group of persons or universal collection of items (elements) to which the study or research relates, Steyn et al (1994: 16). The population in question is the credit customer base of the retailer (Markhams) and the sample is the a subset of this target population.

Sampling (the process of selecting a sample) is appropriate when the population size is large and if the cost and time associated with obtaining information from the population is high. In addition, sampling is appropriate where the opportunity to make a quick decision may be lost if the total population must be surveyed (Aaker et al, 1998: 373).

A sample frame (Martins et al, 1996: 252) is a record of all the sample available for selection at any given stage in the sampling process. In order for this sample frame to be reliable, it must meet the following requirements:

- It must represent all the elements of the target population (have the same characteristics as the target population)
- Elements are not duplicated (no single element is counted or exists more than once in the sample)
- It is free from foreign elements (these are elements which are part of the sample frame but not the population under study). For example, an individual who is a credit account holder at a fashion retailer but not a credit account holder at the retailer in question, the target population, is a foreign element.

There are six steps in sampling (Martins et al, 1996: 252) :

- Defining the population
- Identification of the sample frame
- Selection of the sampling method
- Determination of the sample size
- Selection of sample elements
- Ensuring the response sample is still representative (additional point identified in this research)

The study will now consider these in detail and in the context of this research:

4.4.1 Defining the population

The target population comprises accounts holders (Cash and Credit Account holders) at the retailer in question (Markhams). The retailer has a credit account base comprising 395,000 customers, Group Credit Management Report (Feb.1999).

4.4.2 Identification of the sample frame

The primary sample units are the retailer's customers, the secondary sample units are account holders at the retailer, the tertiary sample units are account holders whose "return mail" indicator has not been set in the database (in other words, customers for whom the retailer has a valid postal address). The "returned mail" indicator in the database is important in that the survey method will comprise a mailing to the selected sample and one wants to ensure that the customer does have a valid postal address. This will save costs and increase the probability of a response.

4.4.3 Selection of the sampling method

There are many ways of obtaining a sample (Aaker et al, 1998: 380). The preferred approach, however, is to use probability sampling in which case all members of the population have a known probability of being selected for the sample. The advantages over non-probability sampling methods (where the probability of being selected is not known or equal for members of the population), are that it permits the researcher to demonstrate the

sample's representativeness, it allows an explicit statement as to how much variation is introduced and it makes possible the more explicit identification of possible biases (Aaker et al, 1998: 381).

The target sample was selected on the systematic sampling method. This method involves systematically spreading the sample through the list of population account numbers, whereby every nth account number (and respective customer) is selected for the sample. For example, if the population is 100,000 account numbers (account numbers are in numerical sequence and an account number refers to one customer) and a sample size of 1,000 is required, every 100th (100,000/1,000=100) account number is selected for the sample. A starting point can be randomly chosen between the 1st account number and the 100th account number and then every 100th account number is selected.

4.4.4 Determination of the sample size

The sample size can be determined through the use of statistical procedures or through ad hoc methods. The ad hoc methods are used when a person knows from experience what sample size to adopt or when there are constraints such as budget issues (Aaker et al, 1998: 405). However, the following four factors that may be used to determine sample size:

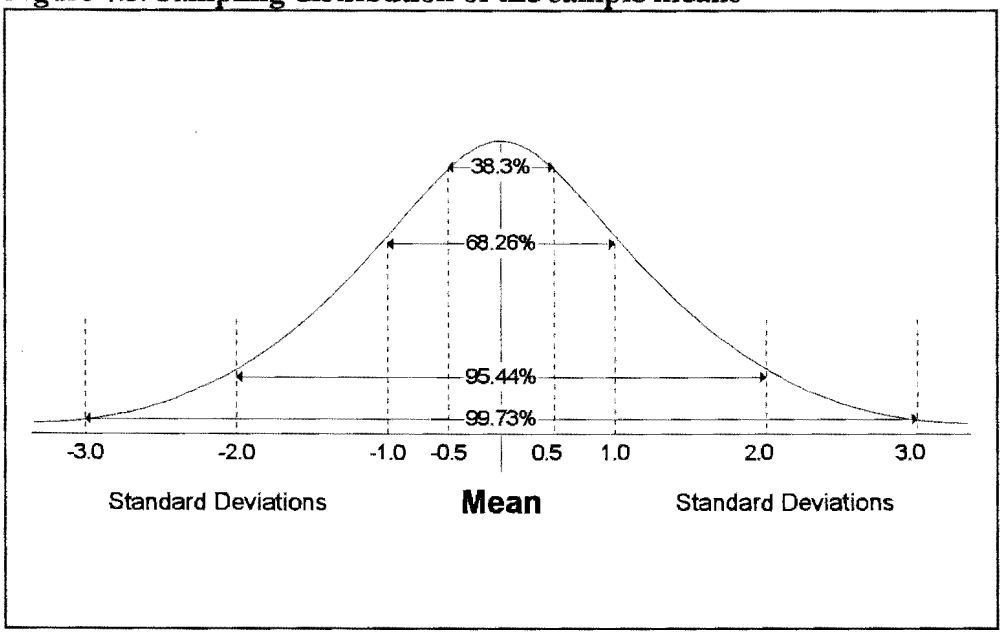
- The value of the information in the study in general and the degree of reliability (or accuracy) that is to be placed on the results; that is, having enough responses to a test to be able to predict future response within a comfortable limit of certainty.
- The number of groups or subgroups to be analysed within the sample
- The cost of the sample and/or the research (how much it costs in general)
- The variability of the population (for example, if all the members of the population have identical opinions on the issue being researched, then a sample of one may prove to be adequate). As variability increases, so does the required sample size.

According to Baier (1993: 63) the law of large numbers assures one that as sample size increases the distribution of sample means (responses) concentrates closer to the true mean (response) of the total population. Further, the Central Limit theorem assures one that, in a number of random samples taken from a population, the sample means (responses) tend to be normally distributed. This is also confirmed by Martins et al (1996: 262) who state that:

> "Regardless of the shape of the population distribution, the various arithmetic means (averages) of a large number of random samples, each composed of the same number of elements from the same population, will distribute themselves around the population mean (average) in a normal curve described as the distribution of sampling means. The arithmetic mean of all possible samples is equal to the population mean."

The normal distribution is a symmetrical, continuous, bell-shaped distribution or curve which is reflected as follows:

Figure 4.3: Sampling distribution of the sample means



Source: Adapted from Martins J.H. et al (1996: 263) Marketing Research - A South African Approach. Pretoria: Unisa Press.

Figure 4.2 reflects the normal distribution curve which is symmetrical around its mean. 99.73% of the area is between the mean value and plus or minus 3 standard deviations,

38.3% of the area is between the mean value and plus or minus 0.5 standard deviations, etc. This percentage is the same for all normal curves. The range between the standard deviations is known as the confidence interval and the probability of a sample falling within the confidence interval is known as the confidence level or coefficient. For example, one can deduct that if one draws only one sample with size *n*, there is a 95.44% probability that one has drawn one of the samples whose means falls within the range -2.0 standard deviations and +2.0 standard deviations of the population mean.

In order to determine the sample size for this research (the sample size that is likely to give one the required degree of confidence in the results), the following formula was adopted (Baier, 1993: 63)) :

$$N = (R \times (1 - R) \times C^2) / E^2$$

Where:

R = The required Response rate (as a decimal)

(1 - R) = The Non-response rate (as a decimal)

C = The Confidence level expressed as a number of standard deviations

E = The limit of Error expressed as a decimal

The expected Response Rate = 0.15 (or 15%). This is the number of times, in percentage terms, that one expects an actual response to the mailed questionnaire. This response rate was agreed on with the Marketing Manager of the retailer and is based on experience on surveys conducted in the past.

The Confidence Level = 95% or 1.96 Standard Deviations. This is the number of times out of one hundred attempts that the resultant predictions must be correct.

The Limit of Error= +- 1.4% points. This is the number of percentage points by which the researcher is allowed to miscalculate the actual percent of response and still be within an acceptable/safe position.

The required sample size is determined as follows:

(0.15X(1-0.15)X1.96^2)/(0.014^2)=2,499 individuals

The sample, therefore, comprised 2,500 of the retailer's customers to be selected on a systematic basis (as described above). The main characteristics of the selected sample (Gender, Race and Customer Age group) were tested to see if it was representative of the target population. These variables (Gender, Race and Customer Age group) were perceived and agreed to with the retailer's Marketing Manager as being main indicators/characteristics of the target population, that is characteristics which are commonly used to describe trends in the target population and which reflect unique traits of such population. The Chi-square procedure (non-parametric (normal distribution not assumed)) - refer to chapter 5 for technical analysis detail, found the sample to be representative of the target population.

The sample profile was also discussed with the retailer's Marketing Manager in order to ensure that it met the retailer's expectations and perception of its customer base profile. This approach also ensured that there was an early buy-in by the retailer management (through the Marketing Manager who is a member of the management team) and it created an early awareness of the scope of the research project. This buy-in is important in that the retailer's management is then more supportive of any implementation program that might be recommended by this research.

Together with the account number of each customer selected, the following main variables, amongst others, which are used in the statistical analysis procedures, were extracted:

- Gender

  Describes whether the customer is male or female. Although the retailer in question is positioned as a men's fashion retailer, it is of importance to be able to identify whether the actual decision maker (the person who makes the fashion purchase) is in fact the target market (man) or whether it is his counterpart, the female (wife/girl-friend) and to find out whether there is a material difference in perception between both genders. This is particularly important from a

communication point of view (media choice, visuals, message and tone of message), after all one wants to make sure that the communication does target the right decision maker.

- Ethnic group

  The racial make-up of the customer. This is important in that the retailer's positioning strategy focuses on the black market. What is not certain though is the extent to which the various race groups previous status quo under the apartheid system is impacting on expectations and perceptions. As Blacks gain income parity, and with it greater access to credit and the more aspirational brands (brands perceived to be in keeping with fashion and style and for which they are sold for a premium price), it is likely that their expectations may also change and they too will become more demanding. Essentially the retailer should take cognisance of this transitory process and continue to aggressively target its constituent market. The race groups are white, black and coloured.

- Customer age group

  This represents the age group the customers fall within. This is an important variable in that the retailer caters mainly for a particular target market which is age group specific . The retailers positioning strategy (how the brand is to be perceived in the customer's mind) must always target the right market, for example the communication angle, will choose media channels (for example, specific magazines, radio or TV programmes) in which the reach of the message (the number of target potential customers it reaches) is maximised. Once again, the actual message (what the advert says), the mood (for example, fun and sporty setting, etc) and tone (for example, the choice of words the specific age group relates to) must be just right for the target market. The retailer should therefore watch movements in the age groups of its customer base to ensure that it continues to serve the desired target market.

Although income would be an important variable to base some of the analysis on, the said retailer only uses this variable for the purpose of the credit approval process when

the account is opened. The result is that this variable is not kept up-to-date with the passing of time and its usefulness decreases substantially as the account gets older in the retailer's books. For this reason, it was decided not to extract/use this variable in the analysis.

4.4.5 Sampling error

Sampling error is the difference between a measure obtained from a sample representing the population and the true measure that can be obtained only from the entire population. This error occurs because no sample is a perfect representation of a given population unless the sample size is the actual entire population (Aaker et al, 1998: 93).

A statistical test adopted, the chi-square procedure (non-parametric (normal distribution not assumed)) - refer to chapter 5 for technical analysis detail, found the sample to be representative of the target population amongst the defined critical variables (Gender, Race Group and Customer Age).

4.4.6 The sample response

The number of respondents to the research survey was 411. This represents a 16.44% response rate and it was perceived by the retailer to be a good response rate in comparison to prior surveys which tended to have a +-10% response rate.

It is important to be aware of the actual limit of error as this provides insight into future research, in particular the decision regarding minimum sample size. The following formula is used to calculate the actual limit of error (Baier (1993:65)):

$$\mathbf{E = \sqrt{((RX(1-R))/N)XC)}}$$

Where:

R = The frequency of response expressed as a decimal

(1 - R) = The frequency of non-response expressed as a decimal

C = The confidence level expressed as a number of standard deviations

E = The limit of error expressed as a decimal

N = The number of questionnaires mailed

so, by inserting the correct numbers one gets:

$$E = \sqrt{((0.1644X(1-0.1644))/2500)X1.96} = 0.01$$

The above calculation indicates that the original estimate of actual response was "miscalculated" by 1%, therefore within the expected variance (+-1.4%). This percentage may be used in future as an indication of the limit of error that is likely to occur and therefore can be used to determine the required sample size (refer to sample size calculation formula discussed previously).

4.5 THE RESEARCH MAILER

The mail based self-administered questionnaire was part of a research mailer which comprised the following items:

- Covering letter (Markhams' Letterhead)
- Envelope (DL format)
- Self-addressed postage prepaid reply envelope (C6 format - Postcard size)
- Self-administered questionnaire

The covering letter must explain the project clearly and arouse the respondents' interest in participating (Martins et al (1996: 152)). The three issues that the covering letter must cover are the following:

- It must motivate respondents to cooperate by describing the project.

The covering letter appeals for assistance from the customer as follows:

"WE NEED YOUR HELP TO IMPROVE OUR SERVICE!"

- State why the respondents were selected.

It informs the customers that this is a study amongst the retailers account holders.

- Emphasise the benefits to respondents of completing the questionnaire.

The emphasis was made by placing the objective in capitals as a letter heading and in bold: **"WE NEED YOUR HELP TO IMPROVE OUR SERVICE!"**

The covering letter also emphasised that the questionnaire would take no more than 5 minutes to complete. This also implies that it is a relatively short and easy questionnaire.

One of the goals when designing the mailer was to ensure that the its appearance was not compromised, thus that it conveyed a professional, up-market, approach in keeping with the image of the retailer's brand, and that the customer would not be overwhelmed with the contents thereof. To this end the single-sheet questionnaire and covering letter were laser printed, clear and concise instructions were noted in the letter and a self-addressed postage prepaid reply envelope was included. The self-addressed, postage prepaid envelope was considered to be instrumental in improving the response rate (Martins et al, 1996: 154). The envelopes size (DL and C6 format) and weight of the mailer (< 50 grams), are relevant in that they attract standard mail costs (lowest mailing costs) and therefore will ensure that the retailer is not burdened with unnecessary additional costs.

A copy of the questionnaire and the covering letter is included in Annexure A.

4.6 QUESTIONNAIRE DESIGN AND TESTING

A questionnaire was designed taking into account the objectives of the research and the issues to be measured under the Loyalty model. A presentation of the Loyalty model and of the proposed questionnaire was then made to the retailer's Marketing Manager. The objective was to ensure agreement on the relevance of the model, and the questions that would be used as measurement of the various attributes in the model.

Once agreement was reached with the retailer on the content of the questionnaire, it was piloted amongst ten persons which were deemed to be representative of the target sample. The objective here was to identify major problems with the format of the questionnaire and to ensure that the final "fine tuned" questionnaire would be relevant, and provide the answers to the research objectives and problem. To this end, the questionnaire was tested

for meaning and understanding of questions (to ensure that the respondents understanding of the questions was in line with what the research was trying to measure), task difficulty (to ensure that the answering of the questions and the actual completion of the survey was an achievable/easy process), length (to ensure that the questionnaire was not too long to answer and therefore that it did not result in respondent's mental fatigue or loss of interest), respondent interest (to ensure that the questions were of interest to the respondents) and attention (to ensure that the respondents did not lose interest when completing the questionnaire, either because of the topic or because the questionnaire was too long to answer). The questionnaire was then fine tuned and discussed with the retailer's Marketing Manager for a second time. Finally, the questionnaire was printed and mailed to the target sample (refer to 4.4) on the 5th of August, 1996.

4.6.1 Question format

The questionnaire comprised 21 statements and 7 questions (refer to Annexure A and figure 4.4). The questionnaire proceeded from the broad/general, non-threatening and easy to rate statements, to the more specific and perhaps intrusive questions. The reason for this approach is to ensure that the respondents are relaxed and feel comfortable when they start answering the questionnaire. If the first questions were to be of an intrusive, personal nature (for example: "how much do you earn per month?" or "how much do you spend on clothing per month?"), then the respondent may become negative and apprehensive about continuing with the questionnaire. This approach also ensured that the respondent understood the context within which the more personal questions were asked at a later stage in the questionnaire.

Figure 4.4: Format of statements/questions

Statements/Questions in questionnaire	Type of question/Statement
Statements 1 to 21	Scaled Statements
Questions 22 and 23	Numerical input: Currency value
Questions 24 and 25	Frequency determination questions
Questions 26, 27 and 28	Multiple-choice questions

Source: Own composition

All statements were closed-response type statements, that is customers had to select a response from a number of response options The rating scale (actual customer responses) for the 21 statements mentioned above are known as Likert or Summated scales (Aaker et al, 1998: 285). These scales require a respondent to indicate a degree of agreement or disagreement with a variety of statements related to the attitude of the respondent. The Likert scale consists of two parts, the item part and the evaluative part. The item part is essentially a statement about a certain product, event or attitude. The evaluative part is a list of response categories ranging from "strongly agree" to "strongly disagree". In other words, the customer is asked to state to what extent they either agreed or disagreed with the statement that was made, for example:

	Strongly agree	**Agree**	**Disagree**	**Strongly disagree**
10. Markhams has an attractive store layout		**X**		

Source: Own composition

Questions 22 and 23 required numerical data (Monetary value) in response. Here the respondent was required to state an actual Rand amount he spent on men's clothing in total and the actual Rand amount spent on Credit.

Question 24 required the respondent to state how often (within the last 5 times) they purchased men's clothing at various stated retailers. The given retailers comprised the main competition for Markhams as perceived by the retailer's management team.

Questions 25 also required a numerical data response (monetary value). In essence, the respondent's were asked how much, of a given amount of R700, they would spend at various retailers. The given retailers comprised the main competition for Markhams as perceived by the retailer's management team.

Questions 26 to 28 were multiple choice questions (where response categories are mutually exclusive and exhaust the response possibilities). Effectively the respondent is forced to select one answer out of a list of possible choices (the list covers all possible answers).

The statements and questions are now considered in detail. The model categories, for example "Termination Costs", are explained in detail in chapter 2 of this study.

4.6.2 Questions relating to the antecedents on the Brand Experience model

This section covers questions relating to the Brand Experience model, more specifically the Relationship Trust and Commitment antecedents possessed by the sample population.

Model Antecedent	Termination Costs
Definition	Perceived switching costs related to seeking alternative relationships with other retailers.
Questionnaire Statement No.	**Statement**
2	Markhams is in a "class of its own" as a men's clothing store (offering value for money/quality/fashion)
5	If I did not have a Markhams account, it would be a big problem/hassle to open an account at a similar store
6	It would be costly to open an account at another store because of card fees and interest rates

Question 2 relates to the perception that there are no substitutes for Markhams as a retailer of men's clothing. Therefore, terminating the relationship with the retailer would amount to a termination cost for the respondent in that he would not be able to get the same "value for money/quality/fashion" elsewhere. When someone or a product or brand is in a "class of its own" it usually means that the brand/product/someone is well differentiated (clear strong attributes/qualities).

Question 5 relates to the perceived difficulty of opening an account at another similar store as a result of not having a Markhams account. In other words, to what extent does the Markhams account influence the opening of accounts at similar stores. Some retailers ask credit applicants for the name of stores and account numbers where the credit applicant has an account and these accounts then serve as a credit reference. If the Markhams account had "weight" when opening accounts elsewhere, then certain prestige (the account to have

because it is recognised as a credit reference elsewhere) would be associated with having a Markhams account.

Question 6 relates to the perceived economic cost of opening an account at another store. Markhams does not charge card fees (administrative fees) and offers the 6 months, no interest payment plan, therefore there is no economic cost (card fees and interest) to the respondent in holding an account at Markhams. This question measures the respondents perception of cost in opening an account at another store/retailer because that store might charge card fees and interest rates.

There is a positive relationship between termination costs and commitment, that is the higher the termination costs, the higher the commitment.

Model Antecedent	Relationship Benefits
Definition	Perceived benefits emanating from the relationship with Markhams through the credit account
Questionnaire Question No.	**Question**
3	My Markhams account is very important to me when I buy clothes
9	I see my Markhams account offering me the most benefit when compared to other stores offering men's clothing on account

Question 3 relates to the perceived degree of importance of the Markhams account to the respondent when he buys clothes. A positive response, "Agree" or "Strongly agree", indicates that the account is an important element when buying clothing (it relates to dependency on credit for the purchase of clothing) and this in turn reflects a benefit of the relationship to the respondent. A negative response, "Disagree" or "Strongly disagree", means that the respondent does not find this element (the account/credit) to be important or essential when buying clothing and therefore it does not represent a benefit in the respondent's relationship with the brand/retailer.

Question 9 relates to the perceived benefit of the Markhams' account in relation to the respondent's perception of other stores offering men's fashion on account. The question measures the extent to which the account at Markhams is a positive differentiator (with the most benefits/clearly positively different from anything comparable) in relation to other stores offering men's clothing on account. If the account is a positive differentiator, then it adds perceived benefit to the relationship.

There is a positive relationship between relationship benefits and commitment, that is the better the relationship benefits, the higher the level of commitment.

Model Antecedent	Shared Values
Definition	The common belief in what is important
Questionnaire Question No.	**Question**
1	Markhams is my kind of store (offering value for money/quality/fashion)
4	Markhams treats me as an important customer

Question 1 relates to the customers perception of Markhams as offering "value for money/quality/fashion". The given criteria comprise the value proposition, in other words product qualities which are important to customers when buying clothing (refer to figure 2.6).

Question 4 relates to one's ego and need to feel important in a particular relationship. People want to think well of themselves and to have others think well of them too. This need is indicated by the drive for favorability and the drive for consistency (Tesser., 1995, 70). It is therefore important that respondents feel that Markhams treats them as important customers, all the time, as this is likely to result in a positive behavioural response (patronage).

There is a positive relationship between shared values and commitment, that is the greater the shared values, the higher the level of commitment.

Model Antecedent	Communication
Definition	The formal and informal sharing of information
Questionnaire Question No.	**Question**
7	Markhams advertises/promotes its new fashions, sales and specials well
8	My Markhams statement is easy to understand and gives enough detail
10	Markhams has an attractive store layout

Question 7 relates to the effectiveness of Markhams' fashion related communication. In other words, how well does Markhams promote/advertise its new fashions, sales and specials. This is in essence the communication of "positive" information. i.e. the "good" news. Customers want to be informed.

According to Underhill (1999: 99 - 111) in many settings it is hard to get men to buy anything they had not intended buying. Men always move faster than woman do through a stores' isles and spend less time looking. It appears that men have no apparent joy in the process of finding something to buy. It seems that men prefer to get their information from reading. Hence the importance of monitoring effectiveness of communication to Markhams' customers.

Question 8 relates to the effectiveness of Markhams' account status communication. This is regarded, where the customer has purchased on the account, as the communication of "negative" information. i.e. The "bad" or "grudge" news - the cost, the reminder to pay for the benefit received earlier (the purchased garment).

Customers perceive this element of the communication process to be important in their relationship with the retailer (refer figure 2.6). Some customers only pay their accounts when they receive an account/statement in the post (refer to point 2.5.2). The proliferation of credit in South Africa has resulted in customers holding accounts at various retailers (refer to table 2.1) which often means that customers may find it difficult to know how

much they have to pay into the various accounts every month. Should a customer not receive the statement or finds the statement confusing and consequently does not pay the account, the relationship with the retailer will be adversely affected. Credit could be suspended and the customer will not be able to buy from the retailer until the account is paid.

Question 10 covers the look and feel of the store. This is where the shopping experience takes place, it is where Markhams effectively displays (a form of communication) the latest fashions for all to see. An attractive store layout is a positive contributor to the clothing shopping experience (refer to figure 2.6).

There is a positive relationship between communication and trust, that is the better the communication, the higher the level of trust.

Model Antecedent	Opportunistic Behaviour
Definition	Self interest behaviour (usually one-sided)
Questionnaire Question No.	**Question**
11	Markhams handles my account fairly and in a just manner

Question 11 relates to the way that Markhams treats account customers from a credit management point of view. This is particularly important in that often customers fall into arrears and follow-up is made on such accounts. Furthermore, it is common practice to charge high interest rates on such arrears (within the Usury Act stipulations). Ideally one wants a consistent approach in the pre- and post-sale periods with regard to the way customers are treated.

There is a negative relationship between opportunistic behaviour and trust, that is the greater the opportunistic behaviour, the lower the level of trust.

4.6.3 Questions relating to the outcomes on the Brand Experience model

This section covers questions relating to the Brand Experience model, more specifically the Relationship Trust and Commitment outcomes possessed by the sample population.

Model Outcome	Acquiescence
Definition	The degree to which a partner accepts or adheres to another's specific requests or policies
Questionnaire Question No.	**Question**
12	I always pay the full installment
13	I always pay my account on time

Question 12 relates to the customers willingness to adhere to his commitment to paying the full installment on his account. By adhering to the retailer's policy on account payment (that is, the principle that accounts should not fall into arrears), the respondent is reflecting a high degree of commitment to the relationship (Morgan and Hunt, 1994: 25)

Question 13 relates to the payment of the account on time. In essence it relates to the customer's perception of value in the relationship; that is if the relationship is important, the customer will value it and will want to cooperate with the rules or policies of the other party in the relationship (the retailer). By paying on time the customer would be concluding his side of the deal and would be showing high level of commitment to maintain the relationship on "good terms" (that is, no follow-up letters, no phone calls, no penalties (interest) for not paying the account on time, and finally, no suspension of credit facility).

There is a positive relationship between commitment and acquiescence, that is the higher the commitment, the higher the level of acquiescence.

Model Outcome	Propensity to Leave
Definition	Customer perception of long term orientation to the retailer
Questionnaire Question No.	Question
15	I will still be using my Markhams account in the next twelve months
14	I see myself buying more clothing from Markhams in the future

Question 14 and 15 relate to the customer's long term orientation. It also relates to the value the customer attaches to his Markhams credit card and the status of his relationship with the retailer. Ideally one wants respondents to have a long-term orientation as this reflects commitment to the retailer.

There is a negative relationship between commitment and propensity to leave, that is the higher the commitment, the lower the propensity to leave.

Model Outcome	Co-operation
Definition	Working together
Questionnaire Question No.	Question
16	If I returned goods to a Markhams store, the store will take the goods back without any problem
17	If I had any problems paying my account, Markhams would understand and help me with an appropriate/easier payment plan

Question 16 and Question 17 aim to measure the perceived level of co-operation from the retailer's point of view, that is the retailer's desire to make the relationship work. The biggest test of co-operation on the part of the retailer relates to the situation where the customer returns goods that were previously purchased from the retailer. It implies a level of trust by the retailer with regard to the customer, that is the retailer accepts that there is good reason for the goods to be return, the retailer does not question whether it was the customer that damaged the goods, nor whether the customer just took the goods for "the weekend party"

and is now returning it on Monday. Many retailers in South Africa have very strict return policies which make it almost impossible for customers to return goods.

Question 16 looks at it from a product service point of view, whilst question 17 considers the issue from a financial point of view. Customers who perceive the retailer to be co-operative are most likely to trust the relationship with the retailer.

There is a positive relationship between trust and cooperation, that is the higher the level of trust, the higher the level of co-operation.

Model Outcome	Functional Conflict
Definition	Disagreements/Disputes that are resolved amicably
Questionnaire Question No.	**Question**
18	If I had any problem with my Markhams account, the problem would be sorted out
19	If I told Markhams how to improve their store or their goods, they would listen to my advice

Question 18 and 19 explore the issue of functional conflict as perceived by the customer. In essence, question 19 goes further to investigate the matter from a "partnership" point of view; It suggests that the customer is a partner in the process and that his views do matter. Question 18 focuses on the credit angle and measures the perception of Markhams' willingness to resolve post purchase, credit related problems.

There is a positive relationship between trust and functional conflict, that is the higher the level of trust, the greater the willingness to resolve conflict.

Model Outcome	Uncertainty
Definition	The degree of confidence (or lack of) in the relationship
Questionnaire Question No.	Question
20	Markhams will always offer me the kind of clothes I want
21	My account will always give me enough credit

Both questions address the degree of respondent confidence in the retailer's ability to deliver on the customer's needs, namely the right product (clothes at the right fashion, quality and price) and the means to afford it (the credit facilities).

It is important that respondents feel confident of the retailer's ability to cater for his needs.

There is a negative relationship between uncertainty and trust, that is the higher the level of uncertainty, the lower the level of trust.

4.6.4 Questions relating to the other input models

This section covers questions that will allow the retailer to measure the strength of competitive appeals, the degree of customer referral and the extent of credit dependency for fashion purchases.

Question 22 ascertains the respondent's level of disposable income for clothing purchases, that is how much the respondent spends on men's clothing annually.

Question 23 relates to the respondent's level of dependency on credit for clothing purchases, that is of the amount referred to in question 22, how much is spent on account (credit only).

Question 24 and 25 relate to the tendency to support the various stores. Both questions measure customer purchase orientation and highlight the more serious competitor threats in the market place. Question 24 deals with purchase frequency, that is how often (in last 5 times) did the respondent frequent a number of stores (list is provided). Question 25 asks

the respondent to indicate what portion of a given amount (R700) he would be spending where (list of stores is provided). In essence, these questions do address the issue of competitive appeal as discussed previously (refer to point 1.3).

Question 26 and 27 relate to word-of-mouth marketing (referral system). Question 26 determines whether the respondent is more likely to say more good things than bad about his experience with the brand/retailer. Question 27 determines how many of the respondents' friends have opened accounts at the retailer because of the respondent's influence. This referral system translates into the highest level of loyalty possible, because this is where the respondent is prepared to put his own name and reputation behind the brand.

Question 28 indicates the extent to which the respondent will use the account (credit) and/or cash when purchasing clothes at Markhams.

4.7 RESPONSE CODING AND EDITING

All questionnaires received were numbered for ease of reference. The questionnaire number and the account number as reflected in the questionnaire were captured onto the statistical packages (SPSS version 8 and Statistica version 4.5) for ease of reference.

4.7.1 Response coding

Questions 1 to 21 were coded as follows:

Strongly agree	= a value of 1	Agree	= a value of 2
Disagree	= a value of 3	Strongly disagree	= a value of 4

For questions 22 and 23 the exact Rand values were captured.

For question 24 the number of times the customer purchased at each given store was captured.

For question 25, the Rand values spent at each given store were captured.

Questions 26 and 27 resulted in the following code:

Cross in block 1 = 1 (input value)

Cross in block 2 = 2 (input value)

Cross in block 3 = 3 (input value)

Question 28 had a further fourth choice, thus a cross in this box would translate into an input value of 4.

The account number was captured as the identification for each case in the response sample.

4.7.2 Response editing

Where necessary, respondent's responses were edited (adjusted/completed) and the editing procedures were applied consistently across all the captured questionnaires.

The approach used to edit missing responses to specific questions under questions 1 to 21, questions dealing with variables in the Brand Experience model, was to capture the same response as per the other question falling under the same Brand Experience criteria. For example, the model outcome "Propensity to Leave", comprises questions 14 and 15. In this case, if the respondent did not respond to question 15 ("I will still be using my Markhams account in the next twelve months") but answered question 14 (I see myself buying more clothing from Markhams in the future"), the study assumes that the answer to question 15 would be the same as the answer for question 14. Only three of the respondents' questionnaires received had missing responses to one or two questions in questions 1 to 21.

Questions 22 and 23 were all completed. However, where the customer specifically stated that the expenditure reflected was monthly, the figure was then annualised (times twelve) to reflect the information required by the question.

Question 24 required a numerical data response. Respondents were asked to apportion a given number of store visits amongst specified retailers. The given retailers comprised the main competition for Markhams. A few of the respondents' allocation of the number of

visits exceeded the given number. This problem was addressed in the coding of the responses by firstly calculating the respondent's number of visits within the chosen retailers as a percentage of the total number of visits and secondly, using these percentages to apportion the questionnaires' original given value.

Question 25 also required a numerical data response. This question was the more difficult question to reply to in that the respondent was asked to apportion a spend Rand value amongst a number of retailers. The difficulty here was that some respondents actually apportioned more than the given spend value. However, this was addressed in the coding of the responses by firstly calculating the respondent's given spent value within the chosen retailers as a percentage of the total sum spent and secondly, using these percentages to apportion the questionnaires' original given value.

Questions 26 and 27 were complete and no editing was required.

Question 28, a multiple choice question, indicates the extent to which the respondent will use the account (credit) and/or cash when purchasing clothes at Markhams. An insignificant number (six) of respondents chose more than one option box, thus the reading was adjusted, with reference to questions 22 and 23 (which deal with how much is spent on clothing per annum and what portion of this is on credit), to reflect only one choice. For example, if the respondent stated in question 22 that he spent R1000 per annum on clothing and he also stated in question 23 that R1000 was spent on credit, then the first box in question 28 (I use my Markhams card for all my clothing purchases at Markhams) would have been the selected answer.

Some respondents (twenty six) did not include their respective account numbers or wrote down an incorrect account number. The reason for this could be that the customer chose to remain anonymous or that the customer simply did not have the account number within reach. In such situations the customer demographics could not be extracted from the system. However, in all cases, demographics such as gender and race group could be determined by the name of the respondent included in the questionnaire.

The number of missing data for "Customer Age Group" is 57. The main reason for this is that some customers have either failed to provide the Markhams account number or gave an incorrect account number. The account number is the variable used to extract from the system the age group the customer belongs to. In these cases, it was impossible to obtain the relevant information from the Markhams database. Also, in a few cases where the account number was correct, the information was not available on the database. A point to note is that the Markhams database is relatively new in relation to the period of time that Markhams has been offering credit. At some stage the old debtors book was converted into a computer database and some information like age of customer, was simply not available at the time. It is recommended that future studies of this nature obtain the necessary customer demographics, that is that information that is usually missing from the database, from the customer by means of survey questions.

4.8 BUDGET REQUIREMENTS

The following budget was required and was approved by the retailer:

. Mailing cost

(2500 Questionnaires X R0.75) + (450 Responses X R0.75)=R 2212.50

. Self-address envelopes (2500 Questionnaires X R10/1000)=R 25.00

. Copying of questionnaires (2500 X R0.10) =R 250.00

. Cost of incentive

(2 X R500 vouchers) X (R0.48(Actual cost to retailer)) =R 480.00

Total=R2967.50

4.9 THE STATISTICAL PROCEDURES USED IN THE ANALYSIS AND MODELING

The statistical measures adopted in this research analysis comprised the following procedures:

- Missing value analysis
- Measures of central tendency, dispersion and distribution
- Main statistical procedures used in this research

4.9.1 Missing value analysis

It is important to understand where information is missing and to determine the likely impact of the missing information. As far as the questionnaire is concerned, missing information could highlight areas where the respondents had problems answering the relevant questions, problems with the capturing of the questionnaire or, where additional information is acquired from an external source, for example a database, it will indicate potential problems with the data source. Ultimately, the objective is to be able to act with respect to the missing information, assuming that the information is essential for the analysis. The action taken with regards to missing information was discussed previously (refer to 4.7.2).

4.9.2 Measures of central tendency, dispersion and distribution

Steyn et al (1994: 96-163) describes a measure of dispersion as the degree to which numerical data tend to spread about an average value, whilst a measure of central tendency or location is one which gives an indication of the 'midpoint' or general size of the distribution. The following procedures were used in order to measure the extent of central tendency and dispersion (Steyn et al, 1994, 96-163):

- The mean, or arithmetic average

  This is the average response value. The sum of the cases, for the variable being measured, divided by the number of cases.

- The mode of the responses

  The mode reflects the most frequently occurring value or response option most selected by the respondents.

- The standard deviation

  This is a measure of dispersion around the mean. This measure of spread takes all the individual observations or cases into account and measures the amount by which each case value differs from the mean. The deviation of each value from a point of reference, the arithmetic mean of all the observations or cases, is the standard deviation. In a normal distribution, 68% of cases fall within one

standard deviations (SD) of the mean and 95% of cases fall within 2 SD. For example, if the mean age is 45, with a standard deviation of 10, 95% of the cases would be between 25 and 65 in a normal distribution (also refer to figure 4.3).

- The minimum and the maximum values.

  These represent the maximum or minimum value of a specific variable, for example what was the highest and the lowest purchase spend.

- Outliers or extreme cases

  The first step in cleaning data is usually to find values outside the reasonable range for a variable and to determine whether they are real outliers or errors. The importance of these outliers can not be over-emphasised, as they must often be excluded or converted into acceptable minimums or maximums in order not to skew the results of a statistical or arithmetic procedure.

  One of the procedures that is usually adopted is to trim (delete) 5% from the top values and 5% from the bottom values of the group (SPSS Base 8.0 Applications Guide, 1998:43). This would be a viable proposition in say, estimating a 5% trimmed mean. Thus, unusual values in the tails of the distribution do not affect the size of the mean.

- Skewness and Kurtosis

  Skewness measures the asymmetry (unevenness/imperfection) of a distribution. A positive skewness value indicates a positively skewed distribution. For a normal distribution, the value of the skewness statistic is 0. In general, a skewness value greater than one indicates a distribution that differs significantly from a normal, symmetric distribution.

  The ratio of skewness to its standard error can be used as a test of normality. That is, you can reject normality if the ratio is less than -2 or greater than +2 (SPSS Base 8.0 Applications Guide, 1998:28). A large positive value for skewness indicates a long right tail; an extreme negative value, a long left tail.

Kurtosis is a measure of the extent to which observations cluster around a central point. Kurtosis measures the peakedness of a distribution. For a normal distribution, the value of the kurtosis statistic is 0. Positive kurtosis indicates that the observations cluster more and have longer tails than those in the normal distribution and negative kurtosis indicates the observations cluster less and have shorter tails.

The ratio of kurtosis to its standard error can be used as a test of normality. That is, you can reject normality if the ratio is less than -2 or greater than +2 (SPSS Base 8.0 Applications Guide, 1998:28). A large positive value for kurtosis indicates that the tails of the distribution are longer than those of a normal distribution; a negative value for kurtosis indicates shorter tails (becoming like those of a box-shaped uniform distribution).

Kurtosis and skewness are important measurements since many statistical tests assume data to be normally distributed (refer to figure 4.3).

- Log10 transformations

  Where the data was found not to be normally distributed, the data was transformed into a log10 factor. Transformations such as a log transformation can make a skewed distribution more normal and acceptable to statistical tests that assume data to be normally distributed (SPSS Base 8.0 Applications Guide, 1998:25-27).

4.9.3 Statistical procedures adopted in this research

The following were the main statistical procedures adopted in this research:

- Factor analysis

  According to Aaker et al (1998, 582-595), Factor analysis is a technique that serves to (1) combine questions or variables to create new factors and (2) combine objects to create new groups, respectively. Often these are termed the analysis of interdependence techniques, because they analyse the interdependence of questions, variables, or objects.

The goal is to generate understanding of the underlying structure of questions, variables or objects and to combine them into new variables or groups.

Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlation within a set of observed variables. Factor analysis is often used in data reduction, by identifying a small number of factors which explain most of the variance observed in a much larger number of manifest variables. In reducing the number of variables, factor analysis procedures attempt to retain as much of the information as possible and make the remaining variables meaningful and easy to work with.

The questionnaire raises, in many cases, more than one question/statement for each of the Brand Experience model components, for example, for Termination Costs, the questionnaire has three questions dealing with different aspects of Termination costs, namely questions 2, 5 and 6. In this research factor analysis is used to reduce the number of variables in the questionnaire to one new calculated variable that summarises the variance in the contributing variables. In the example referred to, question 2, 5 and 6 will be summarised into one new calculated variable which represents Termination Costs.

According to SPSS Base 8.0 Application Guide (1998, 320) normality is not a necessary assumption for principal component analysis. However, skewed distributions and outliers can distort results, just as they do in multiple regression.

The factor analysis model specifies that variables are determined by common factors (the factors estimated by the model) and unique factors (which do not overlap between observed variables); the computed estimates are based on the assumption that all unique factors are uncorrelated with each other and with the common factors.

The two most commonly employed factor analytic procedures in marketing applications are principal component and common factor analysis. When the objective is to summarise information in a larger set of variables into fewer factors, principal

component analysis is used. On the other hand, if the individual is trying to uncover underlying dimensions surrounding the original variables, common factor analysis is used. Conceptually, principal component analysis is based on the total information in each variable, whereas common factor analysis is concerned only with the variance shared among the variables.

According to Aaker et al (1998: 583), factor analysis can be summarised as a method of transforming the original variables into new, non-correlated variables, called factors. Each factor is a linear combination of the original variables. One measure of the amount of information conveyed by each factor is a variance. For this reason the factors are arranged by order of decreasing variance. In other words, the objective of the principal component analysis is to generate a first factor that will have the maximum explainable variance. Then the principal component will locate a second factor that maximises the variance it explains. The procedure will continue until there are as many factors generated as there are variables, or until the analyst concludes that the number of useful factors has been exhausted.

A factor is thus simply a variable or construct that is not directly observable but that needs to be inferred from the input variables. It also may be viewed as a grouping of those input variables that measure or are indicators of the factor. The factor loadings, more commonly known as the regression coefficients, link the factors to the variables and are used to help interpret the factors. In this context, the factor loadings are the correlations between the factors and the variables.

The rule of thumb, according to Aaker et al (1998, 588), is that all included factors (prior to rotation) must explain at least as much variance as an "average input variable". A related rule of thumb is to look for a large drop in the variance explained between two factors in the principal component solution, as this drop might signal the introduction of meaningless, relatively unimportant factors.

An eigenvalue represents the amount of variance in the original variables that is associated with a factor. In this research analysis, only factors with eigenvalues greater

than one are retained; the other factors are not included in the model. A factor with an eigenvalue less than one is no better than a single variable, since, due to standardization, each variable has a variance of one. Therefore a factor should explain at least the amount of variance in one variable; otherwise it is better to have the original variable.

According to Breakwell et al (1997: 377), a bone of contention in factor analysis is the issue of rotation. This is where the initial factor loading matrix is transformed to aid in interpretation. Essentially, this involves moving the variance around to overcome the artefact where successive factors contain less variance than those preceding them. There are two types of rotation (although there are many techniques) termed orthogonal and oblique. Orthogonal rotation involves a transformation that forces the underlying factors to be uncorrelated with each other. Oblique rotation, on the other hand allows the factors to be correlated. Factors may be rotated in order to differentiate between the factors and to simplify interpretation. The following are the rotation methods available with SPSS version 8.0:

- Varimax

An orthogonal rotation method that minimizes the number of variables that have high loadings on each factor. It simplifies the interpretation of the factors.

- Quartimax

A rotation method that minimizes the number of factors needed to explain each variable. It simplifies the interpretation of the observed variables.

-Equamax

A rotation method that is a combination of the varimax method, which simplifies the factors, and the quartimax method, which simplifies the variables. The number of variables that load highly on a factor and the number of factors needed to explain a variable are minimized.

- Promax

An oblique rotation, which allows factors to be correlated. It can be calculated more

quickly than a direct oblimin rotation, so it is useful for large datasets.

- Direct Oblimin

A method for oblique (nonorthogonal) rotation. When delta equals 0 (the default), solutions are most oblique. As delta becomes more negative, the factors become less oblique.

According to Breakwell et al (1997: 377) in order to reproduce a reliable factor analysis, it is advisable that a sample size of 200 plus is used where possible. As a general rule, it is also recommended that there are at least four times as many subjects as variables. This recommendation was adhered to in this research.

- Cluster analysis

Cluster analysis is used to segment the respondents into groups with similar traits. A new variable is created, reflecting the group or cluster membership for each respondent. The objects of these groups may be cases (respondents) or variables. In cluster analysis one begins with no knowledge of group membership and often do not know just how many clusters there are. A cluster analysis of variables resembles a factor analysis because both procedures identify related groups of variables. However, factor analysis has an underlying theoretical model while cluster analysis is more adhoc.

There are two approaches to clustering, a hierarchical approach and a non-hierarchical approach. The SPSS statistical program offers two methods for clustering objects into categories, namely the Hierarchical and the K-means (Non-hierarchical) clustering methods.

Hierarchical clustering can start with all objects in one cluster and divide and subdivide them until all objects are in their own single-object clusters. Clustering begins by finding the closest pair of objects (cases or variables) according to distance measure and combines them to form a cluster. The method continues one step at a time, joining pairs of objects, pairs of clusters, or an object with a cluster, until all the data are in one cluster. This method is hierarchical because once two objects or clusters are joined, they

remain together until the final step (SPSS Base 8.0 Application Guide: 1998, 293).

Non-hierarchical clustering (for example, K-means) begins by using the values of the first *k* cases in the data file as temporary estimates of the *k* cluster means, where *k* is the number of clusters specified by the user. Initial cluster centers are formed by assigning each case in turn to the cluster with the closest center, and the cluster centers are re-computed. This process continues until no further changes occur in the centers or until a maximum number of iterations, specified by the user, is reached (SPSS Base 8.0 Application Guide: 1998, 320).

- Correlation analysis

  Correlation analysis is used in this research to measure the strength or weakness in the relationship between the various variables in the questionnaire and, more specifically, the relationship between the variables in the groupings of questions as per the Brand Experience model. For example, correlation analysis measures the strength of the relationship between questions 2, 5 and 6, which aim to explain Termination Costs in the Brand Experience model.

  Correlation analysis involves measuring the strength and nature of the relationship (the association) between two variables. Correlation analysis results in a correlation coefficient which may be positive or negative. The sample correlation "r" lies between 1 and 1. An "r" of 1 indicates a perfect positive linear association between two variables, whereas if "r" is equal to -1, there is a perfect negative linear association. A zero correlation coefficient reflects the absence of any linear association.

  The SPSS statistical package offers 3 types of correlation procedures. The Bivariate Correlations procedure computes Pearson's correlation coefficient, Spearman's rho and Kendall's tau-b with their significance levels. Correlations measure how variables or rank orders are related. Before calculating a correlation coefficient, one must screen the data for outliers (which can cause misleading results) and evidence of a linear relationship. Pearson's correlation coefficient is a measure of linear association. Two variables can be perfectly related, but if the relationship is not linear, Pearson's correlation coefficient is

not an appropriate statistic for measuring their association. Kendall's tau-b and Spearman's rho are both non-parametric procedures, that is the distribution of the data is not assumed to be normally distributed as in Pearsons.

Kendall's tau-b is a non-parametric measure of association for ordinal or ranked variables that take ties into account. Spearman's rho is also a nonparametric version of the Pearson correlation coefficient, based on the ranks of the data rather than the actual values. It is appropriate for ordinal data, or for interval data that do not satisfy the normality assumption. In the case of this research, Spearman's rho correlation coefficient will be established for the relationship between the variables dealing with the Brand Experience model (questions 1 to 21 in the questionnaire).

- Regression analysis

  Multiple regression analysis is used in this research to create a mathematical predictive model from the behaviour/perception of respondents in the sample.

  Linear Regression estimates the coefficients of the linear equation, involving one or more independent variables, that best predict the value of the dependent variable. Here, a variable of interest, the dependent, is related to one or more independent or predictor variable. The objective in regression analysis is to build a regression model or a prediction equation relating the dependent variable to one or more independent variable. According to Aaker et al (1998, 529) the model can then be used to describe, predict and control the variable of interest on the basis of the independent variables. Another motivation is to gain an understanding of the relationship so that the marketing program can be adjusted as necessary. Furthermore, regression analysis can integrate the relationship of intentions with two, three, or more variables simultaneously.

  The dependent and independent variables must be quantitative. Categorical variables such as race, gender, etc. need to be re-coded to binary (dummy) variables or other types of contrast variables. For each value of the independent variable, the distribution of the dependent variable must be normal.

The variance of the distribution of the dependent variable should be constant for all values of the independent variable. The relationship between the dependent variable and each independent variable should be linear, and all observations should be independent.

- Chi-squared Automatic Interaction Detection (Chaid) and Classification and Regression Trees (C&RT) Analysis

  The two procedures do basically the same thing, they use "brute force" to exhaustively examine all the fields in the sample with respect to the criterion/target variable (What the retailer is trying to determine). The methods summarise statistically significant patterns and relationships in the data and make decision rules. At each successive step, the decision rules are used to partition or segment the data into subgroups. The same procedure is then performed on each of the resulting sub groups (AnswerTree 1.0 User Guide, 1998: 3-4).

  Chaid or C&RT analysis is used in this research to identify variables and sample characteristics which are strong predictors of behaviour. Essentially the retailer wants to identify those variables which are the stronger predictors of (explain most of) segment membership so that Markhams may conduct seasonal/quarterly telephonic surveys. According to Aaker et al (1998: 243) telephonic surveys should not be longer than 5 to 10 minutes, because of the belief that a bored or hurried respondent will be likely to hang up the phone. Thus it is essential that the retailer reduces the number of questions as much as possible and this is where Chaid or CR&T analysis have a role to play.

  CR&T analysis is also used in this study to identify statistically different characteristics (the discriminators) of the various segments in the Loyalty model, and to then use these discriminators to segment the total population. That is, one should be able to take the total population (the retailer's database) and segment it on the basis of the discriminators.

4.10 SUMMARY

This chapter considered the research process and methodology in detail. This process provides a systematic, planned approach ensuring that all aspects are consistent with each other. The actual process comprises a series of steps which cannot be viewed in isolation, but which should be seen and dealt with as an integrated whole.

The primary research data used in this study is of a quantitative nature and the research findings are generalized to the retailer's population. The data was collected by means of a mail based self-administered structured questionnaire, which was sent to a group of target respondents. Each of the questions in the research questionnaire is presented and motivated from the segmentation model point of view.

The sampling method and procedure was discussed in detail. The sample response of 16.44% was considered to be good by the retailer's own standards.

The statistical procedures adopted in this research are considered in some depth and are further explained in the analysis in chapter five (the next chapter). The main statistical procedures adopted are Factor analysis, Cluster analysis, Correlation analysis, Regression analysis, and Classification & Regression Tree analysis.

The next chapter, chapter five, comprises the statistical analysis and testing of the loyalty model.

CHAPTER 5

ANALYSIS OF THE RESEARCH AND THE MODELING RESULTS

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5.1 INTRODUCTION

The research methodology used to investigate the loyalty segmentation model for the South African men's retail credit fashion industry was detailed in the previous chapter.

The research data was collected by means of a mailed structured survey, posted to 2500 credit customers of the retailer (Markhams account holders). The response rate, which was considered to be successful by the retailer, was 16.6%. The response questionnaires were edited as described in chapter 4 (refer 4.7.2) and the data was captured and analysed by means of the statistical software programs SPSS, STATISTICA and Answer Tree. Various statistical analyses were conducted on the data and various statistical methods were used to facilitate the discussion of the research results.

In this chapter the research and modeling results are analysed and explained. The research results will now be analysed according to the following sections:

- Profile of respondents
- Response sample tests
- Analysis of the sample's variable distribution and normality
- Quantification of the brand experience
- Quantification of the competitive appeal of the opposing brands
- Quantification of the power of referral of the brand
- Quantification of the credit appeal component
- Construct of a predictive model of credit utilisation
- Segmentation
- Targeting the various macro segments (an approach)

5.2 PROFILE OF RESPONDENTS

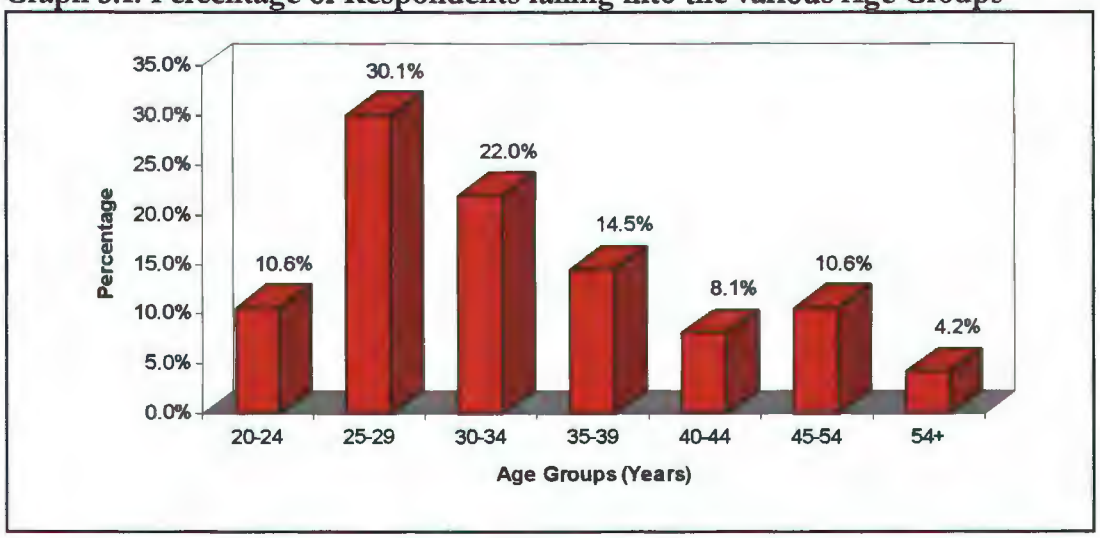
The respondents are profiled as follows:

- Age Group
- Gender
- Race Group
- Months on Books (how long the respondent has been a customer)

5.2.1 Age Group

The age profile of the respondent sample is predominantly young, with the 25-34 years old age groups accounting for as much as 52% of the sample, refer to graph 5.1. It seems that the older the customer, the lower the likelihood of the customer staying with the brand. This could be a function of the retailer's positioning.

Graph 5.1: Percentage of Respondents falling into the various Age Groups

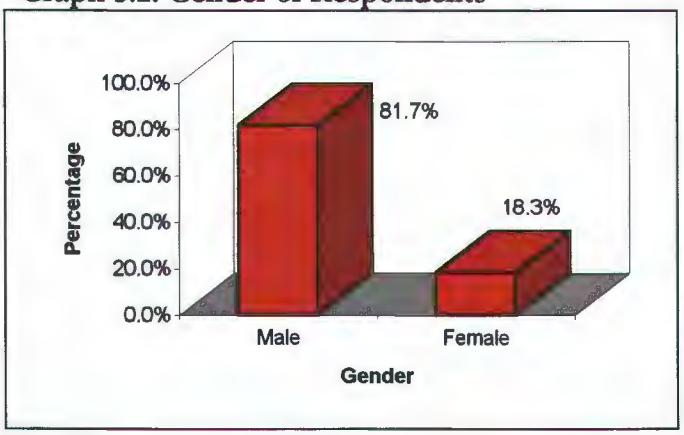


5.2.2 Gender

Respondents are predominantly male (81.7%), refer to graph 5.2. However, it is interesting to note that although the retailer is a men's fashion retailer, as much as 18.3% of the sample comprised women. One would suspect that these women are making purchases on behalf/for their partners. What is interesting for the retailer is that the decision-maker in this situation is not the end-user, or the target market, but a member of the opposite sex. It is suggested that the retailer takes cognisance of this fact and ensures that its strategies and

tactics cater for the needs of this decision-maker.

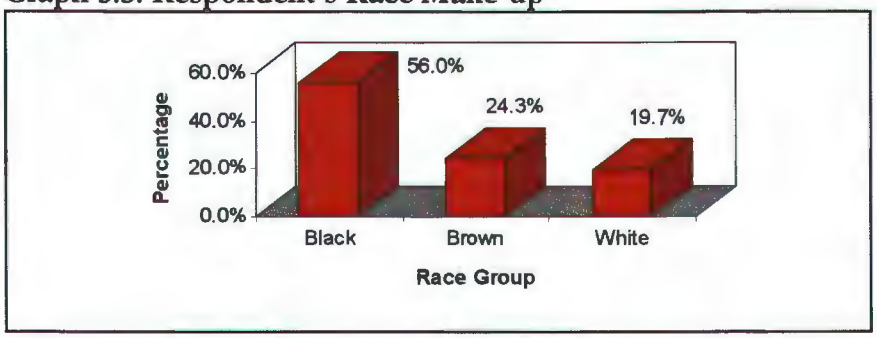
Graph 5.2: Gender of Respondents



5.2.3 Race Group

The respondent's race group make-up is predominantly black, refer to graph 5.3. This is in fact expected and in line with the retailer's target market composition.

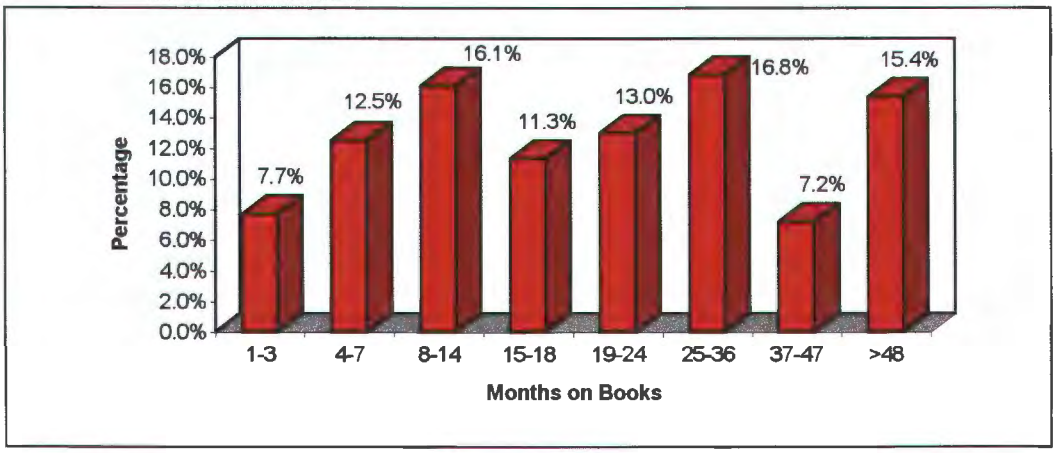
Graph 5.3: Respondent's Race Make-up



5.2.4 Months on books (How long the respondent has been a customer)

There is a good spread of how long the customers have been account holders at Markhams. This is important in that the research must avoid the risk of focusing on customers who have not had enough experience with the brand as is usually the case with relatively new customers. For these "new" customers, their relatively short shopping experience with the retailer may not be adequate to answer specific questions, for example: question 18 "If I had any problem with my Markhams account, the problem would be sorted out".

Graph 5.4: Number of months (month groups) respondents have been account holders



5.3 RESPONSE SAMPLE TESTS

A response sample is a sub-set of the original sample. It comprises those individuals who responded to the questionnaire. The objective of the response sample test is to verify whether the data is still representative of the population.

5.3.1 Testing the response sample goodness-of-fit with the population

It was decided that the representativeness of the sample would be measured as per the following attributes (refer to 4.4.4):

.Gender . Race . Age

The non-parametric (normal distribution is not assumed) Chi-Square Test, which measures how well the observed pattern fits the expected pattern, was used to measure the goodness-of-fit of the sample in relation to the population. This test procedure tabulates a variable into categories and computes a chi-square statistic. In this case, the goodness-of-fit test compares the observed and expected frequencies in each category to test that each category contains a user-specified proportion of values (as per the population), for example, the test in respect of Gender is to make sure that the response sample has the same proportion of males to females as in the population; if the retailer has a predominantly male account customer base and finds that the response sample comprises mainly females, the response

sample may not be representative of the retailers' population. The expected proportion of values was obtained from an analysis of the total population (the retailer's account base). The following are the results of the goodness-of-fit analysis:

Table 5.1: Chi-square results for Gender, Race and Age

	Chi-Square	df	Asymp.Sig.
Gender	0.016	1	0.900
Race	1.444	2	0.486
Age	7.758	6	0.256

Table 5.1 contains the output of the Chi-Square test (degrees of freedom (df) and significance (Asymp.Sig.). Degrees of freedom equals the number of categories minus one. Small significance values (<0.05) indicate that the observed distribution does not conform to the hypothesized distribution. In this example, the significance level in all cases is much greater than 0.05, meaning that the distribution of Gender, Race and Age does not differ from the observed retailers' population distribution for the same variables and the sample is therefore, deemed to be representative of the population.

5.3.2 Testing the reliability of the measuring mechanism

Reliability refers to the attribute of consistency in measurement (Gregory, 2000, 75). According to the Statistica 4.5 manual, Statsoft (1994: 3103-3107), the assessment of scale reliability (the extent to which the questionnaire measurement scale - Strongly agree, Agree, Disagree, Strongly disagree - is reliable), is based on the correlations between the individual questions or measurements that make up the scale, relative to the variances of the questions. Suppose that the objective of the questionnaire is to measure people's prejudices against foreign made cars. The questions could cover a number of items, for example "Foreign cars lack personality", "All foreign cars look the same", etc. and respondents would be asked to state their level of agreement or disagreement with the given statements (as per the scale above). A respondent's response to a particular item could reflect two aspects: first, it reflects the prejudice against foreign cars, and second, it will reflect some esoteric aspect of the respective question. For example, in responding to "All foreign cars look the same", the respondent's agreement or disagreement with that statement will partially depend on his

general prejudices, and on some other aspects of the question (for example, the respondent may have a friend who just bought a very different looking foreign car).

Each measurement (response to a question) reflects, to some extent, a true score (actual prejudice against foreign cars) and to some extent random error (the influence on his views by the fact that a friend just bought a very different looking foreign- made car). A measurement is reliable if it reflects mostly true score, relative to the error (Statsoft 1994: 3104). A question such as "Red foreign cars are particularly ugly" would likely provide an unreliable measurement of prejudices against foreign-made cars. This is because this statement "captures" not only the respondents' prejudice but also his color preference.

Another possible error may occur when one sums-up several reliable questions to obtain a sum score (aggregate or summary score). For example, questions in the questionnaire may be intent on measuring several prejudices against foreign-made cars. In this case, when one sums-up (the sum score) the reliable responses designed to measure several prejudices against foreign-made cars and the error component in the responses is truly random, then one may expect that the different components will cancel each other out across items, that is the true score component across items will be zero. It is therefore important to ensure that this effect is not taking place.

Cronbach's coefficient alpha is the most common index of reliability (Statsoft, 1994: 3105). This coefficient can be seen as the mean of all possible split-half coefficients resulting from all possible splitting of a test. Coefficient alpha is an index of the internal consistency of the questions in a questionnaire, that is, their tendency to correlate positively with one another. Insofar as a questionnaire with high internal consistency will also tend to show stability of scores in a test-retest approach, coefficient alpha is therefore a useful estimate of reliability (Gregory, 2000: 85).

The results in table 5.2 indicate a coefficient of 0.9074, denoting that questions 1 to 21 on the research questionnaire (section relating to the Brand Experience model) measure the same criteria and are reliable. The interpretation of this value is that it indicates that about 91% of the variability in the sum score is true score variability, that is, true variability

between respondents concerning the concept in question, ie., Satisfaction. A measurement of 1 would indicate that the questions are perfectly reliable and measure the same thing, whilst a coefficient of nil would indicate the converse.

The values of the skewness and kurtosis of the sum scale are both close to zero (table 5.2). Therefore, it can be concluded that the values for the sum scale are normally distributed in the sample.

Table 5.2: Reliability Analysis - Scale (Alpha)

Correlation Matrix

	Q1	Q2	Q3	Q4	Q5
Q1	1.0000				
Q2	.6213	1.0000			
Q3	.3714	.4011	1.0000		
Q4	.4354	.3184	.3249	1.0000	
Q5	.3808	.3367	.3107	.3054	1.0000
Q6	.3351	.3590	.3015	.3202	.5255
Q7	.3808	.3207	.2945	.4001	.3134
Q8	.2356	.2616	.2317	.3638	.1878
Q9	.4508	.5331	.3682	.4303	.4639
Q10	.4107	.4084	.2847	.3984	.4041

	Q6	Q7	Q8	Q9	Q10
Q11	.2626	.2779	.3201	.4392	.2326
Q12	.0977	.1411	.1818	.1893	.1605
Q13	.0920	.1044	.1274	.1342	.1362

	Q6	Q7	Q8	Q9	Q10
Q14	.5105	.3889	.3712	.3962	.3704
Q15	.4153	.3598	.3727	.4045	.2723
Q16	.2701	.2368	.1950	.2877	.2818
Q17	.4297	.3497	.3001	.4416	.2905
Q18	.3793	.3325	.3095	.4726	.3021
Q19	.3588	.3595	.2356	.3563	.4271
Q20	.5712	.5243	.2936	.3887	.3499
Q21	.2551	.2050	.2047	.3374	.1959

	Q6	Q7	Q8	Q9	Q10
Q6	1.0000				
Q7	.3444	1.0000			
Q8	.2240	.3707	1.0000		
Q9	.4858	.4110	.3398	1.0000	
Q10	.3297	.4603	.3021	.5021	1.0000
Q11	.2376	.3040	.4902	.3161	.4005
Q12	.1562	.1947	.2844	.1877	.1585
Q13	.0350	.0879	.2593	.1242	.1671
Q14	.3917	.3688	.3038	.4453	.4040
Q15	.2527	.3392	.3440	.3472	.3357
Q16	.2745	.2923	.3176	.3545	.3250
Q17	.2938	.3851	.3222	.4487	.4643

	Q11	Q12	Q13	Q14	Q15

Q18	.2517	.3365	.2848	.4312	.4124
Q19	.3923	.3185	.2142	.4583	.4157
Q20	.3353	.3592	.2622	.4819	.4495
Q21	.2430	.3123	.2927	.3436	.2074

	Q11	Q12	Q13	Q14	Q15
Q11	1.0000				
Q12	.2860	1.0000			
Q13	.2762	.6925	1.0000		
Q14	.3149	.2546	.2345	1.0000	
Q15	.4966	.2910	.2772	.5955	1.0000
Q16	.3204	.2169	.2240	.3775	.3904
Q17	.4464	.2461	.2520	.4571	.4371
Q18	.5104	.2585	.2992	.3802	.4769
Q19	.3673	.1801	.2059	.4006	.3527
Q20	.2507	.1120	.1317	.5136	.3746
Q21	.2962	.2993	.2788	.2468	.2904

	Q16	Q17	Q18	Q19	Q20
Q16	1.0000				
Q17	.5387	1.0000			
Q18	.4672	.6863	1.0000		
Q19	.3918	.4783	.4657	1.0000	
Q20	.2722	.3650	.3319	.3995	1.0000
Q21	.2620	.2810	.2408	.2442	.2399

	Q21
Q21	1.0000

N of Cases	=	416.0
Reliability Coefficients	=	21 items
Cronbach's coefficient Alpha	=	0.9074
Standardized item alpha	=	0.9121
Skewness	=	0.5140
Kurtosis	=	0.0753
Average inter-item correlation	=	0.3358

The correlation matrix, table 5.2, between the various variables reflects that the average inter-item correlation is 0.3358, indicating that the questions are related to each other to some extent (>0). The importance of this will become more apparent in the factor analysis which will be discussed later.

The following is the summation of all the responses to questions 1 to 21 of the questionnaire:

Table 5.3: Summation of the responses to questions 1 to 21 of the questionnaire

Respondent's Responses to Questionnaire - Questions 1 to 21

	Strongly agree		Agree		Disagree		Strongly disagree		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%
Q1. Markhams my kind store (value/quality/fashion) - SV	251	60.3%	148	35.6%	16	3.8%	1	.2%	416	100%
Q2. Markhams in "Class of own" - value/quality/fashion - TC	230	55.3%	159	38.2%	24	5.8%	3	.7%	416	100%
Q3. Markhams important to me when I buy clothes - RB	259	62.3%	139	33.4%	16	3.8%	2	.5%	416	100%
Q4. Treated as customer - SV	227	54.6%	161	38.7%	22	5.3%	6	1.4%	416	100%
Q5. If not Markhams big problem/hassle to open account elsewhere - TC	109	26.2%	126	30.3%	133	32.0%	48	11.5%	416	100%
Q6. Costly to open account card fees and rates - TC	112	26.9%	133	32.0%	128	30.8%	43	10.3%	416	100%
Q7. Advertises, promotes fashions, sales, specials well - Com	223	53.6%	172	41.3%	19	4.6%	2	.5%	416	100%
Q8. Statement easy understand - Com	284	68.3%	125	30.0%	4	1.0%	3	.7%	416	100%
Q9. Offers more benefits competitors - RB	170	40.9%	164	39.4%	68	16.3%	14	3.4%	416	100%
Q10. Attractive store Com	204	49.0%	187	45.0%	21	5.0%	4	1.0%	416	100%
Q11. Markhams account fairly & just manner - OB	231	55.5%	162	38.9%	15	3.6%	8	1.9%	416	100%
Q12. I always pay instalment - Acq	226	54.3%	147	35.3%	42	10.1%	1	.2%	416	100%
Q13. I always pay Account time - Acq	221	53.1%	141	33.9%	51	12.3%	3	.7%	416	100%
Q14. See myself buying Markhams in future - PL	236	56.7%	160	38.5%	19	4.6%	1	.2%	416	100%
Q15. Will use Account months - PL	249	59.9%	151	36.3%	11	2.6%	5	1.2%	416	100%
Q16. Store would take goods without problems - CO	234	56.3%	162	38.9%	14	3.4%	6	1.4%	416	100%
Q17. Problems with Markhams understands/helps me - CO	183	44.0%	207	49.8%	16	3.8%	10	2.4%	416	100%
Q18. Problem with would be sorted out - FC	199	47.8%	199	47.8%	13	3.1%	5	1.2%	416	100%
Q19. Markhams would listen my advice - FC	101	24.3%	234	56.3%	67	16.1%	14	3.4%	416	100%
Q20. Markhams offers me of clothes I want - Unc	241	57.9%	150	36.1%	21	5.0%	4	1.0%	416	100%
Q21. I always have Credit at Markhams - Unc	226	54.3%	134	32.2%	39	9.4%	17	4.1%	416	100%

This study will now consider the results reflected in table 5.3.

- Question 1: Markhams is my kind of store (offering value for money/quality/fashion).

  Brand Experience attribute: Shared Value (SV).

  Responses were very positive, with as many as 95.9% of the responses being either "Strongly agree" (60.3%) or "Agree" (35.6%). The high proportion of "Strongly agree" augers well for the retailer, as it means that the customers do enjoy what the retailer has to offer. Only 4% of responses were negative, with only 0.2% being "Strongly disagree" - this too is a positive outcome, in that one wants the negatives to be as low as possible. A high negative response rate would mean that the retailer's offering is out of line with customer's expectations.

- Question 2: Markhams is in a "class of its own" as a men's clothing store (offering value for money/quality/fashion).

  Brand Experience attribute: Termination Cost (TC)

  The relatively lower response rate (93.5%), with "Strongly agree" receiving only 55.3% and "Agree" getting 38.2% of the responses, indicates that the retailer does not enjoy a monopolistic situation, that is the retailer is not the only men's fashion retailer the respondents have access to. The percentage of disagreement adds up to 6.5% (5.8%+0.7%). These results indicate that the retailer operates in a competitive environment where players do compete for the customer's share-of-wallet.

- Question 3: My Markhams account (ie.credit) is very important to me when I buy clothes.
  Brand Experience attribute: Relationship Benefits

  As much as 62.3% of respondents selected "Strongly agree" and 33.4% chose "Agree", a total of 95.7%. What is meaningful with the response is the high proportion of

respondents who feel that the Markhams account is very important when they buy clothes. Only 4.3% (3.8% + 0.5%) of respondents disagreed with his statement. This result, the high dependency on credit, confirms the results reflected in figure 2.6 (Determinants of credit purchase behaviour - apparel retailers) where it is shown that credit is an important component of purchase behaviour.

- Question 4: Markhams treats me as an important customer

  Brand Experience attribute: Shared Values

  The response to this question is not as good as the retailer might expect. Ideally one would want to see the "strongly agree" response to be much higher. Only 54.6% of customers "strongly agreed" and 38.7% "Agreed" with the statement. The retailer needs to re-look at its communication with customers and at the approach being used within store, do sales people make the customer feel welcome?, Does the fact that the customer has an account mean anything to sales staff? Is there a way that sales staff can make the customer feel important by the way they address the customer, and the content of the "sales" pitch? Is customer communication, for example statements, credit increase letters, follow-up letters or marketing letters from the retailer's head office personalised? Does this communication make the customer feel that he is an individual as opposed to another one of thousands of customers that the retailer has? These are the type of questions that the retailer needs to address in order to ensure that the customer shopping experience with the retailer is a positive one.

- Question 5: If I did not have a Markhams account would it be a big problem/hassle to open an account at a similar store?

  Brand Experience attribute: Termination Cost (TC)

  As many as 43.5% (32%+11.5%) of the respondents "disagree" or "strongly disagree" with the statement. Only 26.2% of respondents "strongly agreed" with the statement. This indicates that the Markhams account is not as strong a differentiator

as one would want the case to be. Most respondents would find no difficulty/hassle to open a similar account elsewhere. This also confirms the results reflected in figure 2.6 (Determinants of credit purchase behaviour - apparel retailers) in that credit is a means to an end and not the main reason why the respondent shops where he shops. It also indicates the fact that retail credit is easily available in South Africa.

- Question 6: It would be costly to open an account at another clothing store because of card fees and interest rates.

  Brand Experience attribute: Termination Costs (TC)

  The response rate for this statement is very much in line with the responses to question 5. This indicates that the perceived costs of opening accounts is very much the same, all tend to charge the same interest rates and fees. Once again, the interest rate or fees factor is not a differentiator in the mind of the customer.

- Question 7: Markhams advertises/promotes its new fashions, sales and specials well.

  Brand Experience attribute: Communication (Com)

  Most respondents, 94.9% (41.3%+53.6%) tended to "Agree" or "Strongly agree" with the statement. Only 5.1% (4.6%+0.5%) "Disagreed" or "Strongly disagreed" with it. This is an important aspect of doing business and it seems that the retailer is doing the job as expected.

- Question 8: My Markhams statement is easy to understand and gives me enough detail.

  Brand Experience attribute: Communication (Com)

  Most respondents "Strongly agreed" or "Agreed" with the statement. This is an important part of the communication process, in that this is how the respondent

finds out what his account balance is, how much must be paid to the retailer and when the payment must be made by. If this communication is not clear, then the customer could end up not paying his account, which would eventually result in the credit facility being suspended. The portion of "Disagree" or "Strongly disagree" is very small, 1% and 0.7% respectively.

- Question 9: I see my Markhams account offering me more benefits than other stores offering men's clothing on account.

  Brand Experience attribute: Relationship Benefits (RB)

  The portion of respondents who "Disagree" or "Strongly disagree" is particularly high at 19.7% (16.3%+3.4%). Once again this confirms the lack of differentiation between credit facilities amongst the different retailers. Credit seems to be an equaliser, rather the absolute minimum requirement in order for the retailer to compete with other credit retailers, as opposed to a differentiator.

- Question 10: Markhams has an attractive store layout.

  Brand Experience attribute: Communication (Com)

  Respondent's seem to be divided between "Strongly agree" and "Agree", 49% and 45% respectively. This is an important aspect as it contributes to a positive shopping experience. Only 6% "Disagreed" or "Strongly disagreed" with the statement. The retailer must watch responses to this variable in future surveys as it is important that customers continue to enjoy the shopping experience.

- Question 11: Markhams handles my account fairly and in a just manner.

  Brand Experience attribute: Opportunistic Behaviour

  The response to this question was positive, with 94.4% of respondents stating that

they either "Strongly agreed" or "Agreed" with the statement. As much as 5.5% (3.6%+1.9%) of respondents either "Disagreed" or "Strongly disagreed". It is important that the retailer continues to be perceived in a positive light. This is also an indication of whether respondents find debt collecting tactics appropriate or not. For example, customers with accounts in arrears can receive statement messages, letters and phone calls informing that payments are outstanding and asking for payments to be made. The Retailer is also prepared to make payment arrangements with customers who are in a difficult financial position.

- Question 12: I always pay my full instalment on my Markhams account.

  Brand Experience attribute: Acquiescence.

  The response to this question shows that 10.1% of respondents "Disagree" with the statement, 35.3% "Agree" and only 54.3% "Strongly agree". This response shows that a large proportion of customers end up in arrears in their payments to the retailer and it emphasises the importance of the positive response in the previous question, question 11.

- Question 13: I always pay my Markhams account on time.

  Brand Experience attribute: Acquiescence (Acq)

  Once again the response is more or less the same as that for the previous question. The response seems to indicate that as much as half of customers (53.1%) actually pay the retailer's account on time and just as much always pay their full instalments. Therefore, 1 in 2 customers seems to be able and prepared to comply with the retailers' request that accounts be kept up to date, that is payments on time and in full.

- Question 14: I see myself buying from Markhams in the future.

  Brand Experience attribute: Propensity to Leave (PL)

  As much as 95.2% (56.7%+38.5%) of respondents feel confident that they will be buying from the retailer in the future. This is a positive indication as it shows that customers are confident that the retailer will be able to meet their needs in the long term.

- Question 15: I will still be using my account in the next six months.
  Brand Experience attribute: Propensity to Leave (PL)

  Once again the response correlates with the response to the previous question. There was a 96.2% (59.9%+36.3%) positive response and only a 3.8% (2.6%+1.2%) negative response. This response augers well for the retailer. There seems to be a short and a long term orientation on the part of respondents in relation to a relationship with the retailer. The retailer will do well to continue measuring this short and long term orientation as it indicates whether customer needs are being met.

- Question 16: If I returned goods to a Markhams store, the store will take the goods back without any problem.

  Brand Experience attribute: Co-operation (CO)

  Most respondents, 95.2% (56.3%+38.9%) trust the retailer to accept returned goods. This is an important aspect of doing business in that, often customers take clothing/apparel home on "apro", to try first and if it they don't like it, they will return the goods to the store. The retailer rates well in this question.

- Question 17: If I had any problems paying my account, Markhams would understand and help with an easier appropriate payment plan.

  Brand Experience attribute: Co-operation (CO)

  Most respondent's feel positive about the retailer's willingness to accommodate them in the event of a difficult financial situation. As much as 93.80% (44%+49.8%) responded positively to the question. Only 6.2% disagree to some extent with the statement.

- Question 18: If I had any problems with my Markhams account, the problem would be sorted out.

  Brand Experience attribute: Functional Conflict (FC)

  An equal percentage of respondents, 47.8%, either "Agree" or "Strongly agree" with the statement. As much as 95.6% (47.8%+47.8%) of the respondents feel this way. This is the kind of trust that the retailer must strive to obtain from its customer base. It shows that the perceived conflict risk in the relationship, on the part of the customer, is minimal.

- Question 19: If I told Markhams how to improve their store or their goods, they would listen to my advice.

  Brand Experience attribute: Functional Conflict (FC)

  A reasonable proportion of respondents, 16.1%, "Disagree" with this statement and only 24.3% "Strongly agree" that the retailer would listen to their advice. The ideal situation is one where the customers feel comfortable about having a dialogue with the retailer and in the process being able to express their views in the knowledge that the retailer will listen to them. The retailer must strive to improve the perception amongst customers in this regard and to effectively bring them into the dialogue loop as partners in the process. Refer to figure 2.4.

- Question 20: Markhams offers me the kind of clothes I want.

  Brand Experience attribute: Uncertainty

  Most respondents, 94% (36.1%+57.9%), "Agreed" or "Strongly agreed" with the statement. Only 6% (5%+1%) either "Disagreed" or "Strongly disagreed" with the statement. The positive responses are an excellent feedback to the retailer in that it shows that the retailer is meeting customer needs.

  The "Disagrees and Strongly disagrees" responses comprise only 6% and this is not necessarily a negative factor. Customers do age, needs change and such changes can only mean that the retailer, who has remained focused on its target market, will be in a position where it no longer meets the needs of the customer. The point here though is that the retailer must ensure that the negatives are in fact due to some normal process which is beyond its control and not because it is missing its target in terms of needs. The retailer must ensure that the "negative" percentages are kept low. If these "negative" percentages increase substantially, then this should be the alarm system that sounds the words - "Watch out - something is wrong!"

- Question 21: I always have enough credit at Markhams.

  Brand Experience attribute: Uncertainty

  As much as 13.5% of respondents "Disagree" or "Strongly disagree" with this statement. The percentage of respondents that "Strongly agree" is 54.3%, possibly a low value (1 in 2 respondents). It is important that one identifies the source of such "unhappiness" and to see whether something can be done about this. This study will consider the areas that comprise an opportunity in this regard. After all credit is the vehicle, the means to an end, in this business.

The other questions covered in this survey are questions 22 to 28.

- Question 22: What is the total amount you spend on men's clothing per annum
  The average spend is 2,229.16, refer to table 5.4. the mode (the value that was most stated is R1,000).

- Question 23: Of the above amount, how much do you spend on account (credit only)?

  The average response was R1,561.94. This corresponds to approximately 70% of the average spend reflected in question 22. It is interesting to note that credit comprises 71% of the retailer's business (refer to point 1.4) and the balance is cash. Therefore, the average reflected above is in line with that of the retailer's business.

- Questions 24 and 25, measuring the appeal of competitive brands, is discussed in detail under point 5.5.

- Questions 26 and 27, measuring the brand's power of referral, will be considered in detail under point 5.6.

- Question 28, measuring the credit appeal component is discussed in detail under point 5.7.

5.3.3 Analysis of the sample's variable distribution and normality

Many statistical tests (such as means, standard deviations, regression analysis, and others) assume that data are normally distributed (refer to 4.4.4, figure 4.3). Therefore it is important that one checks the distribution of the data in order to avoid violation of the assumptions made in such tests. One way of dealing with data that is not normally distributed is to apply appropriate transformations or, alternatively, to use non-parametric tests which do not require normally distributed data (SPSS, 1998: 3-28). Furthermore, it is important that one is able to identify outliers and extreme scores (unusually high or low values in the responses - explained in detail under 5.3.6 and figure 5.1) as these may distort

some of the analysis, for example the predictive power of the multivariate correlation analysis. Another warning of potential problems in the data occurs where the median (the middle point) differs greatly from the mean (the arithmetic average) - this might indicate the presence of outliers (which affect the mean but not the median).

Table 5.4 reflects the results of the measures of central tendency and dispersion, these results will be analysed in point 5.2.1 and as per the further analyses reflected in Annexure B.

Table 5.4: Measures of Central Tendency and Dispersion

Statistics

	N											
	Valid	Missing	Mean	Median	Mode	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Minimum	Maximum
RACE	416	0			4	1	-.449	.120	-1.562	.239	1	4
Gender	416	0			1	.39	1.648	.120	.720	.239	1	2
Customer age group	359	57			3	1.66	.636	.129	-.556	.257	2	8
Months on books - July 96	416	0	28.42	20.00	18	28.87	2.054	.120	4.536	.239	1	161
Months on books - July 96	416	0	4.74	5.00	2	2.55	.123	.120	-1.196	.239	1	9
Income as when Account opened	416	0	2109.58	1753.00	1500	1482.81	3.531	.120	19.168	.239	500	13600
Credit Limit - July 96	416	0	1610.96	1204.50	250	1178.28	1.154	.120	.890	.239	180	6300
Life-to-date purchases - July96	416	0	1874.90	1418.76	1	1657.33	2.402	.120	8.948	.239	1	12555
Purchases : LTD98 - LTD96	416	0	1566.86	1341.50	1[a]	1312.64	3.051	.120	15.708	.239	1	12359
Purchase difference as % of 96 Cr.Limit	416	0	166.4709	109.0032	130.20[a]	220.0839	4.830	.120	36.199	.239	.02	2456.80
Markhams my kind of store (value/quality/fashion) - SV	416	0	1.44	1.00	1	.58	1.010	.120	.427	.239	1	4
Markhams in "Class of its own" - value/quality/fashion - TC	416	0	1.52	1.00	1	.64	1.010	.120	.689	.239	1	4
Markhams account important to me when I buy clothes - RB	416	0	1.43	1.00	1	.59	1.199	.120	1.141	.239	1	4
Treated as important customer - SV	416	0	1.54	1.00	1	.66	1.152	.120	1.336	.239	1	4
If not Markhams account, big problem/hassle to open account elsewhere - TC	416	0	2.29	2.00	3	.98	.134	.120	-1.049	.239	1	4
Costly to open account - card fees and rates - TC	416	0	2.25	2.00	2	.97	.186	.120	-1.000	.239	1	4
Advertises, promotes new fashions, sales, specials well - Com	416	0	1.52	1.00	1	.61	.859	.120	.403	.239	1	4
Statement easy to understand - Com	416	0	1.34	1.00	1	.54	1.552	.120	3.095	.239	1	4
Offers more benefits than competitors - RB	416	0	1.82	2.00	1	.82	.706	.120	-.226	.239	1	4
Attractive store layout - Com	416	0	1.58	2.00	1	.64	.862	.120	.761	.239	1	4
Markhams handles account fairly & just manner - OB	416	0	1.52	1.00	1	.66	1.306	.120	2.078	.239	1	4
I always pay full instalment - Acq	416	0	1.56	1.00	1	.68	.854	.120	-.261	.239	1	4
I always pay Account on time - Acq	416	0	1.61	1.00	1	.73	.875	.120	-.182	.239	1	4
See myself buying from Markhams in future - PL	416	0	1.48	1.00	1	.60	.885	.120	.155	.239	1	4
Will use Account within 6 months - PL	416	0	1.45	1.00	1	.61	1.330	.120	2.197	.239	1	4
Store would take returned goods without problems - CO	416	0	1.50	1.00	1	.64	1.241	.120	1.901	.239	1	4
Problems with account - Markhams understands/helps me - CO	416	0	1.65	2.00	2	.67	1.037	.120	1.739	.239	1	4
Problem with account would be sorted out - FC	416	0	1.58	2.00	1[a]	.62	.885	.120	1.289	.239	1	4
Markhams would listen to my advice - FC	416	0	1.99	2.00	2	.73	.536	.120	.310	.239	1	4
Markhams offers me kind of clothes I want - Unc	416	0	1.49	1.00	1	.64	1.172	.120	1.231	.239	1	4
I always have enough Credit at Markhams - Unc	416	0	1.63	1.00	1	.82	1.223	.120	.879	.239	1	4
Spent on Clothing p.a.	416	0	2429.16	2000.00	1000	1991.07	2.297	.120	7.629	.239	250	15000
Spent on Credit p.a.	416	0	1561.94	1000.00	1000	1539.60	2.632	.120	11.008	.239	0	13000
What do you tell	416	0			1	.65	2.292	.120	3.336	.239	1	3
Referrals	416	0			2	.68	.000	.120	-.851	.239	1	3
How do you shop	416	0			1	.99	1.119	.120	-.038	.239	1	4

a. Multiple modes exist. The smallest value is shown

Table 5.4 reflects the results of an analysis on variables used in this study. One of the purposes of this table, which is produced once the data is first captured into the statistical package data sheet, is to conduct a data quality check. In other words, some of the variables, like number of cases (valid and missing), mean, mode, minimum and maximum help identify areas where the data capture process may have resulted in "finger trouble" and it allows for the correction of problem areas before the various statistical procedures are applied.
Frequencies Statistics

Transformations such as a log transformation can make a skewed distribution more normal.

The variables are listed on the first column., the second column deals with the number of cases used in the analysis, either valid or missing. The only variable where there was missing information when the table extract was done is the variable "Customer Age Group". The process adopted to address this problem is discussed in point 4.7 of this study.

The measures of central tendency, outliers are discussed in detail in the points that follow.

5.3.4 Determination of skewness and kurtosis of the variables

Skewness measures the asymmetry of a distribution (Smit et al, 1994: 4). A skewness value may be either positive or negative, each indicating opposing tendencies in the distribution. In general, a skewness value greater than one indicates a distribution that differs significantly from a normal, symmetric distribution. A large positive value for skewness indicates a long right tail in the distribution; an extreme negative value, a long left tail in the distribution.

Kurtosis measures the extent to which observations cluster around a central point (Smit et al, 1994: 4). Positive kurtosis indicates that the observations cluster more and have longer tails than those in the normal distribution, while negative kurtosis indicates that the observations cluster less and have shorter tails.

Skewness and kurtosis indicate how much a distribution varies from a normal distribution. For a normal distribution, the value of the kurtosis and skewness statistic is 0. SPSS base 8.0, Applications guide (1998:28), states that the ratio of each statistic to its standard error

(measurement of the precision with which the population mean is estimated from the sample - SPSS, 1998: 24) can be used as a test of normality, that is one can reject normality if the ratio is less than -2 or greater than +2.

As reflected in table 5.4 and detailed in Annexure B, of the twenty-one variables used in the KMV model, eighteen had a skewness ratio to its standard error in excess of two; thus one can reject the assumption of normality and proceed with transformation of variables as discussed next.

5.3.5 Transformation of variables to address distribution and normality concerns

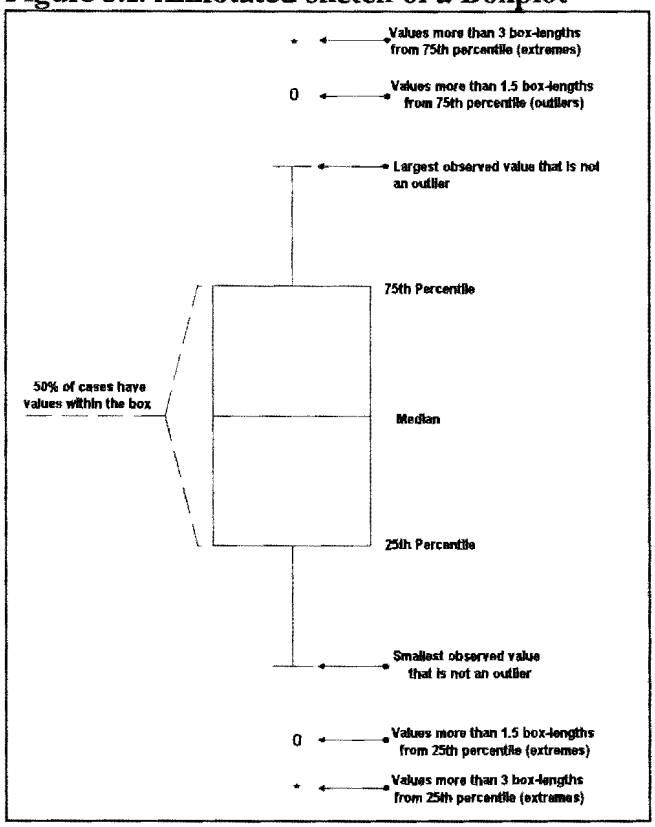
Where normality is a concern, SPSS (1998:25) recommends transformations, such as a log transformation, which can make a skewed distribution more normal. For this reason, Log base 10 transformations are used for the values of the various variables in the questionnaire. The end result is that the skewed distributions are more normal and the data can be used in procedures which assume normality in distribution (for example, regression and factor analysis).

5.3.6 Identification of outliers and extreme cases

According to SPSS (1998: 40) the Box and Whisker plot, also known as a Boxplot, as per figure 5.1, consists of the hinges (the edges of each box) which reflect the 25^{th} and 75^{th} percentiles, the hspreads (the length of the box) which corresponds to the interquartile range, and the whiskers (vertical lines extending up and down from each box) which reflect the range of values that fall within 1.5 hspreads of the hinges (1.5 hspreads can be longer than a whisker). The median splits the ordered batch of values in half and the hinges split the remaining halves in half again, the 50% of the data values fall within the range of the box.

Any value falling outside the edge of the whisker is known as an outlier (cases with values between 1.5 and 3 box lengths from the upper or lower edge of the box) or possibly an extreme value (cases with values more than 3 box lengths from the upper or lower edge of the box).

Figure 5.1: Annotated sketch of a Boxplot



Source: SPSS Base 8.0 Applications Guide, 1998: 41

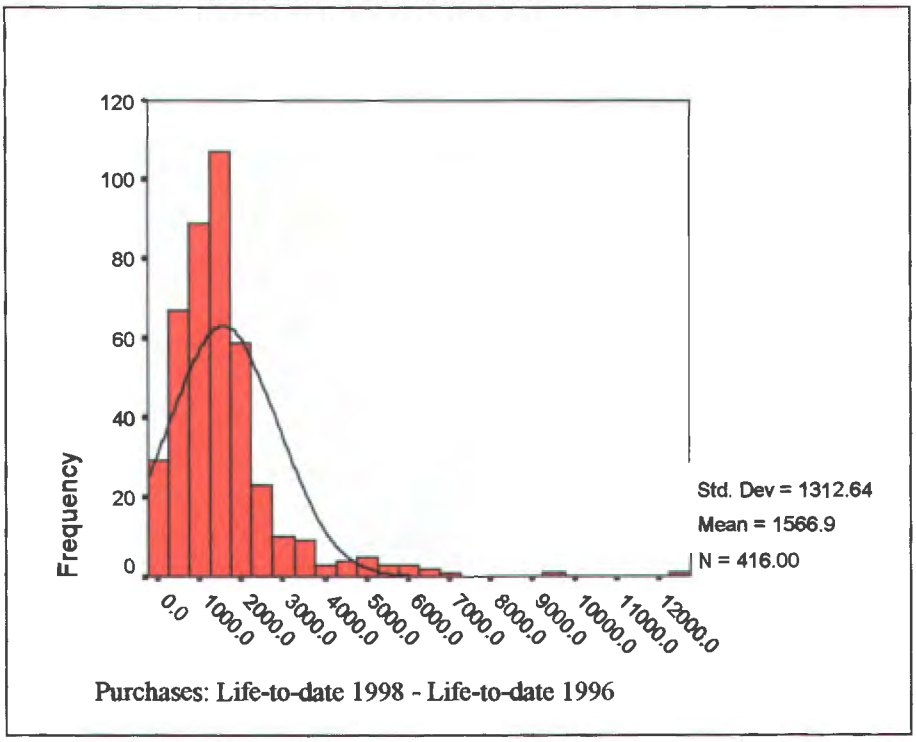
The problem with outliers or extreme values is that they tend to distort the value of the mean for the given variable and may ultimately impact negatively on the predictive power of a regression analysis. It is therefore important that these variables be either removed from the data sample or adjusted.

The only variable that was of concern with regards to outliers and extreme cases, ie. high values which are considered the exception rather than the norm in real life, is the "Purchases 1996 to 1998" variable as reflected in table 5.4 (maximum value = R12,555). This variable reflects the purchases made by account customers between 1996 and 1998.

The distribution of the data for the given variable reflected in graph 5.5 illustrates the existence of outliers, that is very high values. Looking at the graph, one can see a bar on the right hand side corresponding to a value exceeding R12,000. In the middle there is a bar corresponding to a value between R9,500 and R10,000. Another observation which clarifies

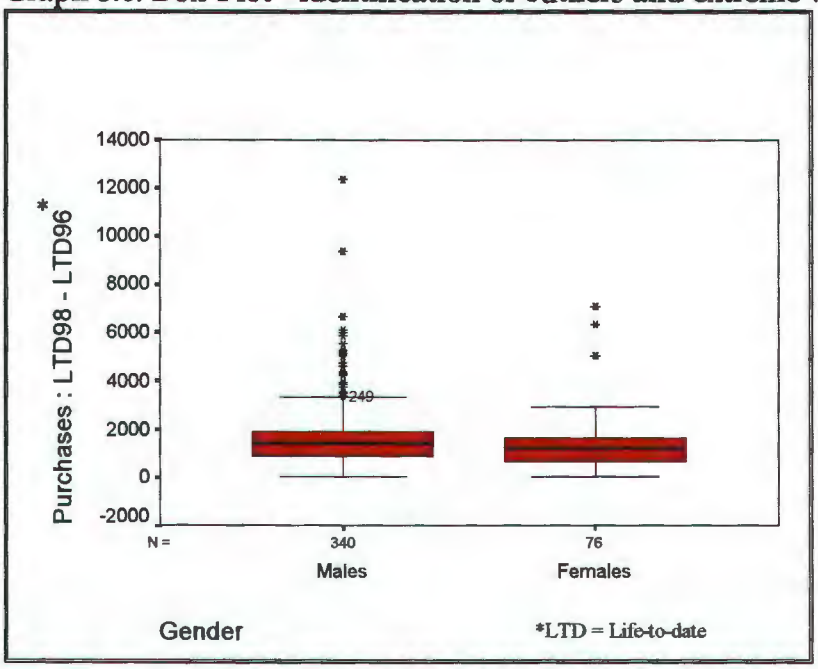
the concept of outliers and extremes values, is the size of the bars up to the value of R4,000, indicating the values where most purchases are likely to fall into.

Graph 5.5: Purchases made between 1996 and 1998 by the retailer's account customers



The outliers and extreme values are more easily identified in a box plot (refer to graph 5.6). Please note that these values are identified as either a circle (for outliers) or a star (extreme values). The Box plot was used to identify these values and as can be seen case number 249 (identified by a circle/star - Males) has the lowest outlier value. A closer look at this variable reflects a value of R3,384. The reason why some values are high, in this case these values exceed the R4,000 mark, is because these specific customers are more likely to have purchased not only apparel but also jewellery in the American Swiss Jewellers' boutiques that exist in Markhams. Although the retailer has these jewellery boutiques in-store, the core business still remains the apparel business.

Graph 5.6: Box-Plot - identification of outliers and extreme values



The decision with regards to outliers and extreme values for the purpose of this research, is to transform any value greater than R4,000 to a value of R4,000. This will have the effect of eliminating outliers and extreme values whilst acknowledging that some customers do spend more than the average customer.

5.3.7 The Credit Utilisation Percentage variable

For the purpose of this research a new variable was developed, namely the Credit Utilisation Percentage (CUP). This is a key variable in that regression analysis (discussed in detail under 5.8) will use it as the dependent variable, that is the variable whose value one is trying to predict in real life, given a number of independent variables (the predictors).

The CUP is a function of the customer's spend on his account in relation to his credit limit. The credit limit is a function of the monthly salary, disposable income percentage attributed to spending in the category (apparel), and the credit facility repayment period (refer 2.4.4). Ideally, one wants a customer to continue spending up to his credit limit, as this is the retailer's expected level of spending in the category for that specific customer. The retailer's

objective then is to be able to forecast what CUP the customer is likely to achieve in the prediction/forecast period.

The Credit Utilisation Percentage variable (CUP) will be calculated as follows:

$$\frac{\textbf{Purchases made between July 1996 and July 1998}}{\textbf{Credit Limit as at July 1996}} \textbf{ X 100}$$

5.4 QUANTIFICATION OF THE BRAND EXPERIENCE (BE) COMPONENTS/VARIABLES

The first phase of the modeling process comprises the reduction of the number of variables representing each component in the BE model. The variables comprising the BE model are in effect summary variables, that is they summarise information in a larger set of variables. For example, Termination Costs, a variable in the BE model is a variable that summarises question 2, 5 and 6 of the research questionnaire (refer to point 4.6.1). Figure 5.2 depicts the summary variables as well as the input variables from the model.

Figure 5.2: Variables used as input in the factor analysis

Variables in the Brand Experience model (summary variables)	Questions from questionnaire (input variables)
Shared Values	Question 1 and Question 4
Termination costs	Question 2, Question 5 and Question 6
Relationship Benefits	Question 3 and Question 9
Communication	Question 7, Question 8 and Question 10
Opportunistic Behaviour	Question 11
Acquiescence	Question 12 and Question 13
Propensity to Leave	Question 14 and Question 15
Co-operation	Question 17 and Question 18
Functional Conflict	Question 18 and Question 19
Uncertainty	Question 20 and Question 21

The statistical method used for the purpose of creating the summary variables as discussed above, is factor analysis (discussed in detail under point 4.9.3). The process adopted in this statistical method will now be discussed by means of an example, that is, the process with regards to the Shared Values summary variable will be covered, (first item on figure 5.2).

5.4.1 Factor Analysis - Shared Values - Questions 1 and 4

The objective of the factor analysis is to derive a new variable, called Shared Values, from questions 1 and 4 (figure 5.3).

Figure 5.3: The two input variables

Question no.	Question/statement
1	Markhams is my kind of store (value/quality/fashion)
4	Markhams treats me as an important customer

The main steps involved in the factor analysis are now considered:

- Correlation matrix analysis
- Kaiser-Meyer-Olkin (KMO) and Bartlett's test
- Anti-image matrices analysis
- Communalities analysis
- Component matrix analysis
- Component score coefficient matrix analysis

5.4.1.1 Correlation matrix analysis

A factor analysis usually starts by calculating the variable-by-variable correlation matrix (see also point 4.9.3 for an explanation). It is a good idea to examine these correlations as they may provide further insight into the analysis.

The correlation matrix in figure 5.4 highlights the relationship between the variables used as input variables in the analysis, that is the extent to which there is a correlation (how strong or weak), and the nature of the correlation (positive or negative). The Pearson correlation method is used in this analysis and its measurement result is known as the Pearson correlation coefficient. It is this coefficient that measures the degree to which there is a linear association between the variables (Aaker et al, 1998: 524).

Figure 5.4: Correlation Matrix between Input Variables (questions 1 and 4)

Correlation Matrix[a]

		Markhams my kind of store (value/quality/fashion) - SV	Treated as important customer - SV
Correlation	Markhams my kind of store (value/quality/fashion) - SV	1.000	.435
	Treated as important customer - SV	.435	1.000
Sig. (1-tailed)	Markhams my kind of store (value/quality/fashion) - SV		.000
	Treated as important customer - SV	.000	

a. Determinant = .810

According to figure 5.4, a good positive relationship (0.435) exists between the variables, that is the variables are good at explaining each other. For example, those customers who feel that "Markhams is my kind of store" are also likely to feel that they are treated as important customers, and vice-versa. It is possible that customers who feel that a store is "their kind of store", would have an expectation in being treated as important when they visit the store. However, the converse is not always true, for example a store may treat one as important, yet the store may not necessarily be that person's "kind of store".

The higher the coefficient (closer to 1 or -1) the stronger the relationship; a score of 1 reflects a perfect relationship between the variables. A negative sign, as in -1, indicates a negative relationship, that is an association between a high value in one variable and a low value in the second variable. To illustrate the point, consider a situation where the higher the temperature at the beach, the lower the sales of hot coffee at the same beach. In this example one finds a negative correlation, as temperature increases, the lower the sales of hot coffee are.

5.4.1.2 Kaiser-Meyer-Olkin (KMO) and Bartlett's test

The objective of the KMO and Bartlett's test is to test the suitability of the data for factor analysis (SPSS Base 8.0, software package on-line help system).

Figure 5.5: The Kaiser-Meyer-Olkin 's and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	86.912
	df	1
	Sig.	.000

The Kaiser-Meyer-Olkin measure of sampling adequacy calculates the proportion of variance in variables which is common variance, ie. might be caused by underlying factors. A high factor >= to 0.50 generally indicates that factor analysis might be useful. The result of 0.5 reflected in the analysis, figure 5.5, indicates that factor analysis will be useful with regards to the given two input variables.

The Bartlett's test of sphericity indicates whether the correlation matrix is an identity matrix (a matrix that indicates that the variables are unrelated). A value <0.05 indicates that there are probably significant relationships among the variables. If the value is >0.1 than the data would not be suitable for factor analysis. In this case the result is 0.000 (refer to figure 5.5), and it indicates that there are is a significant relationship between the variables. This is a confirmation of the results reflected in the correlation matrix (point 5.4.1.1) and establishes that the data in the two variables are suitable for factor analysis.

5.4.1.3 Anti-image matrices analysis

The purpose of the anti-image matrices analysis is to establish whether there is any input variable that does not fit with the structure of the other input variables. One should consider dropping variables from the factor analysis that are not suitable.

Figure 5.6: Anti-image matrices

		Markhams my kind of store (value/quality/fashion) - SV	Treated as important customer - SV
Anti-image Covariance	Markhams my kind of store (value/quality/fashion) - SV	.810	-.353
	Treated as important customer - SV	-.353	.810
Anti-image Correlation	Markhams my kind of store (value/quality/fashion) - SV	.500[a]	-.435
	Treated as important customer - SV	-.435	.500[a]

a. Measures of Sampling Adequacy(MSA)

The matrice, in figure 5.6, gives the negative partial covariances and correlations. In essence, it gives an indication of the correlations that are not due to the common factors. The values to watch for are the Anti-image correlation, in particular the Measures of Sampling Adequacy (MSA). Where the MSA is <0.5 it gives an indication of variables that do not fit with the structure of the other variable(s) and one should then consider dropping them. In

this case both variables score 0.5, confirming once again that the input variables reflected in figure 5.6 are adequate for the factor analysis.

The other value in the Anti-image correlation should be a small value and it identifies the variables to be relatively free of unexplained correlations (where more than two variables are used, most should be close to zero). Figure 5.6, score of -0.435, indicates that the input variables are relatively free of unexplained correlations.

5.4.1.4 Communalities analysis

Communality is the proportion of the variance of that variable that can be explained by common factors (SPSS Base 8.0 Applications Guide, 1998: 328), that is the percentage of a variable's variance that contributes to the correlation with other variables, or is "common" to other variables (Aaker et al, 1998: 591).

Figure 5.7: Communalities

	Initial	Extraction
Markhams my kind of store (value/quality/fashion) - SV	1.000	.718
Treated as important customer - SV	1.000	.718

Extraction Method: Principal Component Analysis. Refer to 4.3.

The communalities reflected in figure 5.7, gives the value of the amount of variance accounted for. All initial communalities are 1 (SPSS Base 8.0 Applications Guide, 1998: 328). In this case the extraction value of 0.718 is good because it is high.

The total variance is explained in figure 5.8. In the column labeled Total, the eigenvalues (values that represent the amount of variance in the variables that are associated with a factor) are ordered by size. These eigenvalues are also plotted in the scree plot below (Graph 5.7). In a good factor analysis, a few factors will explain a lot of the variance. Each value is the total variance explained by a factor. The percentage of the total variance attributable to each factor is displayed in the column labeled % of Variance. In this case, the first component explains 71% of the variance - this is a good result because it is a high value. The second factor accounts for 28.23% of the variance. Together the two factors account for 100% of the variance.

Figure 5.8: Total Variance Explained

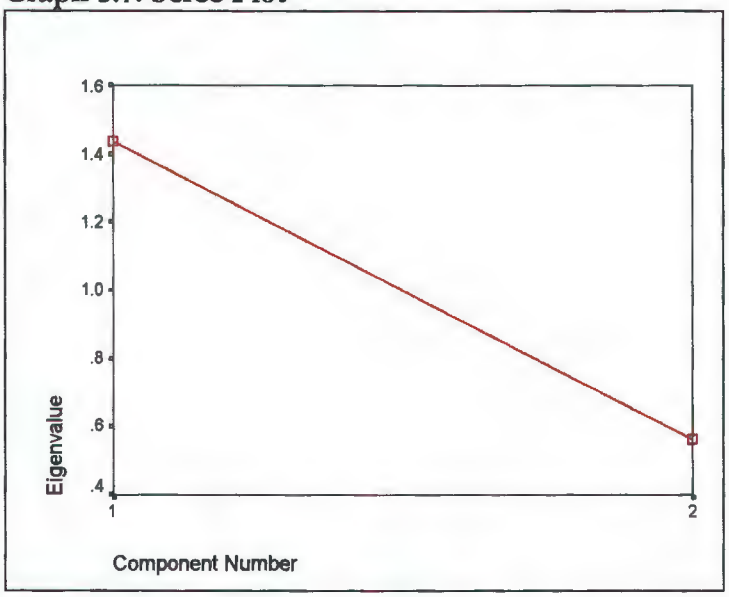
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.435	71.770	71.770	1.435	71.770	71.770
2	.565	28.230	100.000			

Extraction Method: Principal Component Analysis. (Refer to point 4.8.3)

There are always as many components as there are variables. One criterion for determining the number of useful factors for extraction is to exclude factors with variances less than 1, because they do no better than a single independent variable (SPSS Base 8.0 Applications Guide, 1998: 329). Thus, a factor with an eigenvalue less than 1 is no better than a single variable, since, due to standardisation, each variable has a variance of 1 (Aaker et al, 1998: 589). Therefore, a factor should explain at least the amount of variance in one variable; otherwise it is better to have the original variable. The analysis in figure 5.8 reflects that the eigenvalue for the second component is 0.565 (less than 1), it will thus be excluded from the analysis.

The scree plot shown in graph 5.7 plots the eigenvalues in order of extraction. The shape of the plot is used to determine the number of factors. Typically, the plot has a distinct break between the steep slope of factors with large eigenvalues, and a gradual trailing off associated with the rest of the factors. This gradual trailing is referred to as the "scree".

Graph 5.7: Scree Plot



The Scree Plot, as per graph 5.7, illustrates the drop that takes place between the first and the second components. The larger the difference in explanation power between consecutive components, the larger the "drop" or gradient of the line

5.4.1.5 Component Matrix analysis

The component matrix, figure 5.9, displays coefficients (or loadings) that relate the variables to the unrotated factor (component). These coefficients are the correlations of the variables with the factors. The coefficient of 0.847 (figure 5.9) is considered to be good because it is a high value.

Figure 5.9: Component Matrix

Component Matrix[a]

	Component
	1
Markhams my kind of store (value/quality/fashion) - SV	.847
Treated as important customer - SV	.847

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

5.4.1.6 Component Score Coefficient analysis

The component score coefficient matrix, as per figure 5.10, calculates the exact scores for each variable in a principal component analysis. These are the coefficients that are used in deriving the new variable, Shared Values.

Figure 5.10: Component Score Coefficient Matrix

Component Score Coefficient Matrix

	Component
	1
Markhams my kind of store (value/quality/fashion) - SV	.590
Treated as important customer - SV	.590

Extraction Method: Principal Component Analysis.

In order to obtain the factor score for Shared Values, the following formula is used:

Shared Value factor = (0.590 X Respondents' value for Question 1) +
(0.590 X Respondent's value for Question 4)

This formula is then used to calculate the Shared Value Score for each respondent in the sample (all 416 respondents). The calculation result (the new variable - Shared Values) is stored in the data sheet of the SPSS program.

The process detailed above is followed for each of the components in the Brand Experience model as listed in figure 5.2. The results of the factor analysis for each of the components in the Brand Experience model (figure 5.2) are included in Annexure C.

5.4.2 Identification of the areas of weakness and strength in the Brand Experience

Once the scores for each variable in the Brand Experience (BE) model are estimated as per the factor analysis, it is necessary to convert the raw scores into a percentage scale. The main motivation for this is that a percentage scale (1% to 100%) allows the reader to have a more realistic perspective of where a raw score fits in the scale, as opposed to knowing what the minimum and the maximum raw scores are and trying to visualize where a respondent's calculated score actually fits in. Furthermore, the research questionnaire applied an "inverted" scale, ie., 1=Strongly Agree whilst a 4=Strongly Disagree and, as far as the

percentage scale is concerned, it is necessary to invert the questionnaire scale, so that a 1 = 100% and a 4 = 0%.

The first step in converting the raw scores into a percentage is to calculate the minimum and the highest coefficient scores for each variable in the BE model. The result is reflected in table 5.5.

Table 5.5: Calculation of minimum and maximum scores in respect of factor analysis

Factor	Question	Coefficient variable 1	Coefficient variable 2	Coefficient variable 3	Max	Min	Max Score	Min Score
Termination Costs	2, 5, 6	0.379	0.444	0.452	1	4	1.275	5.100
Communication	7, 8, 10	0.455	0.408	0.434	1	4	1.297	5.188
Opportunistic Behaviour	11	1.000	0.000	0.000	1	4	1.000	4.000
Relationship Benefits	3, 9	0.609	0.609	0.000	1	4	1.218	4.872
Shared Values	1, 4	0.591	0.591	0.000	1	4	1.182	4.728
Acquiescence	12, 13	0.544	0.544	0.000	1	4	1.088	4.352
Propensity to Leave	14, 15	0.558	0.558	0.000	1	4	1.116	4.464
Co-operation	16, 17	0.575	0.575	0.000	1	4	1.150	4.600
Functional Conflict	18, 19	0.580	0.580	0.000	1	4	1.160	4.640
Uncertainty	20, 21	0.623	0.623	0.000	1	4	1.246	4.984

Therefore, for example, the total minimum Termination Costs score (remember that a 4 - strongly disagree, is the 'minimum or lowest' rating) is equal to:

Question 2 Question 5 Question 6

$$(4 \text{ X } 0.379) + (4 \text{ X } 0.444) + (4 \text{ X } 0.452) = 5.100$$

Whilst the total maximum score possible for Termination Costs (remember that a 1 - strongly disagree, is the 'maximum or highest' rating) is equal to:

Question 2 Question 5 Question 6

$$(1 \text{ X } 0.379) + (1 \text{ X } 0.444) + (1 \text{ X } 0.452) = 1.275$$

In other words, a maximum score for Termination Costs is 1.275 whilst a minimum score is 5.100. This reverse scale is particularly difficult to visualise and any calculated value between these values, for a particular respondent, is also difficult to put into perspective in the "raw" scale. It is therefore important that one converts this "raw" scale into a percentage scale, where the highest score value is 100% and the minimum score value is 1%; a scale that most

individuals relate to. The same principle would be applicable for all the other variables in the BE model.

The linear interpolation formula to be applied for this conversion is detailed in figure 5.11.

Figure 5.11: The linear interpolation formula

$$f(Xo) = f(a) + ((Xo - a)/(b - a)) X [f(b) - f(a)]$$

Xo = The converted raw score (the number to be estimated)

f(a) = The number preceding the converted raw score Xo

f(b) = The number following the converted raw score Xo

Source: Unisa - Department of Statistics - SCS100-Y, Tutorial letter 105, 1992: 3 and 12

For example, using Termination Costs scores as per table 5.5, the function X is defined in the following linear points:

v	1.275	3.20681818	5.1
T(v)	100	?	1

Where v = Factor analysis scores

and T(v) = Percentage Scale (Lowest = 1%, Highest = 100%)

To determine the value of T(3.20681818) - the mid point, using linear interpolation, the following is the calculation:

If a = 1.275, T(a) = T(1.275) = 100%

If b = 5.1, T(b) = T(5.1) = 1%

Xo = 3.20681818, thus T(3.20681818) = T(Xo)

$$= 100 + ((3.20681818 - 1.275) / (5.1 - 1.275)) X (1 - 100)$$

$$= 100 + (1.93181818 / 3.825) X -99$$

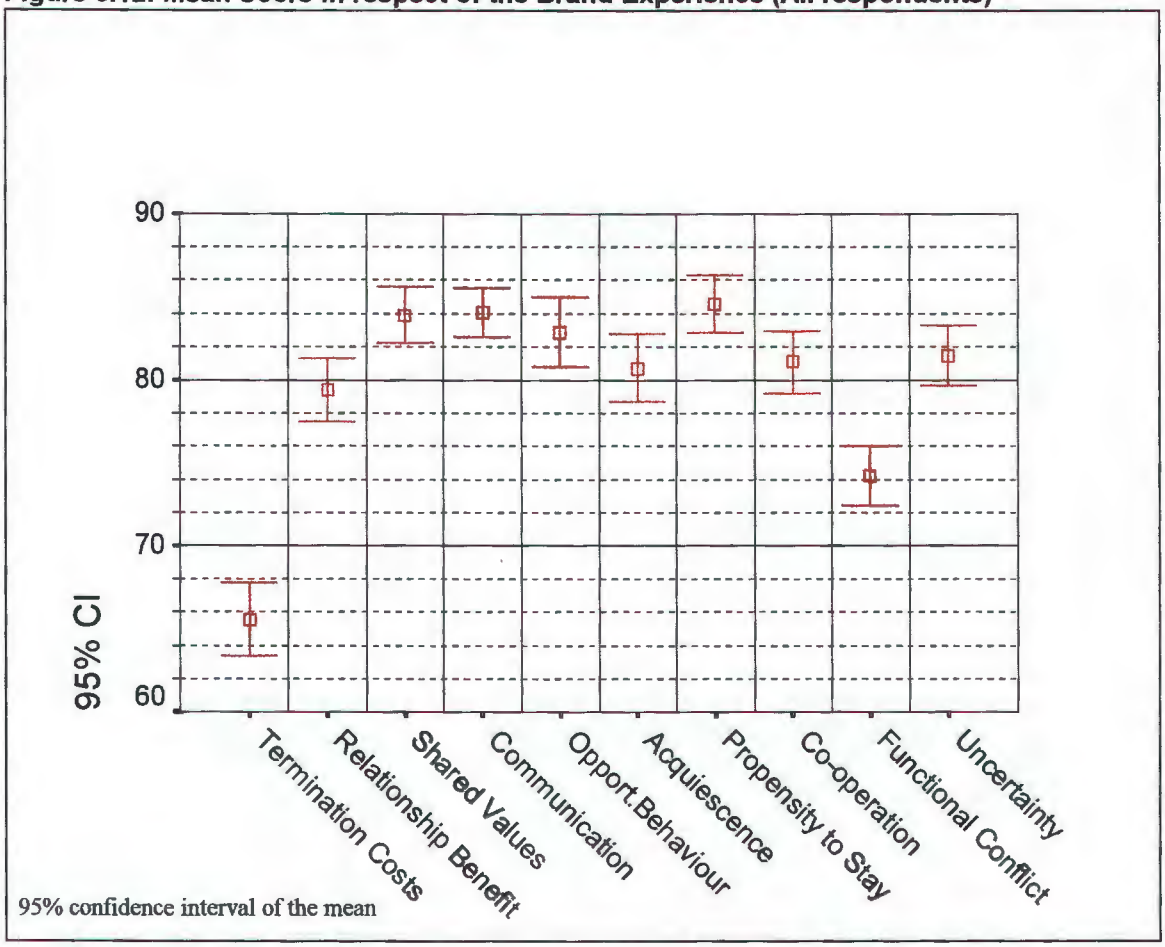
$$= 100 + 0.50505050 X -99$$

$$= 100 - 50 = 50\%$$

The same approach is used to calculate the approximate percentage value for each respondent's score in the sample.

The mean score for all respondents in each of the BE variables is reflected in figure 5.12. As can be seen, Termination Costs has the lower mean score, whilst Propensity to Stay has the highest.

Figure 5.12: Mean Score in respect of the Brand Experience (All respondents)



The graphical representation in figure 5.12 makes it easy to identify the strong (high mean scores) and the weak attributes (low mean scores). The actual scores are reflected as percentages in figure 5.13 and ranked from highest (strongest) to lowest (weakest).

Figure 5.13: Ranking of attributes

#	Attribute	Mean % Rating
1	Propensity to Stay	85%
2	Communication	84%
3	Shared Values	84%
4	Opportunistic Behaviour	83%
5	Uncertainty	81%
6	Co-operation	81%
7	Acquiescence	81%
8	Relationship Benefit	79%
9	Functional Conflict	74%
10	Termination Costs	64%

The objective is to have as high scores as possible for all the attributes, as this reflects a very strong positioning. This diagnostic tool becomes particularly useful when one is able to compare it with the Brand Experience rating over various periods. The trend line will be indicative of whether the customer's experience is becoming more or less positive. Weak links in the experience may be identified and action taken to address the problem area.

5.4.2.1 The Brand Experience - Areas of concern

The three weakest areas identified in the Brand Experience analysis are:

- Termination Costs
- Functional Conflict
- Relationship Benefits

The study will now consider these areas in detail.

- **Termination costs**

Of particular concern is the weak rating for Termination Costs. These costs are identified as expected losses from relationship termination and result from the perceived lack of comparable potential alternatives, economic or otherwise. The questions dealing with this

issue, questions 2, 5 and 6 must be considered independently and in the aggregate in order to paint a clear picture.

Question 2 which deals with the issue of Markhams being in a "Class of its own" with regards to value, fashion and quality - a very desirable attribute for any retailer, obtained only a 55% vote in the "strongly agree" category. Those respondents who voted "Strongly agree" may be interpreted as those who feel that Markhams is a cut above the rest and are likely to have Markhams as a "top-of-mind" fashion retailer, the first option, when looking for or buying fashion in the market place. Those who gave Markhams an "Agree" rating, are more likely to be those who feel that Markhams is up there with the best (not necessarily better than them) and therefore in a position where it is one of the options - not the first option - and therefore has to compete for share of wallet more aggressively.

Question 5 which deals with the difficulty/hassle, of opening a similar account elsewhere, indicates that only 27% of the respondents "Strongly agreed" with the question, thus it is relatively easy to open a similar account elsewhere. As many as 32% "Disagreed" and 12% "Strongly disagreed" with the fact. What this indicates is that credit alone is not a major reason to stay within the relationship, and that most customers have probably had the opportunity to open one or more accounts elsewhere. This finding also supports the Markinor research which showed credit to have an impact score of 1 in relation to the "Store/brand image" score of 6 (Refer to point 2.5.3).

Question deals with the expenses inherent in the holding of an account. The importance of Termination Costs as an attribute can not be over-emphasised. The best example, and one most people can relate to to some extent, is in the banking sector. In this case, customers who may be dissatisfied with the service provided by a particular bank will not easily change because the Termination Costs are often so high. Consider the hassle factor of opening another account, changing debit orders, applying for new credit facilities and changing housing bonds (cost and hassle factor). This often far outweighs the desire to change because of bad service. One way for the retailer to address this issue is by considering additional services which are particular to the market it serves, ie. men. Some of the value added services might cater for one's lifestyle, such as certain types of men's insurance

(prostrate cancer and/or sports injuries), Automobile Association discounted membership and Legal Aid through its Club magazine. Essentially, these are value adding services are pertinent to the target market and which enrich the relationship with the customer. The wider and deeper the extent of the relationship with the customer, that is the more needs it meets, the more important the relationship is to the customer, particularly when the service/product provided constitutes a good value proposition, deals with image, and amounts to good customer service.

- **Functional Conflict**

The next area of concern is Functional Conflict. This attribute relates to Markhams ability to help customers sort out problems with their account, for example payment problems or purchase disputes, and their willingness to listen to customer advice on store or merchandise improvement. Essentially this attribute entails treating the customer as a partner in the process, that is listening to him in terms of his needs and being helpful when the customer has problems with their account. Referring to The Customer Bonding Process (refer point 2.4.6). it is clear that the "Partner" stage is one where Markhams can improve its positioning. This might be achieved through simple in-store customer service related surveys (as simple as say, A5 format leaflets dealing with service/merchandise) or perhaps making more use of the statement mailer by including more frequent customer surveys, at little or no additional cost (the back of the statement could comprise a customer feedback form), or perhaps through the more involved customer opinion panels.

Positioning is not what one does to the product or service or brand. Positioning is what one does to the mind of the customer, that is one positions the product, service or brand in the mind of the customer (Ries and Trout, 1993: 2). This is not to say that positioning does not involve change, it often does mean a change in the name, price, and packaging of the product or improving the product features/attributes or the quality of service provided. It is important therefore, that positive feedback on the outcome of the research/surveys/opinion panels, and the actions taken to remedy problem areas be re-enforced in communication to customers through statement messages/inserts.

- **Relationship Benefits**

The third area of concern deals with Relationship Benefits. In this regard question 3 deals with the importance of the credit facility when the customer buys clothes at Markhams. As many as 62% of customers rated this attribute "Strongly agree", indicating the propensity that exists to spend on credit (as much as 80% of sales are on account). This rating does not conflict with the statement made in Termination Costs regarding the relative importance of credit. It does confirm however, that only once a fashion item has been chosen by the customer (his primary reason for visiting/shopping at Markhams), does the credit facility become important. Question 9 confirms this view in that only 41% "Strongly agreed" that the Markhams account offers more benefits than competitors offering men's clothing on account.

The scores for the other attributes are within the 80% to 85% score range. The highest was in fact "Propensity to Stay" in the relationship. This indicates that customers have a relatively strong faith in the brands ability to cater for their needs in the future and this probably accounts for much of the loyalty that exists in the customer base. This is supported by all the other high scoring attributes and probably the fact that Markhams is not a "new kid" on the block - Markhams has been around for a number of years and it has adapted particularly well to the changing needs of its customers.

5.4.3 The quantification of the overall Brand Experience factors (Trust, Commitment and Satisfaction)

Once all the maximum and minimum possible scores are calculated, it is necessary to calculate the minimum and maximum values for the Trust, Commitment and Satisfaction attributes in the BE model. Commitment is calculated as the total sum of Termination Costs, Relationship Benefits, Shared Values, Acquiescence, Propensity to Stay and Co-operation, whilst Trust is the total sum of Communication, Opportunistic Behaviour, Shared Values, Uncertainty, Functional Conflict and Co-operation. The Satisfaction score is calculated as the sum of the Trust and the Commitment attributes.

Figure 5.14: Minimum and Maximum scores for the variables in the Commitment and Trust functions

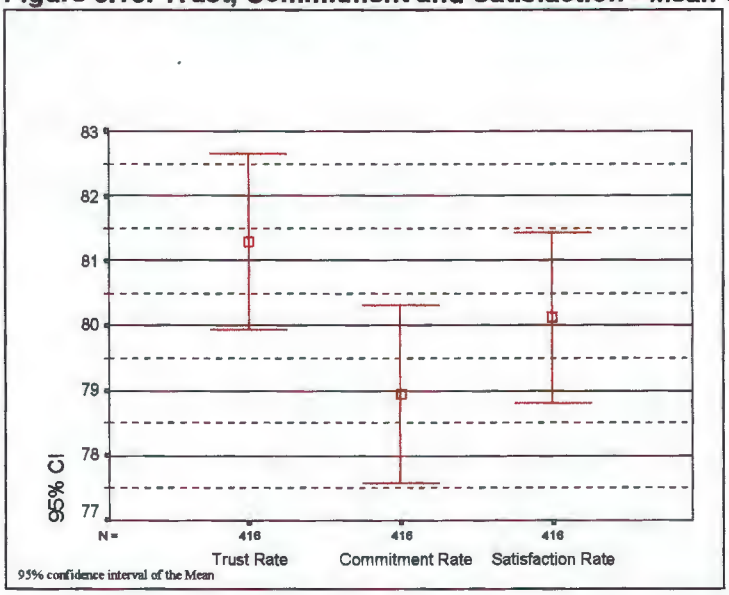
Commitment Function	Max	Min
Termination Costs	1.275	5.100
Relationship Benefits	1.218	4.872
Shared Values	1.182	4.728
Acquiescence	1.088	4.352
Propensity to Stay	1.116	4.464
Co-operation	1.150	4.600
Total	7.029	28.116

Trust Function	Max	Min
Communication	1.297	5.188
Opportunistic Behaviour	1.000	4.000
Shared Values	1.182	4.728
Uncertainty	1.246	4.984
Functional Conflict	1.160	4.640
Co-operation	1.150	4.600
Total	7.035	28.140

Figure 5.14 shows the minimum and maximum raw scores for the variables in the Commitment and Trust functions. The conversion formula discussed in point 5.4.2 is applied to the raw scores for each individual in the sample and the result is that the raw scores are reflected as a percentage in a scale of 1% (minimum/worst) to 100% (maximum/best).

Figure 5.15 depicts the mean score for the given summary attributes in the BE model.

Figure 5.15: Trust, Commitment and Satisfaction - Mean Score



As can be seen in figure 5.15, the level of Trust is higher than the level of Commitment and the overall Satisfaction rate fits in between the Trust and Commitment score. The higher rating for Trust should not be surprising as it is not uncommon to have consumers state that they trust a brand but do not necessarily use the given brand to the same extent that they trust it. A person may say that he trusts Nike but it is also possible that the investment

in Nike products by this person may be small or non existent. At the extreme, most people will say that they trust Rolls Royce, Porsche or BMW, yet very few actually possess any of these motor vehicles.

The analysis in figure 5.15 seems to reflect that there is a difference in the mean score between Trust and Commitment and the difference is quantified in figure 5.16 (mean scores of 81.2934 versus 78.9441). The question that arises is whether this difference is statistically significant? Figure 5.17 reflects the analysis of this difference; The One-Sample t-test procedure is used to test whether the mean of a single variable differs from a specified constant (in this case the mean of another variable).

Figure 5.16: One-Sample Descriptive Statistics for Trust and Commitment rate

	N	Mean	Std. Deviation	Std. Error Mean
Trust Rate	416	81.2934	14.0202	.6874
Commitment Rate	416	78.9441	14.1710	.6948

In this part of the analysis, figure 5.16, the mean is calculated for each attribute. In the next part of the analysis, figure 5.17, the value of Commitment Rate is used as a test value, thus Commitment Rate Sig. (2-tailed) should be as close as possible to 1 (indicating no difference in the mean), whilst the Trust Rate attribute will also be measured against this test value. A low significance value (typically below 0.05) indicates that there is a significant difference between the test value and the observed mean. If the confidence interval for the mean difference does not contain zero, this also indicates that the difference is significant. However, if the significance value is high and the confidence interval for the mean difference contains zero (as in the case of the Commitment Rate attribute), then you cannot conclude that there is a significant difference between the test value and the observed mean. The comparison between the Trust Rate and Commitment Rate attributes indicates that the Trust Rate is significantly different from the Commitment Rate.

Figure 5.17: One Sample T test of the difference between the mean scores for the Trust and Commitment variables

	Test Value = 78.94					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Trust Rate	3.424	415	.001	2.3534	1.0022	3.7046
Commitment Rate	.006	415	.995	4.091E-03	-1.3617	1.3698

The point to make is that Markhams must strive to reduce the difference between the mean scores for the Trust and the Commitment variables. The difference actually denotes, on the positive side, an opportunity. The narrower the difference, the more successful the retailer is in catering for the customer's fashion needs.

What the marketer should be asking is "what is a good score?". The ideal way of addressing this question is by bench-marking the score against the competition. In This way, one gains competitive perspective and as long as the performance of the brand is better than the opposition, the score may be considered good. This obviously entails generic research and higher research costs. The alternative is perhaps to consider a trend over a period of time by continuously and periodically researching the Markhams customer base. Any improvement on prior performance may be considered good progress, however, cognisance must be made that the improved status is not necessarily "good enough" with respect to competitors' performance.

If one considers the above scores for Trust, Commitment and Satisfaction across a number of demographics, more insight may be gained. The Trust, Commitment and Satisfaction scores are now considered on the basis of Race group, Gender and Age.

5.4.3.1 Brand Experience analysis - Race groups

Figure 5.18 illustrates the mean scores for Trust, Commitment and Satisfaction across the various race groups.

Figure 5.18: Trust, Commitment and Satisfaction - Mean Scores for Race groups

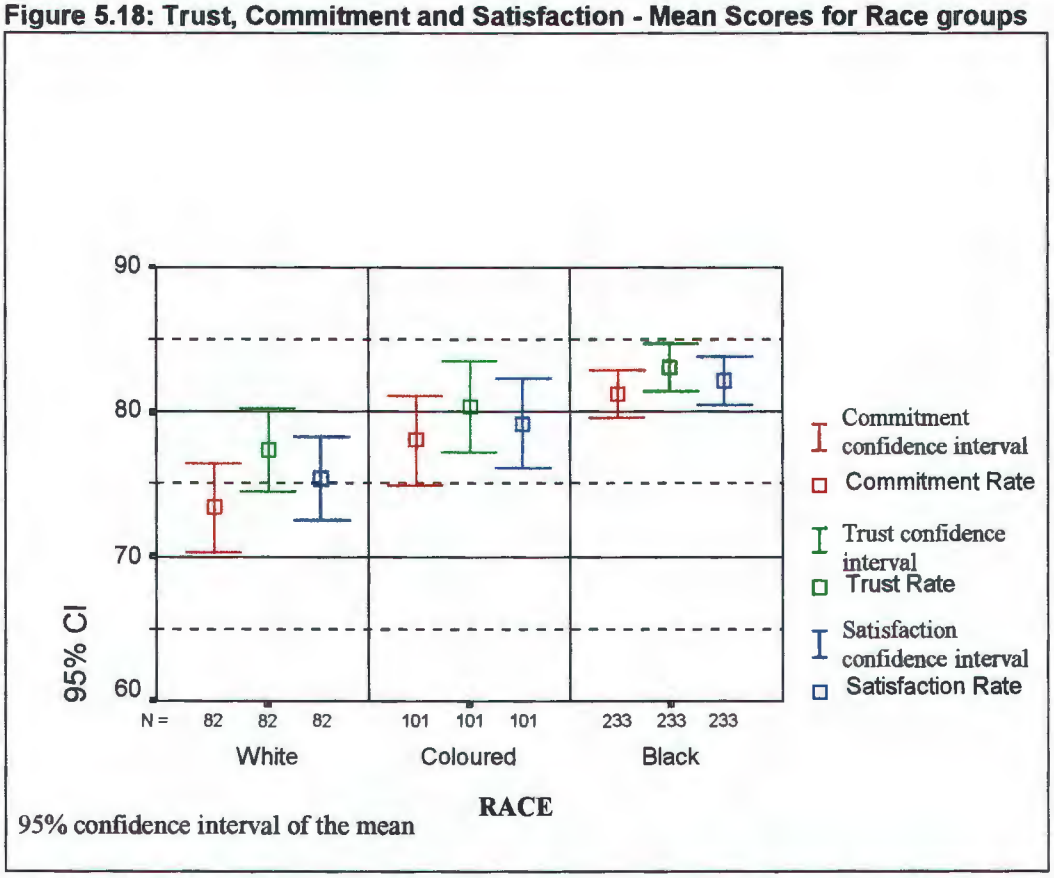


Figure 5.18 shows that the white race group experiences the lowest level of satisfaction amongst all race groups. The Black race group is the group with the highest perceived level of Trust, Commitment and Satisfaction. It is the Black race group that seems to experience the most consistent view, this denoted by the smaller gap between the whiskers and the box (the mean) in the box plots.

It is important to see whether the difference reflected in figure 5.18 is statistically significant. To this end, a one-way analysis of variance test is conducted. Analysis of variance (ANOVA) is used to test if any difference exists among various means (averages) (SPSS Base 8.0 Applications Guide, 1998: 123).

Figure 5.19 reflects the descriptive statistics for the various race groups. The customers in the sample comprise 82 whites (19.7%), 101 coloureds (24.3%) and 233 blacks (56%).

Figure 5.19: Descriptive Statistics for the Mean Scores across the various Race Groups

	N	Mean
Commitment Rate		
■ White group	82	73.3507
■ Coloured group	101	78.0463
■ Black group	233	81.3017
Total	416	78.9441
Trust Rate		
■ White group	82	77.3273
■ Coloured group	101	80.3852
■ Black group	233	83.0828
Total	416	81.2934
Satisfaction Rate		
■ White group	82	75.3399
■ Coloured group	101	79.2163
■ Black group	233	82.1927
Total	416	80.1192

The first column in figure 5.19 shows the various variables analysed (Trust, Commitment and Satisfaction) as well as the various race groups. The second column (N) gives the number of cases in each race group. The third column reflects the mean (average) score for each race group.

One-way ANOVA assumes that the variances of the groups are all equal, so the Levene homogeneity of variance test is required for testing this assumption (SPSS Base 8.0 Applications Guide, 1998: 58). Figure 5.20 displays the result of the Levene test. The significance value (Sig.) exceeds 0.05 in all cases, suggesting that the variances for the race groups are equal and the assumption is justified, thus an ANOVA test may be conducted (valid).

Figure 5.20: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Commitment Rate	2.281	2	413	.103
Trust Rate	1.629	2	413	.197
Satisfaction Rate	1.800	2	413	.167

Figure 5.21 shows that the total variation is partitioned into two components - Between

Groups and Within Groups. Between Groups represents variation of the group means around the overall mean, and Within Groups represents variation of the individual scores around their respective group means. If the groups do not have equal sample sizes, the trends are computed as both weighted and unweighted. Weighted takes the varying sample sizes into account, while unweighted does not, and is the recommended approach for an unbalanced design (SPSS Base 8.0 Applications Guide, 1998: 135-175).

Figure 5.21: Analysis of Variance (ANOVA)

ANOVA

				Sum of Squares	df	Mean Square	F	Sig.
Commitment Rate	Between Groups	(Combined)		3941.959	2	1970.980	10.252	.000
		Linear Term	Weighted	3677.181	1	3677.181	19.127	.000
			Deviation	264.778	1	264.778	1.377	.241
		Quadratic Term	Weighted	264.778	1	264.778	1.377	.241
	Within Groups			79397.705	413	192.246		
	Total			83339.664	415			
Trust Rate	Between Groups	(Combined)		2119.260	2	1059.630	5.508	.004
		Linear Term	Weighted	2037.078	1	2037.078	10.588	.001
			Deviation	82.182	1	82.182	.427	.514
		Quadratic Term	Weighted	82.182	1	82.182	.427	.514
	Within Groups			79455.966	413	192.387		
	Total			81575.226	415			
Satisfaction Rate	Between Groups	(Combined)		2957.130	2	1478.565	8.194	.000
		Linear Term	Weighted	2796.673	1	2796.673	15.498	.000
			Deviation	160.458	1	160.458	.889	.346
		Quadratic Term	Weighted	160.458	1	160.458	.889	.346
	Within Groups			74525.200	413	180.448		
	Total			77482.331	415			

The between groups variation can be partitioned into trend components. In this case, the between groups variation is partitioned into linear and quadratic terms. The significance level for the quadratic term is greater than 0.05, indicating that response rates for the various race groups lie along a straight line.

More important though, where Sig. is less than 0.05, which is the case for all three attributes (Commitment, Trust and Satisfaction) reflected in figure 5.21, Between Groups (combined) and weighted, there is a statistically significance difference indicated between the response (perceptions) of the different race groups. Commitment, Trust and Satisfaction reflect a Sig. Of 0.000, 0.001 and 0.000 respectively.

It is therefore clear that the White race group respondents' rating of the Brand Experience

at Markhams is far lower than that of the other race groups. If Markhams aim is to position itself as a fashion chain for the Black market, then figure 5.18, indicates that Markhams is succeeding in its objective. Of particular interest is also the height of the bars in the figure. As can be seen there is less risk (denoted by the shorter bars) with the Black market as opposed to the Coloured and White markets.

What is not certain though is the extent to which the various race groups previous status quo under the apartheid system is impacting on expectations. As Black consumers gain income parity, and with it greater access to credit and the more aspirational brands, it is likely that their expectations may also change and they too will become more demanding. Supporting this view, Brink (1997: 85) states that black consumer needs and aspirations are similar to those of white consumers. Black consumers place emphasis on quality, prompt service, variety, convenience shopping and value for money. Essentially, Markhams should take cognisance of this transitory process between the pre and post apartheid South Africa and the effect it is likely to have on black consumers.

5.4.3.2 Brand Experience analysis - Gender groups

Figure 5.22 illustrates the mean scores for Trust, Commitment and Satisfaction across the various gender groups.

Figure 5.22: Trust, Commitment and Satisfaction - Mean Scores for Gender

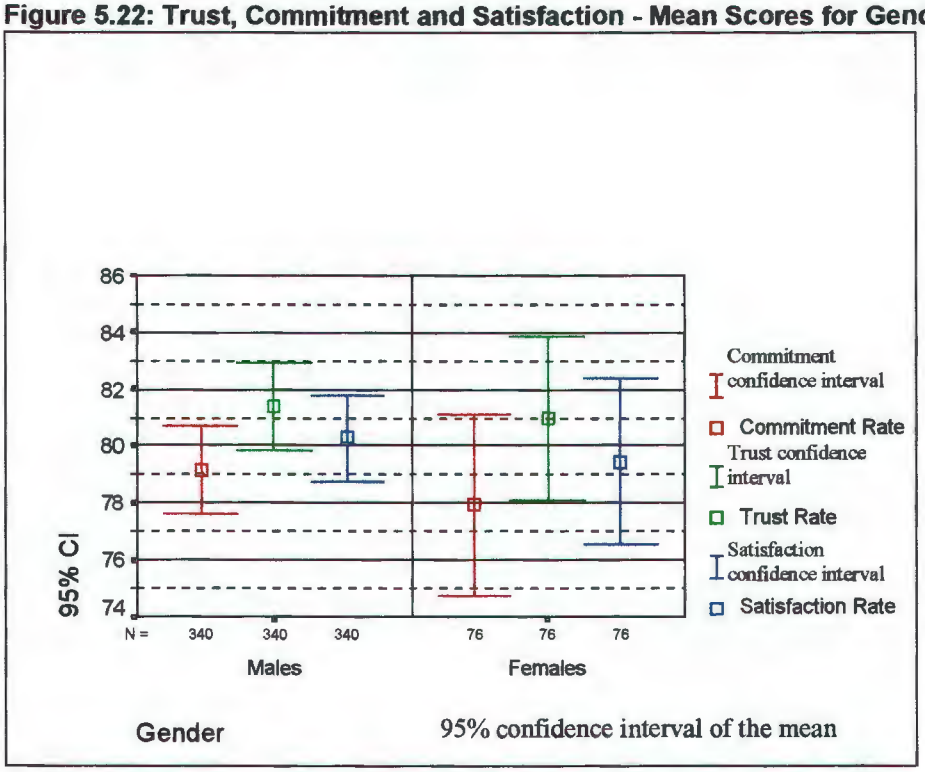


Figure 5.23 reflects the descriptive statistics for the two gender groups, namely 340 males (81.7%) and 76 females (18.3%) in the sample.

Figure 5.23: Descriptive Statistics for the Gender Mean Scores

	N	Mean
Commitment Rate		
■ Male	340	79.1713
■ Female	76	77.9278
Total	416	78.9441
Trust Rate		
■ Male	340	81.3658
■ Female	76	80.9694
Total	416	81.2934
Satisfaction Rate		
■ Male	340	80.2690
■ Female	76	79.4492
Total	416	80.1192

One-way ANOVA assumes that the variances of the groups are all equal. Figure 5.24 displays the result of the Levene test for homogeneity of variances. The significance value exceeds 0.05, suggesting that the variances for the two gender groups are equal, the assumption justified and the ANOVA test may be conducted (valid).

Figure 5.24: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Commitment Rate	.005	1	414	.941
Trust Rate	.645	1	414	.423
Satisfaction Rate	.504	1	414	.478

The following Anova procedure, figure 5.25, aims to identify whether there is a statistically difference between the gender groups.

In one-way ANOVA, figure 5.25, the total variation is partitioned into two components, Between-Groups and Within-Groups. Between-Groups represents variation of the group means around the overall mean. Within-Groups represents variation of the individual scores around their respective group means. If the groups do not have equal sample sizes, the trends are computed as both weighted and unweighted. Weighted takes the varying sample sizes into account, whilst unweighted does not, and is the recommended approach for an unbalanced design.

Figure 5.25: Analysis of Variance (ANOVA)

ANOVA

				Sum of Squares	df	Mean Square	F	Sig.
Commitment Rate	Between Groups	(Combined)		96.045	1	96.045	.478	.490
		Linear Term	Unweighted	96.045	1	96.045	.478	.490
			Weighted	96.045	1	96.045	.478	.490
	Within Groups			83243.619	414	201.072		
	Total			83339.664	415			
Trust Rate	Between Groups	(Combined)		9.762	1	9.762	.050	.824
		Linear Term	Unweighted	9.762	1	9.762	.050	.824
			Weighted	9.762	1	9.762	.050	.824
	Within Groups			81565.464	414	197.018		
	Total			81575.226	415			
Satisfaction Rate	Between Groups	(Combined)		41.744	1	41.744	.223	.637
		Linear Term	Unweighted	41.744	1	41.744	.223	.637
			Weighted	41.744	1	41.744	.223	.637
	Within Groups			77440.587	414	187.055		
	Total			77482.331	415			

Sig. indicates the significance level of the F-test. Small significance values (<0.05) indicate group differences. In this case, the significance level is greater than 0.05 , thus the rating of the gender groups does not differ from each other, that is the differences are not statistically

significant. Gender does not appear to be a discriminating variable with regards to perceptions as measured by the Brand Experience model.

5.4.3.3 Brand Experience analysis - Age group

The respondents' age group categories is depicted in figure 5.26.

Figure 5.26: Age Group categories of respondents

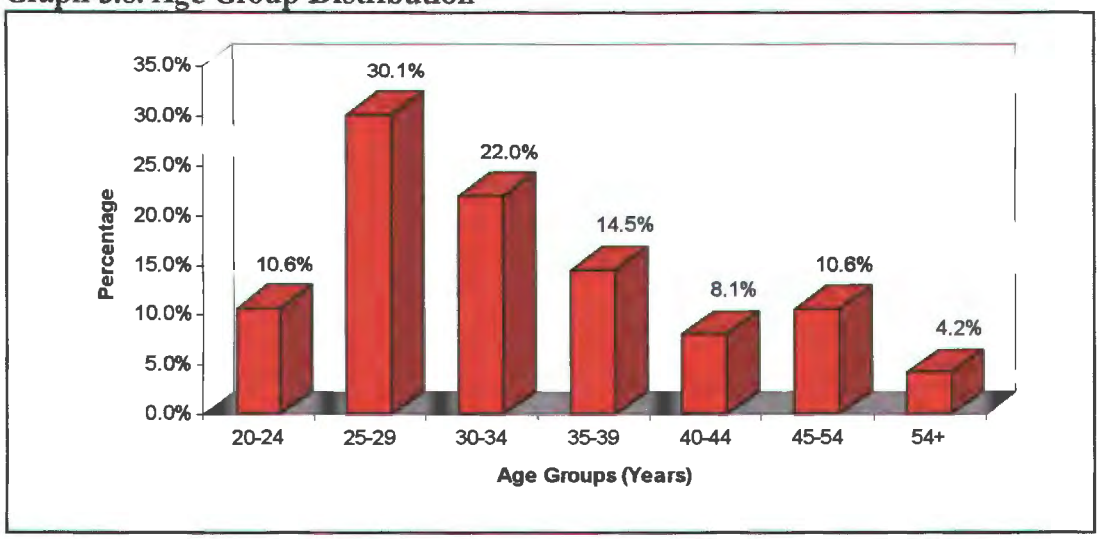
Age Category	Age Group
1	Missing
2	20 - 24 years
3	25 - 29 years
4	30 - 34 years
5	35 - 39 years
6	40 - 44 years
7	45 - 54 years
8	Older than 54 years of age

Category 1 represents those respondents whose age group is unknown or is missing. Although this "age group" was included in figures 5.26 and 5.27, and identified as "missing", the group is not taken into account in the ANOVA analysis as it contributes little or no value to the interpretation of the analysis (this group is not descriptive of any particular age group, in fact the respondents in this group could be of any age). The main reason why this problem exists in the database of the retailer is that the computerised debtors' system from where the respondents' personal data is extracted, was introduced in the early 90s. However, the retailer had been granting credit for many years prior to the introduction of the computerised debtors' system, when ID numbers were not a compulsory requirement. Furthermore, when credit was first granted to customers, not all customers had identification documents (ID books), and the age variable, say for example whether the customer was 31 or 37 years old, was not a component of the credit granting criteria. The new account opening process now insists on the identification book number (ID number), and the age of the customer is calculated from this number (the number includes the date of birth of the customer). It could also be that the respondent failed to complete his account number on the questionnaire, for whatever reason, for example not having the account number on hand, remembering it incorrectly or wanting to remain anonymous.

What is interesting however, is the fact that the mean scores for Trust, Commitment and Satisfaction for this "missing" group is lower than those scores for all known age groups. Unfortunately, one can only postulate what the reasons might be, for example could it be that these account holders are very old (the missing information could mean that these accounts were opened long before the computerised debtor's system was introduced) and the retailer no longer caters for their fashion needs. Whatever the real reason, no conclusive truth is known. It was therefore decided that this group, the "missing" group, be excluded from this analysis and that future analysis of this nature takes this problem into account at the questionnaire design stage, that is instead of relying on the debtors system as a source of this information, the questionnaire must thus ask the respondent for his age.

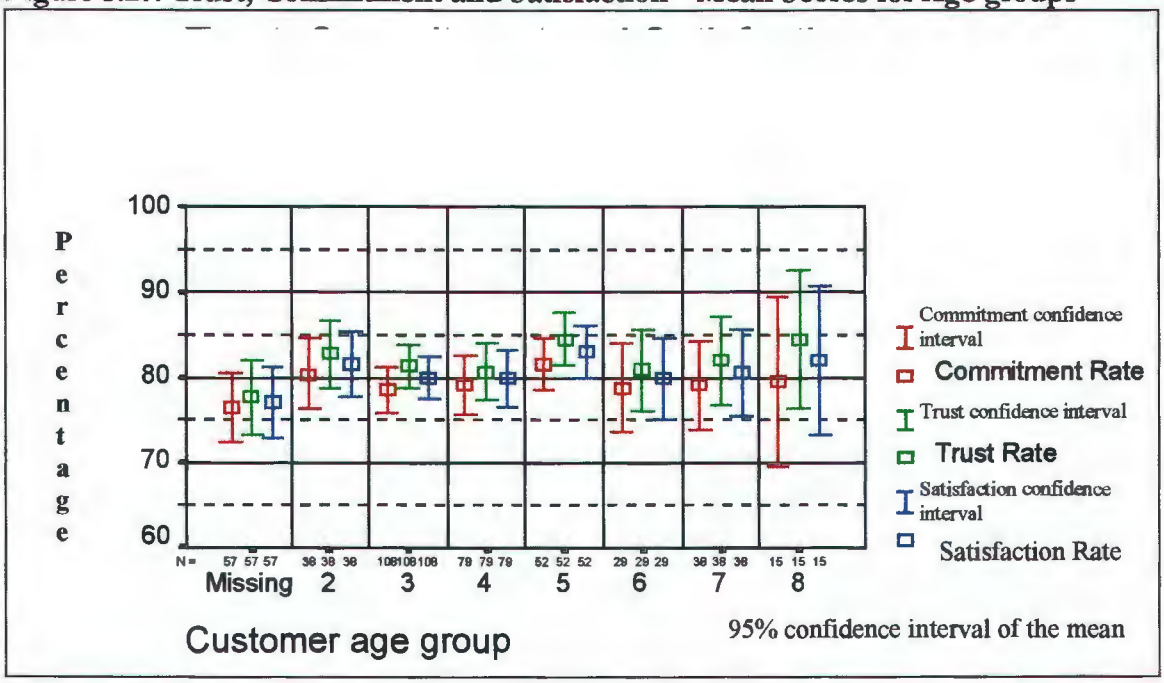
It is interesting to note that Markhams' main source of business, refer to graph 5.8, lies within the 25 to 34 age group (52%), peaking within the 25 to 29 age group. The peak on the 45 to 54 age group appears to go against the trend. A closer look will show that for all the preceding age groups the range is 4 years whereby for the 45 to 54 age group the range is 9 years, thus allowing for a relatively disproportionate number of customers to be accounted for in the group - this is a design problem existent in the retailer's reporting system.

Graph 5.8: Age Group Distribution



An analysis of the perception amongst the various customer age groups is reflected in figure 5.27.

Figure 5.27: Trust, Commitment and Satisfaction - Mean Scores for Age groups



The descriptive statistics for the age group mean scores are reflected in Figure 5.28.

Figure 5.28: Descriptive Statistics for the Age Group Mean Scores

	N	Mean
Commitment Rate		
■ 20 - 24 years	38	80.3876
■ 25 - 29 years	108	78.4188
■ 30 - 34 years	79	79.0554
■ 35 - 39 years	52	81.4515
■ 40 - 44 years	29	78.7379
■ 45 - 54 years	38	79.0010
■ > 54 years	15	79.4742
Total	359	79.3381
Trust Rate		
■ 20 - 24 years	38	82.6453
■ 25 - 29 years	108	81.2854
■ 30 - 34 years	79	80.5659
■ 35 - 39 years	52	84.3952
■ 40 - 44 years	29	80.8582
■ 45 - 54 years	38	81.8702
■ > 54 years	15	84.4127
Total	359	81.8795
Satisfaction Rate		
■ 20 - 24 years	38	81.5169
■ 25 - 29 years	108	79.8527
■ 30 - 34 years	79	79.8110
■ 35 - 39 years	52	82.9240
■ 40 - 44 years	29	79.7985
■ 45 - 54 years	38	80.4362
■ > 54 years	15	81.9445
Total	359	80.6093

Figure 5.28 shows that the Commitment mean score for all age groups is 79.3381, the lowest mean score for this attribute is 78.4188 (25 to 29 year olds), whilst the highest mean score is 81.4515 (35 to 39 year olds). The Trust rate mean score for all age groups is 81.8795, the lowest mean score comes from the 30 to 34 year olds group (80.5659), and the highest comes from the 35 to 39 years old group (84.5659). It is interesting to note that the 35 to 39 age group scored the highest for Trust, Commitment and Satisfaction - however, the question is whether the difference in perception between the various age groups is statistically significant. This is where the analysis of variance test comes in.

One-way ANOVA assumes that the variances of the groups are all equal. Figure 5.29 displays the result of the Levene test for homogeneity of variances. The significance value (Sig.) does not exceed 0.05 in the Commitment and Satisfaction attributes, suggesting that the variances are not equal and therefore the assumption that the variances for all age groups are equal is therefore not justified. However, the significance value for the Trust variable exceeds the 0.05 level, indicating that the assumption that the variances of the age groups, as required by one-way ANOVA, are equal and is therefore justified. Therefore, the one- way ANOVA test will be used for the Trust attribute, whilst the test to be used for the Commitment and Satisfaction will be the Tamhane test (this test is appropriate when the variances are not equal).

Figure 5.29: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Commitment Rate	2.368	6	352	.030
Trust Rate	1.697	6	352	.121
Satisfaction Rate	2.153	6	352	.047

The third and fourth column in figure 5.29 represents the degrees of freedom (df). The numerator (df1) and the denominator (df2) degrees of freedom are used to obtain the observed significance level. Sig., in the fifth column, represents the conditional probability that a relationship as strong as the one observed in the data would be present, if the null hypothesis were true. It is often called the p-value. Typically a value of less than 0.05 is

considered significant (see Sig. for Commitment and Satisfaction attributes - figure 5.29).

Figure 5.30: Analysis of Variance (ANOVA)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Trust Rate	Between Groups	652.327	6	108.721	.590	.73
	Within Groups	64910.925	352	184.406		
	Total	65563.252	358			

The ANOVA test for the Trust attribute, in figure 5.30, indicates that the level of significance is greater than 0.05 (actual = 0.73), thus the difference in mean scores between the various age groups is not significant.

The analysis uses the Temhane test procedure, figure 5.31, for the Commitment and Satisfaction attributes. The Temhane test conducts a pair-wise comparison test(each age group is compared to all the other age groups individually) based on a t-test. This test is appropriate when the variances are unequal.

Figure 5.31: Multiple Comparisons - Temhane Test

						95% Confidence Interval	
Dependent Variable	(I) Age group	(J) Age group	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Commitment Rate	2	3	1.9687	2.643	1.000	-5.6607	9.5982
		4	1.3321	2.766	1.000	-6.9469	9.6112
		5	-1.0639	2.990	1.000	-9.0605	6.9326
		6	1.6497	3.455	1.000	-8.6706	11.9699
		7	1.3866	3.214	1.000	-8.9308	11.7039
		8	.9134	4.272	1.000	-16.7847	18.6114
	3	2	-1.9687	2.643	1.000	-9.5982	5.6607
		4	-.6366	2.074	1.000	-7.2641	5.9909
		5	-3.0327	2.365	.954	-9.2907	3.2254
		5	-3.0327	2.365	.954	-9.2907	3.2254
		6	-.3191	2.930	1.000	-9.5208	8.8827
		6	-.3191	2.930	1.000	-9.5208	8.8827
		7	-.5821	2.643	1.000	-9.7515	8.5872
		7	-.5821	2.643	1.000	-9.7515	8.5872
		8	-1.0553	3.861	1.000	-18.4113	16.3006
		8	-1.0553	3.861	1.000	-18.4113	16.3006
	4	2	-1.3321	2.766	1.000	-9.6112	6.9469
	4	2	-1.3321	2.766	1.000	-9.6112	6.9469
		3	.6366	2.074	1.000	-5.9909	7.2641

		5	-2.3961	2.502	.999	-9.4690	4.6768
		6	.3175	3.042	1.000	-9.3935	10.0286
		7	5.446E-02	2.766	1.000	-9.6428	9.7517
		8	-.4187	3.946	1.000	-17.9169	17.0795
	5	2	1.0639	2.990	1.000	-6.9326	9.0605
		3	3.0327	2.365	.954	-3.2254	9.2907
		4	2.3961	2.502	.999	-4.6768	9.4690
		6	2.7136	3.247	1.000	-6.7704	12.1976
		7	2.4505	2.990	1.000	-7.0112	11.9123
		8	1.9773	4.106	1.000	-15.4540	19.4086
	6	2	-1.6497	3.455	1.000	-11.9699	8.6706
		3	.3191	2.930	1.000	-8.8827	9.5208
		4	-.3175	3.042	1.000	-10.0286	9.3935
		5	-2.7136	3.247	1.000	-12.1976	6.7704
		7	-.2631	3.455	1.000	-11.6740	11.1479
		8	-.7363	4.456	1.000	-18.8593	17.3868
	7	2	-1.3866	3.214	1.000	-11.7039	8.9308
		3	.5821	2.643	1.000	-8.5872	9.7515
		4	-5.4458E-02	2.766	1.000	-9.7517	9.6428
		5	-2.4505	2.990	1.000	-11.9123	7.0112
		6	.2631	3.455	1.000	-11.1479	11.6740
		8	-.4732	4.272	1.000	-18.6051	17.6588
	8	2	-.9134	4.272	1.000	-18.6114	16.7847
		3	1.0553	3.861	1.000	-16.3006	18.4113
		4	.4187	3.946	1.000	-17.0795	17.9169
		5	-1.9773	4.106	1.000	-19.4086	15.4540
		6	.7363	4.456	1.000	-17.3868	18.8593
		7	.4732	4.272	1.000	-17.6588	18.6051

						95% Confidence Interval	
Dependent Variable	(I) Age group	(J) Age group	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Satisfaction Rate	2	3	1.6642	2.516	1.000	-5.5555	8.8839
		4	1.7059	2.633	1.000	-6.2450	9.6568
		5	-1.4071	2.847	1.000	-9.0588	6.2446
		6	1.7184	3.289	1.000	-7.9355	11.3724
		7	1.0807	3.060	1.000	-8.8972	11.0586
		8	-.4276	4.067	1.000	-16.0415	15.1864
	3	2	-1.6642	2.516	1.000	-8.8839	5.5555
		4	4.170E-02	1.975	1.000	-6.3339	6.4173
		5	-3.0713	2.251	.922	-9.0562	2.9137
		6	5.423E-02	2.790	1.000	-8.4893	8.5978
		7	-.5835	2.516	1.000	-9.4769	8.3100
		7	-.5835	2.516	1.000	-9.4769	8.3100
		8	-2.0918	3.675	1.000	-17.3249	13.1414
		8	-2.0918	3.675	1.000	-17.3249	13.1414
	4	2	-1.7059	2.633	1.000	-9.6568	6.2450
	4	2	-1.7059	2.633	1.000	-9.6568	6.2450
		3	-4.1695E-02	1.975	1.000	-6.4173	6.3339
		3	-4.1695E-02	1.975	1.000	-6.4173	6.3339
		5	-3.1130	2.382	.977	-10.0009	3.7749
		5	-3.1130	2.382	.977	-10.0009	3.7749

		6	1.253E-02	2.896	1.000	-9.1197	9.1447
		7	-.6252	2.633	1.000	-10.0985	8.8481
		8	-2.1335	3.757	1.000	-17.5530	13.2860
	5	2	1.4071	2.847	1.000	-6.2446	9.0588
		3	3.0713	2.251	.922	-2.9137	9.0562
		4	3.1130	2.382	.977	-3.7749	10.0009
		6	3.1255	3.091	.999	-5.7600	12.0110
		7	2.4878	2.847	1.000	-6.7414	11.7170
		8	.9795	3.909	1.000	-14.3568	16.3158
	6	2	-1.7184	3.289	1.000	-11.3724	7.9355
		3	-5.4225E-02	2.790	1.000	-8.5978	8.4893
		4	-1.2530E-02	2.896	1.000	-9.1447	9.1197
		5	-3.1255	3.091	.999	-12.0110	5.7600
		7	-.6377	3.289	1.000	-11.5036	10.2282
		8	-2.1460	4.242	1.000	-18.1580	13.8660
	7	2	-1.0807	3.060	1.000	-11.0586	8.8972
		3	.5835	2.516	1.000	-8.3100	9.4769
		4	.6252	2.633	1.000	-8.8481	10.0985
		5	-2.4878	2.847	1.000	-11.7170	6.7414
		6	.6377	3.289	1.000	-10.2282	11.5036
		8	-1.5083	4.067	1.000	-17.6689	14.6524
	8	2	.4276	4.067	1.000	-15.1864	16.0415
		3	2.0918	3.675	1.000	-13.1414	17.3249
		4	2.1335	3.757	1.000	-13.2860	17.5530
		5	-.9795	3.909	1.000	-16.3158	14.3568
		6	2.1460	4.242	1.000	-13.8660	18.1580
		7	1.5083	4.067	1.000	-14.6524	17.6689

In the Temhane test a 95% confidence interval is constructed for each difference. If this interval contains zero, that is the range between the lower and upper bounds of the 95% confidence level includes zero, the two groups (I and J on figure 5.31) do not differ. In all cases, both for the Commitment and the Satisfaction attributes in figure 5.31, the interval contained zero, thus the perception amongst the different age groups does not differ (not

statistically significant), in other words Age Group is not a discriminator where it comes to the perceptions measured by the Brand Experience model - All the age groups have the same perception about the Brand Experience.

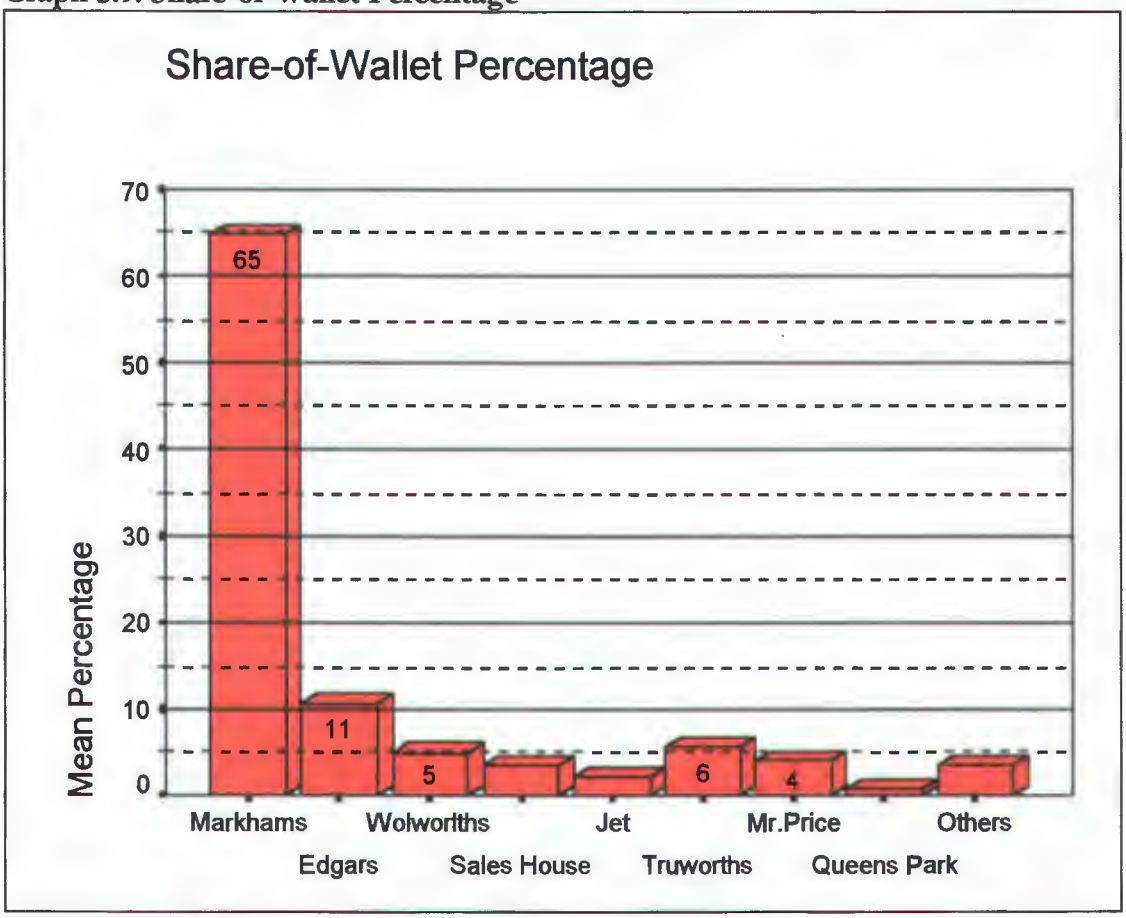
The result of the above analysis based on Race, Gender and Age Group, indicates that Race is the only demographic, amongst the three available and tested, that justifies further consideration under the construct to be used in developing a loyalty segmentation model.

5.5 QUANTIFICATION OF THE COMPETITIVENESS COMPONENT

Questions 24 and 25 dealt with the issue relating to the competitive appeal of the various brands. Question 24 relates to the frequency of purchases, whilst question 25 refers to the respondent's share-of-wallet spend across the different retailers.

The perceived share-of-wallet amongst the various players is reflected in graph 5.9.

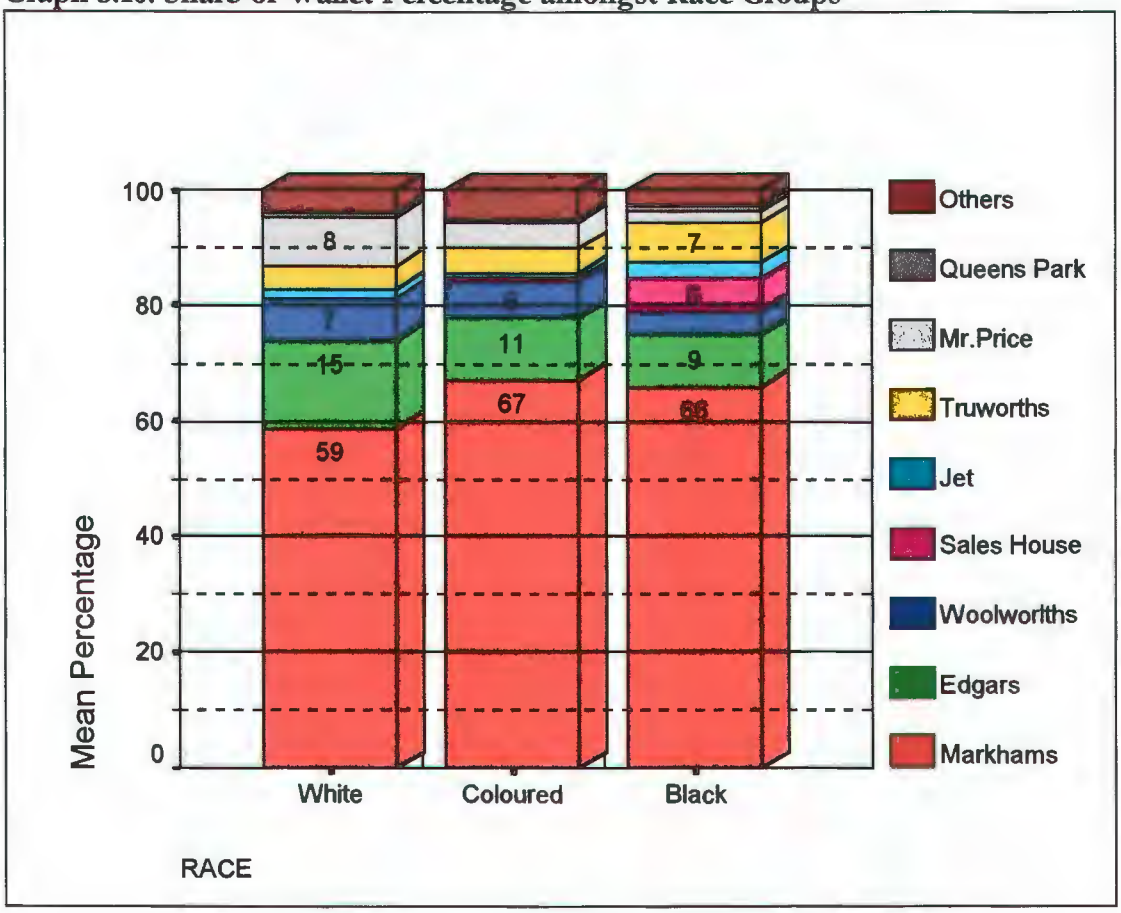
Graph 5.9: Share-of-Wallet Percentage



Share-of-wallet relates to the amount of money the respondent has to spend in the particular category, that is apparel. According to Graph 5.9, Markhams appears to hold as much as 65% on average of the respondent's share-of-wallet. The main competitors appear to be Edgars, Truworths, Woolworths and Sales House. Edgars seems to be the strongest of the competitors (11% of the share-of-wallet).

Perhaps more interesting is the average share-of-wallet according to race group as reflected in graph 5.10.

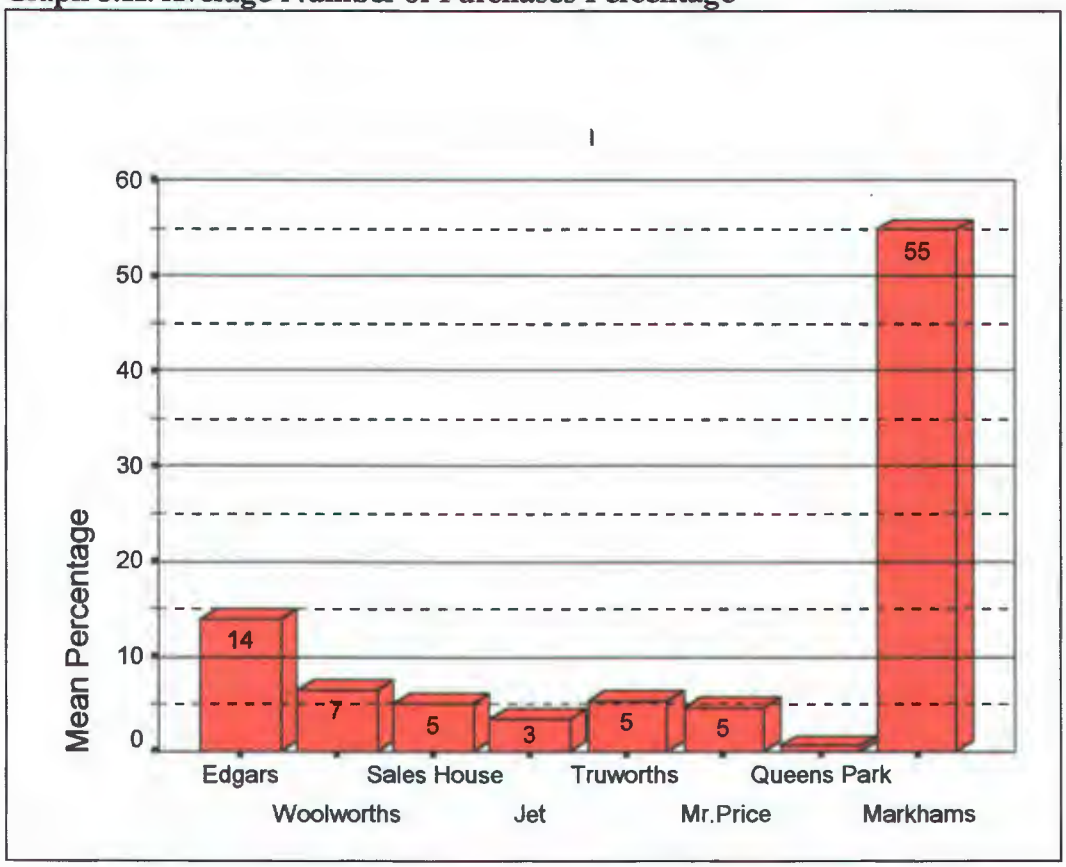
Graph 5.10: Share-of-Wallet Percentage amongst Race Groups



It is interesting to note that Edgars remains the major threat amongst all race groups. However, there is a relatively higher propensity in the White race group to support Edgars when compared to the other race groups, whilst the Black race group has a relatively higher propensity to support Sales House and Truworths. The Coloured Race group is very strong in supporting Markhams.

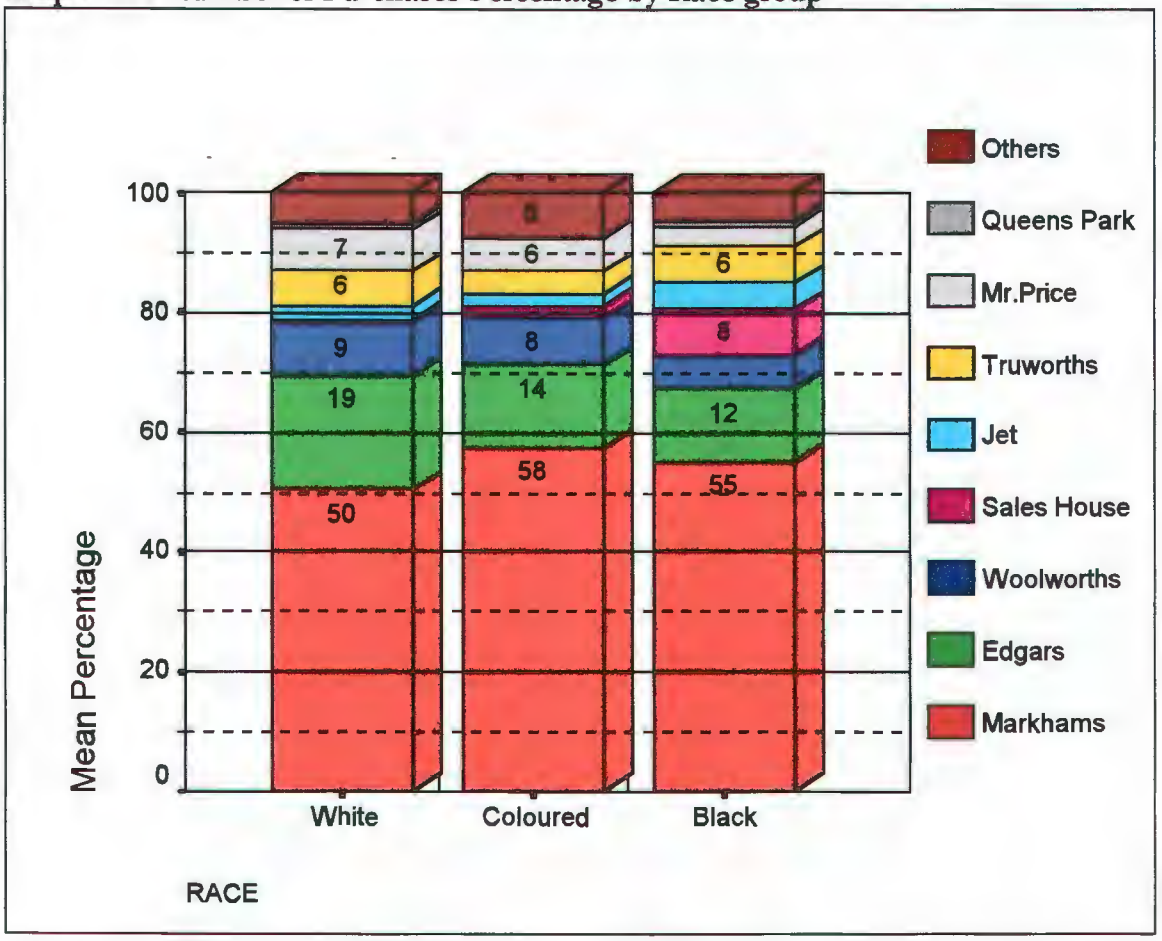
The following graph, graph 5.11, depicts the propensity to support a store when making a purchase.

Graph 5.11: Average Number of Purchases Percentage



Graph 5.11 relates to question 24 in the questionnaire. This question tries to ascertain how often, out of the last five purchases made, did the respondent buy at each of the given stores/retailers. The results indicate that the respondents are more likely to make a purchase at Markhams than at any other store. Edgars is the main competitor, followed by Woolworths and Sales House. There is a very strong correlation (0.99) between the findings in this question (question 24) and the findings in question 25, graph 5.9, relating to retailers' share-of-wallet. Question 24 dealt with the share-of-wallet, that is the purchases Rand value and question 25 related to the number of purchases. What the results tell is that the actual spend across the various retailers is in line with the number of purchases, that is one does not have a situation where respondents make few purchases of high value each or many purchases of low value each at a particular store. This basically means that the average spend value per purchase is likely to be the same across the various retailers.

Graph 5.12: Number of Purchases Percentage by Race group



There is a very strong correlation (0.98) between the results for each race group in this graph, graph 5.12, and the results of the share-of-wallet analysis for the same race groups in graph 5.10. This means that the actual spend across the various retailers for the various race groups are in line with the number of purchases for the same race groups, that is one does not have a situation where respondents make few purchases of high value each or many purchases of low value each at a particular store. This basically means that the average spend value per purchase for a race group is likely to be the same across the various retailers.

As expected Markhams remains the store mostly supported by Markhams customers. Edgars and Woolworths are the main threat amongst Whites, whilst Edgars and Sales House are the major threat amongst Blacks.

5.5.1 Factor analysis - Competitiveness component

The main objective for using factor analysis on the competitiveness component is to reduce the number of variables in the model to a more manageable number (currently standing at sixteen variables), and to quantify the appeal and effect of the opposing brands in the market place. The two inputs into this model are the "Frequency of visits" variable, question 24, and the perceived "Share of wallet" variable, question 25.

The Kaiser-Meyer-Olkin measure of sampling adequacy, figure 5.32, which measures the proportion of variance in variables which is common variance, reflects a value of 0.483, indicating that factor analysis might be useful, ie. it is >=0.5. This is supported by the Bartlett's test of sphericity which indicates that there are probably significant relationships among the variables. A value <0.1 for Sig., the actual number in figure 5.32 is 0.000, indicates that the data would be suitable for factor analysis.

Figure 5.32: Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.483
Bartlett's Test of Sphericity	Approx. Chi-Square	1822.436
	df	120
	Sig.	.000

The next figure, figure 5.33, provides the results of the Communalities' analysis. Communalities indicate the amount of variance in each variable that is accounted for. Initial communalities are estimates of the variance in each variable accounted for by all components or factors. For principal components analysis, this is always equal to 1.0 (for correlation analyses), or the variance of the variable (for covariance analyses). Extraction communalities are estimates of the variance in each variable accounted for by the factors (or components) in the factor solution. Small values indicate variables that do not fit well with the factor solution and should possibly be dropped from the analysis. In this research, figure 5.33, all variables' extraction communalities' scores are good, the lowest score is 0.762 for "log Markhams share of wallet" and the highest is 0.896 for "Log Sales House frequency",

thus no variable needs to be dropped.

Figure 5.33: Communalities

	Initial	Extraction
Log Markhams share of wallet	1.000	.762
Log Markhams Frequency	1.000	.798
Log Edgars frequency	1.000	.806
Log Edgars Share of Wallet	1.000	.819
Log Woolies share of wallet	1.000	.827
Log Woolies Frequency	1.000	.785
Log Sales House SW	1.000	.896
Log Sales House Frequency	1.000	.876
Log Jet SW	1.000	.823
Log Jet frequency	1.000	.813
Log Mr.Price SW	1.000	.769
Log Mr.Price frequency	1.000	.763
Log Queens Park SW	1.000	.759
Log Queens Park frequency	1.000	.733
Log Truworths SW	1.000	.820
Log Truworths frequency	1.000	.800

Extraction Method: Principal Component Analysis.

Figure 5.34, reflects that the first component explains 15% of the variance in the components, with the second component explaining 11% and so on. The first eight components account for 80% of the variance.

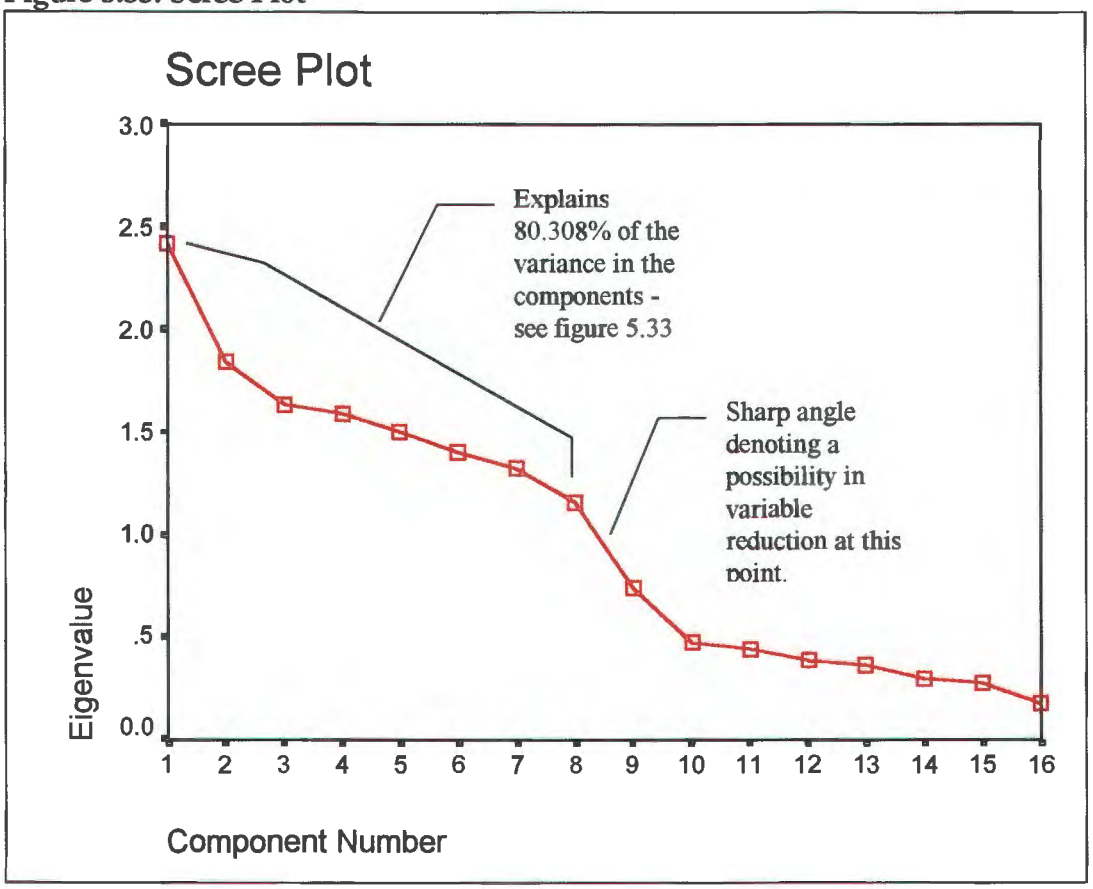
Figure 5.34: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.415	15.092	15.092	2.415	15.092	15.092	1.799	11.245	11.245
2	1.838	11.490	26.583	1.838	11.490	26.583	1.644	10.274	21.520
3	1.634	10.210	36.793	1.634	10.210	36.793	1.642	10.261	31.781
4	1.588	9.926	46.719	1.588	9.926	46.719	1.621	10.134	41.915
5	1.495	9.345	56.065	1.495	9.345	56.065	1.611	10.071	51.986
6	1.402	8.764	64.828	1.402	8.764	64.828	1.588	9.925	61.911
7	1.319	8.242	73.071	1.319	8.242	73.071	1.486	9.289	71.201
8	1.158	7.238	80.308	1.158	7.238	80.308	1.457	9.108	80.308
9	.740	4.628	84.936						
10	.473	2.958	87.894						
11	.439	2.744	90.638						
12	.382	2.387	93.025						
13	.359	2.242	95.267						
14	.303	1.893	97.160						
15	.276	1.726	98.886						
16	.178	1.114	100.000						

Extraction Method: Principal Component Analysis.

The Scree plot is reflected in figure 5.35, and it shows the effectiveness of the various components in explaining the variance. A sharp angle can be seen in the scree plot, figure 5.35, after the 8th component, and figure 5.34 reflects that this is where the eigenvalue drops below 1, indicating that there is a possibility of variable reduction at this point.

Figure 5.35: Scree Plot



The first eight components seem to be fairly equal in strength with regards to explaining the variance, see figure 5.34. The analysis will use the Equamax rotation method (refer to point 4.8.3) because one wants to simplify (minimise) both the factors and the variables. Equamax is a method that is a combination of the Varimax method, which simplifies the factors, and the Quartimax method, which simplifies the variables. The number of variables that load highly on a factor and the number of factors needed to explain a variable are minimized.

The rotated component matrix is reflected in figure 5.36. Rotation is a method used to differentiate between the factors and consequently to aid interpretation of the factor analysis

(refer to point 4.9.3).

Figure 5.36: Rotated Component Matrix

Rotated Component Matrix[a]

	Component							
	1 Sales House	2 Woolworths	3 Truworths	4 Edgars	5 Jet Stores	6 Markhams	7 Mr.Price	8 Queens Park
Log Sales House SW	.938	.052	.005	.068	.058	-.004	.028	.058
Log Sales House Frequency	.933	-.039	.011	.019	-.022	-.038	-.012	-.041
Log Woolies share of wallet	.046	.889	.102	.048	.113	.003	.086	.040
Log Woolies Frequency	-.033	.867	.011	-.039	-.055	-.162	-.004	-.035
Log Truworths SW	.069	.115	.884	.032	.077	-.067	-.014	.091
Log Truworths frequency	-.052	-.003	.881	-.034	-.063	-.130	-.003	-.016
Log Edgars Share of Wallet	.066	.086	-.008	.889	.071	-.070	-.001	.079
Log Edgars frequency	.018	-.076	.005	.888	-.047	-.046	.054	-.059
Log Jet frequency	-.079	-.040	-.038	-.064	.884	-.109	-.065	-.036
Log Jet SW	.119	.097	.050	.091	.879	.057	.091	.069
Log Markhams share of wallet	.002	-.085	-.022	-.061	-.014	.885	-.044	-.032
Log Markhams Frequency	-.047	-.068	-.188	-.058	-.042	.862	-.081	.043
Log Mr.Price frequency	.017	-.059	-.059	-.043	-.079	-.116	.853	-.085
Log Mr.Price SW	-.004	.139	.044	.098	.104	-.001	.849	.080
Log Queens Park frequency	-.060	-.106	-.072	.014	-.014	-.075	-.052	.839
Log Queens Park SW	.079	.116	.152	.003	.044	.087	.050	.839

Extraction Method: Principal Component Analysis.
Rotation Method: Equamax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Figure 5.36 (called the Pattern Matrix for oblique rotations) reports the factor loadings for each variable on the components or factors after rotation. Each number represents the partial correlation (a measure of correlation between two variables by removing or adjusting for the linear effects of one or more controlling variables (Aaker et al, 1998: 529)) between the item (input questions) and the rotated factor, for example, for component one (the second column on the figure 5.35), the partial correlation is highest in the case of the two input variables for Sales House, namely "Log Sales House SW" (SW = Share-of-Wallet), with a very high score of 0.938 (almost perfect correlation, 1 is the highest possible), and "Log Sales House Frequency" with a very high score of 0.933 (also an almost perfect correlation) (Frequency = Frequency of Purchases). These correlations help formulate an interpretation of the factors or components. This is done by looking for a common thread among the variables that have large loadings for a particular factor or component, for example the high loading on the Sales House variables in the second column means that component 1 represents the Sales House variables.

The Factor Score Coefficient Matrix, figure 5.37, shows values used to compute factor scores for each case.

Figure 5.37: Component Score Coefficient Matrix

	Component							
	1	2	3	4	5	6	7	8
Log Markhams share of wallet	.011	.014	.101	.022	.012	.576	.038	-.049
Log Markhams Frequency	-.015	.041	-.013	.026	-.007	.549	.009	.015
Log Edgars frequency	-.040	-.058	.017	.561	-.044	.029	.005	-.060
Log Edgars Share of Wallet	-.020	.040	-.019	.553	.016	.015	-.047	.030
Log Woolies share of wallet	.004	.552	-.007	.017	.020	.089	.004	-.001
Log Woolies Frequency	-.027	.550	-.080	-.036	-.079	-.049	-.063	-.032
Log Sales House SW	.523	.014	-.020	-.016	.005	.010	-.001	.022
Log Sales House Frequency	.528	-.039	-.008	-.043	-.036	-.023	-.022	-.040
Log Jet SW	.035	.008	.023	.031	.542	.076	.044	.005
Log Jet frequency	-.062	-.070	-.039	-.059	.565	-.077	-.060	-.048
Log Mr.Price SW	-.026	.028	.028	.025	.041	.080	.575	.046
Log Mr.Price frequency	.005	-.087	-.027	-.065	-.057	-.032	.587	-.045
Log Queens Park SW	.027	.047	.047	-.020	-.011	.061	.036	.568
Log Queens Park frequency	-.043	-.078	-.100	-.012	-.032	-.102	-.035	.596
Log Truworths SW	.017	-.008	.552	.016	.030	.072	-.008	.004
Log Truworths frequency	-.040	-.078	.560	-.017	-.045	.018	.008	-.058
Log Truworths frequency	-.040	-.078	.560	-.017	-.045	.018	.008	-.058

Extraction Method: Principal Component Analysis. Rotation Method: Equamax

For each case, the factor score is computed by multiplying variable values by factor score coefficients from figure 5.37. For principal component models, these give exact component scores. The factor scores are saved as variables in the statistical package (SPSS). One variable is created for each factor in the solution (see example in point 5.4.1.6). Each respondent in the sample will end with a score for each component and these scores will be used in the multivariate regression analysis to be analysed later.

5.6 QUANTIFICATION OF THE POWER OF REFERRAL COMPONENT

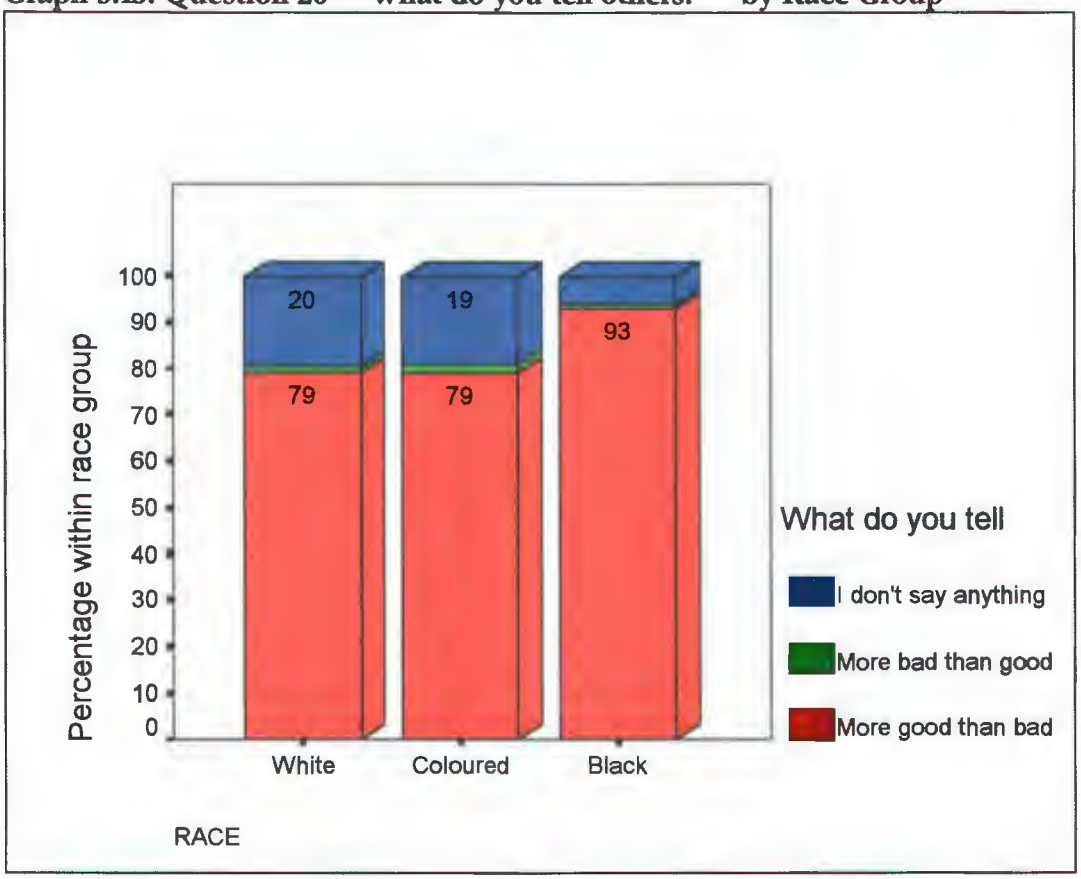
The model uses two questions to measure the power of referral of the brand, namely questions 26 and 27, refer to figure 5.38. These questions attempt to measure what the customer has to say to others about the Markhams brand, be it nothing at all, positive, negative statements and to what extent that customer has referred Markhams to others.

Figure 5.38: Response to Question 26

	What do you tell	
	Count	%
More good things than bad	362	87.0%
More bad things than good	5	1.2%
I don't say anything	49	11.8%
Total	416	100.0%

Most customers (87%) have more positive statements to make than negative ones, whereas 12% do not say anything, and 1% have more negative things to say than positive.

Graph 5.13: Question 26 - "What do you tell others?" - by Race Group



Graph 5.13 illustrates that the Black racial group is likely to have more positive things to say than the other race groups. This, once again, emphasises the fact that Markhams is well

positioned amongst the Black race group.

Figure 5.39, illustrates that as much as three quarters of the sample have referred Markhams to someone, of which a quarter have referred more than four people.

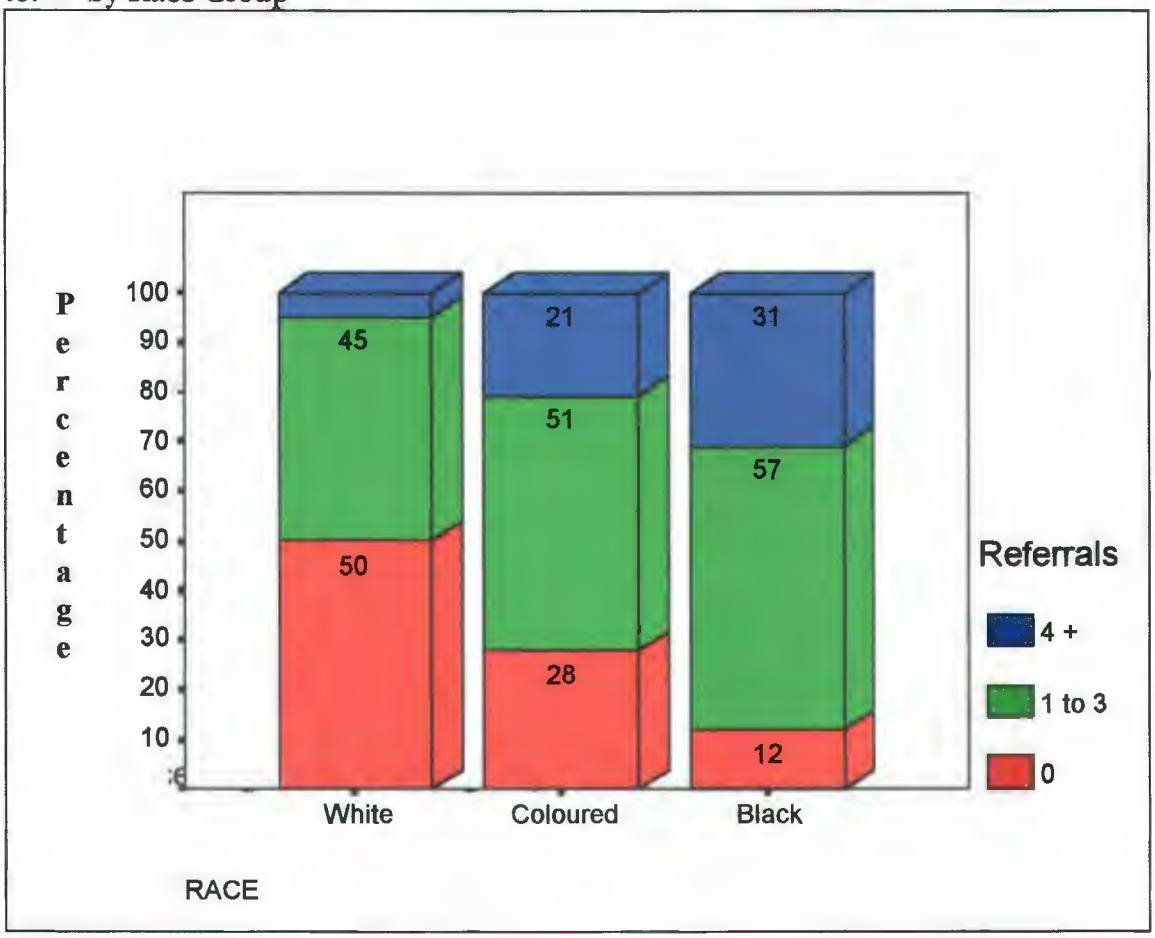
Figure 5.39: Responses to Question 27

Question 27

	No. of Referrals	
	Count	%
0	97	23.3%
1 to 3	222	53.4%
4 +	97	23.3%
Total	416	100.0%

Once again, Graph 5.14, illustrates that the Black race group is likely to refer more people than the other groups, 57% of Black respondents will refer Markhams to 1 to 3 persons, whilst 31% of Black respondents will refer Markhams to 4 or more people. Loyalty amongst this group seems high, not only do they have more positive things to say (see graph 5.13), but they also refer more people to the Markhams brand.

Graph 5.14: Responses to Question 27 - "How many people do you refer Markhams to?" - by Race Group



5.6.1 Factor analysis - Referral component

A Factor analysis is used to reduce the number of variables in the Referral model. The Kaiser-Meyer-Olkin measure of sampling adequacy, figure 5.40, which measures the proportion of variance in variables which is common variance, reflects a value of 0.50, indicating that factor analysis might be useful, ie. it is >=0.5. This is supported by the Bartlett's test of sphericity which indicates that there are probably significant relationships among the variables. A value <0.1 for Sig. indicates that the data would be suitable for factor analysis, the value in figure 5.40 is 0.000 and it is therefore significant.

Figure 5.40: Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	60.070
	df	1
	Sig.	.000

The next figure, figure 5.41, provides the results of the Communalities' analysis. Communalities indicate the amount of variance in each variable that is accounted for. Initial communalities are estimates of the variance in each variable accounted for by all components or factors. For principal components analysis, this is always equal to 1.0 (for correlation analyses) or the variance of the variable (for covariance analyses). Extraction communalities are estimates of the variance in each variable accounted for by the factors (or components) in the factor solution. Small values indicate variables that do not fit well with the factor solution, and should possibly be dropped from the analysis. In this research all variables' extraction communalities' scores of 0.684 are good, thus no variable needs to be dropped.

Figure 5.41: Communalities

Communalities

	Initial	Extraction
LOGQ26	1.000	.684
LOGQ27	1.000	.684

Extraction Method: Principal Component Analysis.

Figure 5.42, reflects that the first component explains 68% of the variance, with the second component explaining 32%.

Figure 5.42: Total Variance Explained

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.368	68.386	68.386	1.368	68.386	68.386
2	.632	31.614	100.000			

Extraction Method: Principal Component Analysis.

The Scree plot, figure 5.43, illustrates the power of the various components in explaining the variance. The Scree plot highlights that there is a relatively sharp angle between the first and the second component, figure 5.42 shows that this is where the eigenvalue drops below 1, indicating that there is a possibility of variable reduction at this point.

Figure 5.43: Scree Plot

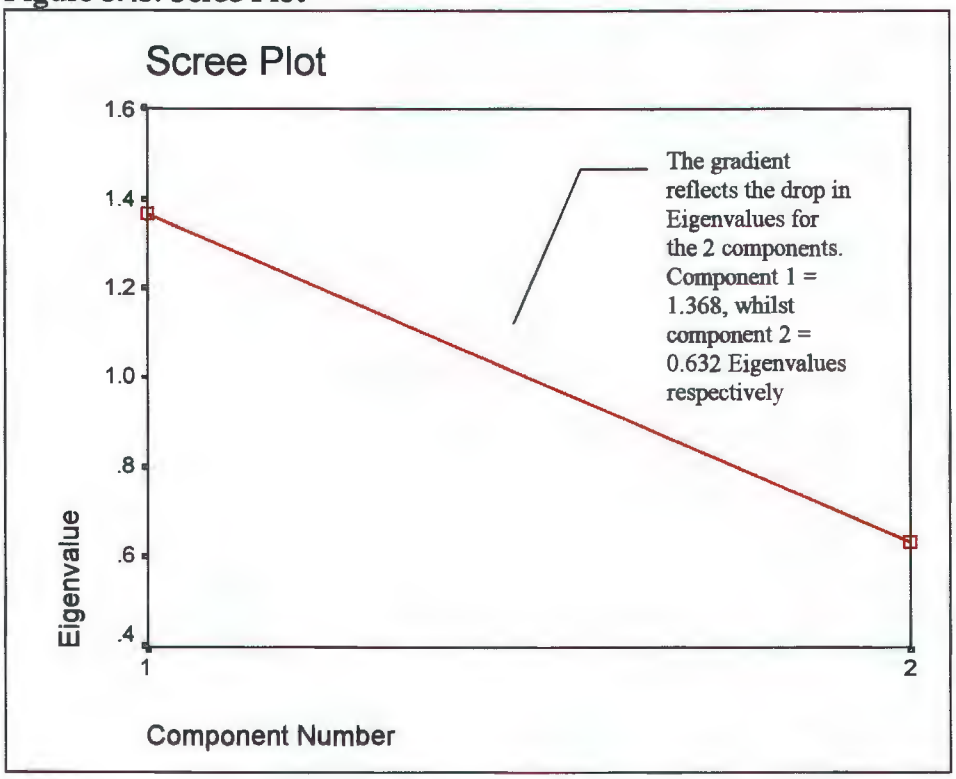


Figure 5.44, reports the factor loadings for each variable on the unrotated components or factors. Each number represents the correlation between the item and the unrotated factor. The reflected values (0.827) for the correlation are particularly good because it is very high.

Figure 5.44: Component Matrix

Component Matrix[a]

	Component
	1
LOGQ26	.827
LOGQ27	-.827

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

The exact scores for each variable in a principal component analysis are reflected below in figure 5.45.

Figure 5.45: Component Score Coefficient

Component Score Coefficient

	Component
	1
LOGQ26	.605
LOGQ27	-.605

Extraction Method: Principal Component Analy:

Component Scores.

Therefore, in order to obtain the factor score for Power of Referral, the following formula is used:

Power of Referral = (0.605 X Respondents' value for Question 26) +
(-0.605 X Respondent's value for Question 27)

This formula is then used to calculate the Power of Referral score for each respondent in the sample and the calculated variable is stored in the data sheet in SPSS.

5.7 QUANTIFICATION OF THE CREDIT APPEAL COMPONENT

The Credit Appeal model uses questions 28 to measure the customer's propensity to use Credit. This is particularly important because the Credit Utilisation model attempts to predict the percentage of credit that the customer will use in the future, in light of the various input components.

Question 28 asked customers to select the applicable category of cash/credit user (the

selection was mutually exclusive) with respect to their fashion purchases at Markhams. The results as depicted in figure 5.46, indicates that as much as 59% of Markhams' credit/account customers "Use Credit only" when buying men's fashion. 20% will use cash or credit, 14% will resort to credit when they do not have cash - but cash is the preferred method of purchase. A few respondents (8%) prefer to use credit, but when credit is fully utilised they will use cash. The bottom line is that there appears to be a group of people, 59% of the sample, who will only buy on credit - thus, in this case credit is an important means to an end and its importance to Markhams can not be over emphasised. This result does correlate with the fact that Credit sales at Markhams account for +-70% of Markhams total sales.

Figure 5.46: Responses to Question 28 - "How do you Shop?"

	How do you shop	
	Count	%
I use my Markhams card for ALL my clothing purchases at Markhams	245	58.9%
I sometimes use cash to buy clothes at Markhams	80	19.2%
I only use my Markhams card to buy clothes when I have no cash to pay for the clothes	57	13.7%
I pay cash when I've run out of credit at Markhams	34	8.2%
Total	416	100.0%

The standardised log base 10 value for question 28 will be used as an input in section 5.8 of this research.

5.8 CONSTRUCT OF A PREDICTIVE MODEL OF CREDIT UTILISATION

A multivariate regression analysis is conducted in order to construct a predictive model of Credit Utilisation. The dependent variable (what the model tries to predict) is the Credit Utilisation percentage and the independent variables are the various components of the model, namely, the Competitiveness component, the Brand Experience component (Trust and Commitment), the Referral component, the Credit Appeal component, credit limit as at 1996 and some specific demographics (for example, Race Group). Furthermore, the independent variables are weighted by "life-to-date purchases as a percentage of 1996 Credit Limit".

The dependent variable allows Markhams to establish how much a customer is likely to utilise his credit facility. Therefore, Credit utilisation purchases over a period of time as a percentage of credit limit, will impact on the bottom line, particularly when one considers that 70% of the total sales at Markhams are on credit and the findings on the questionnaire (question 28), that +- 60% of respondents will only purchase fashion at Markhams on credit.

The reason for using the "life-to-date purchases as a percentage of 1996 Credit Limit" as a weighting variable is based on the assumption that customers tend to be creatures of habit and therefore, past preferences and behaviour is likely to be emulated to some extent in the future. In other words, a customer who has previously made considerable purchases at Markhams has, through his actions, demonstrated an affinity to the brand and this affinity and the perceptions surrounding it, once created, are likely to be reflected in time to come.

The following are the results of the multivariate regression model as applicable to the sample in general:

5.8.1 Regression - General Model

The variables that were entered into the model are listed in figure 5.47.

Figure 5.47: Variables entered into the Regression Model

Variable Description
Purchase difference as % of 1996 Credit Limit – CUP (see point 5.3.7). This is the Dependent Variable.
Credit Limit (1996)
Competitiveness component - Sales House
Competitiveness component - Woolworths
Competitiveness component - Truworths
Competitiveness component - Edgars
Competitiveness component - Jet
Competitiveness component - Markhams
Competitiveness component - Mr.Price
Competitiveness component - Queens Park
Referral component
Credit Appeal component
Brand Experience - Termination Costs
Brand Experience - Relationship Benefits
Brand Experience - Shared Values
Brand Experience - Communications
Brand Experience - Acquiescence
Brand Experience - Propensity to Stay
Brand Experience - Co-operation
Brand Experience - Functional Conflict
Brand Experience - Uncertainty
Brand Experience - Opportunistic Behaviour
Gender *
Period on books (months) *
Customer Age Group *
Race Group *

* These variables comprise general customer characteristics (as outlined in the Credit Utilisation Model).

The model summary, reflected on the next table (figure 5.48) indicates that the "R" is the correlation between the observed and predicted values of the dependent variable. The values of "R" range from -1 to 1. The sign of "R" indicates the direction of the relationship

(positive or negative). The absolute value of "R" indicates the strength, with larger absolute values (values closer to 1) indicating stronger relationships. In effect "R" indicates how well the dependent variable can be "explained" by knowing the value of the independent variables. A "R" value of 0.725 is particularly good (to be proven later in some of the tests) as it explains 72.5% of the dependent variable. One can argue that the unexplained portion, the 27.5% (100% - 72.5%) is due to external events, for example, economic conditions, climatic conditions (yes, it does have an impact on fashions - for example, winter is "late" in arriving), etc.

"R squared" is the proportion of variation in the dependent variable explained by the regression model. The values of "R squared" range from 0 to 1. Small values indicate that the model does not fit the data well. The sample "R squared" tends to optimistically estimate how well the models fits the population. "R squared" of 0.525, the third column in figure 5.48, is a fairly good score as the study will prove later through some of the tests. The result means that the variation in the dependent variable is reduced by 52.5% by using the independent variables and applying the regression model.

Figure 5.48: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.725[a]	.525	.495	188.4098	1.972

a. Predictors: (Constant), Zscore(LOGQ28), Zscore(LOGSEX), REGR score for Jet 2 , REGR factor score for Queens Park 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR fact score for Edgars 2, REGR factor score for Truworths 2, Reg Factor log Acq, Zscore: AGE GROUP, REGR factor score for Mr.Price 2, Reg Fa logs - SV, REGR factor score for Woolworths 2, Zscore: PERIOD, Zscore: CREDITLIMIT 96, OB - Converted to Z Zscore(LOGRACE), Reg Factor logs - Co-op, REGR factor score Power of Referral , Reg Factor Logs - TC, Reg Factor logs - Uncertaint Reg Factor logs - Comms 1 , Reg Factor logs - Prop.Leave, Reg Fact logs - Funct.conflict, Reg Factor logs - RB

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

"Adjusted R", in the fourth column in figure 5.48, squared attempts to correct "R squared" to more closely reflect the goodness of fit of the model in the population. "R Squared" is used to help determine which model is best when testing different models. Ideally one should choose a model with a high value of "R squared" that does not contain too many variables. Models with too many variables are often over-fit and hard to interpret.

Durbin-Watson, in the last column in figure 5.48, is a test for serially correlated (or autocorrelated) residuals. One of the assumptions of regression analysis is that the residuals for consecutive observations are uncorrelated. If this is true, the expected value of the Durbin-Watson statistic is 2. Values less than 2 indicate positive autocorrelation (usually a common problem in time-series data). Values greater than 2 indicate negative autocorrelation. A value of 1.972 is good. According to Shim and Siegel (1998: 87) a rough guide for the Durbin-Watson statistic is that between 1.5 and 2.5 no autocorrelation exists.

Standard linear regression models assume that variance is constant within the population under study. When this is not the case, for example, when cases (a respondent is a case) that are high on some attribute show more variability than cases that are low on that attribute, linear regression using ordinary least squares (OLS) no longer provides optimal model estimates. If the differences in variability can be predicted from another variable, that variable can be used as a weighting variable in a weighted least squares regression. In this study, the "Life-to-date (1996) purchases as a % of 1996 Credit Limit" is used as a weighting variable. The logic in favour of using this variable as a weighting variable is that the credit utilisation of customers prior to 1996 is likely to provide some insight (weight?) into the modeling process. if the regression analysis was not weighted the predictability of the model would decline by 0.087 or 8.7% (for R Squared) and 0.094 or 9.4% (for Adjusted R Squared).

A comparison between the results in figure 5.48 (weighted least squares regression model) and figure 5.49, suggests that by having the independent variables weighted by "Life-to-date (1996) Purchases as a % of the 1996 Credit Limit", the value of R improved by 0.063 (0.725-0.662), the value of R squared improved by 0.087 (0.525-0.438) and the value of the Adjusted R squared improved by 0.094 (0.495-0.401). These figures reflect an improvement

in the predictive power of the model.

Figure 5.49: Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.662[a]	.438	.401	145.5814	2.033

a. Predictors: (Constant), Life to date purchases (0) as % of 96 cr limit, Reg Factor logs - Uncertainty, Zscore(LOGSEX), REGR factor score for Queens Park 2 , REGR factor score for Truworths 2, REGR factor score for Mr.Price 2, REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score Sales House 2 , Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Woolworths 2, REGR factor score for Markhams 2 , Reg Factor logs - Acq, Zscore: PERIOD, OB - Converted to Z score, Zscore(LOGRACE), Reg Factor logs - Co-op, Zscore: CREDITLIMIT 96, REGR factor score for Power of Referral , Reg Factor logs - RB, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Funct.conflict, Reg Factor Logs - TC, Reg Factor logs - SV

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

Figure 5.50 reflects an analysis of variance statistic (Anova). The sum of squares, degrees of freedom, and mean square are displayed for two sources of variation, regression and residual.

A model with a large regression sum of squares in comparison to the residual sum of squares indicates that the model accounts for most of variation in the dependent variable. If the significance value (Sig.) of the F statistic is small (smaller than say 0.05) then the independent variables do a good job explaining the variation in the dependent variable. The result in figure 5.50 for the Sig. (last column) is 0.000 which indicates that the independent variables do a good job at explaining the variation in the independent variables. Incidentally, if the significance value of F (Sig.) is larger than say 0.05 then the independent variables do not explain the variation in the dependent variable.

Figure 5.50: Analysis of Variance (ANOVA)

ANOVA[b,c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15307891	25	612315.624	17.249	.000[a]
	Residual	13844317	390	35498.250		
	Total	29152208	415			

a. Predictors: (Constant), Zscore(LOGQ28), Zscore(LOGSEX), REGR factor score for Jet 2 , REGR factor score for Queens Park 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Edgars 2, REGR factor score for Truworths 2, Reg Factor logs - Acq, Zscore: AGE GROUP, REGR factor score for Mr.Price 2, Reg Factor logs - SV, REGR factor score for Woolworths 2, Zscore: PERIOD, Zscore: CREDITLIMIT 96, OB - Converted to Z score, Zscore(LOGRACE), Reg Factor logs - Co-op, REGR factor score for Power of Referral , Reg Factor Logs - TC, Reg Factor logs - Uncertainty, Reg Factor logs - Comms 1 , Reg Factor logs - Prop.Leave, Reg Factor logs - Funct.conflict, Reg Factor logs - RB

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Figure 5.51 reflects the Regression Coefficients, the T statistic and the Collinearity statistics (defined below).

Figure 5.51: Coefficients, T-Test and Collinearity Statistics

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	166.396	8.509		19.555	.000		
	Zscore: CREDITLIMIT 96	-151.967	9.165	-.716	-16.581	.000	.654	1.529
	REGR factor score Sales House 2	-.557	8.530	-.002	-.065	.948	.844	1.185
	REGR factor score for Woolworths 2	5.191	8.430	.025	.616	.538	.735	1.360
	REGR factor score for Truworths 2	12.966	8.653	.056	1.498	.135	.868	1.152
	REGR factor score for Edgars 2	3.711	8.046	.017	.461	.645	.890	1.124
	REGR factor score for Jet 2	-5.472	8.831	-.022	-.620	.536	.938	1.066
	REGR factor score for Markhams 2	16.149	11.874	.057	1.360	.175	.699	1.432
	REGR factor score for Mr.Price 2	6.728	8.609	.032	.782	.435	.728	1.373
	REGR factor score for Queens Park 2	.302	8.613	.001	.035	.972	.965	1.037
	REGR factor score for Power of Referral	10.024	11.430	.041	.877	.381	.549	1.821
	Zscore(LOGSEX)	-4.535	8.442	-.022	-.537	.591	.744	1.344
	Reg Factor Logs - TC	-4.252	12.044	-.019	-.353	.724	.439	2.277
	Reg Factor logs - RB	3.949	12.581	.017	.314	.754	.406	2.464
	Reg Factor logs - SV	4.206	12.729	.018	.330	.741	.403	2.479
	Reg Factor logs - Comms 1	-1.661	11.596	-.007	-.143	.886	.478	2.093
	Reg Factor logs - Acq	-24.951	9.331	-.116	-2.674	.008	.644	1.552
	Reg Factor logs - Prop.Leave	21.703	11.063	.100	1.962	.050	.468	2.135
	Reg Factor logs - Co-op	9.786	11.653	.043	.840	.402	.465	2.149
	Reg Factor logs - Funct.conflict	-3.256	11.474	-.015	-.284	.777	.453	2.210
	Reg Factor logs - Uncertainty	-3.708	10.501	-.017	-.353	.724	.515	1.943
	OB - Converted to Z score	-24.092	10.123	-.116	-2.380	.018	.515	1.942
	Zscore: PERIOD	10.971	9.298	.050	1.180	.239	.681	1.468
	Zscore(LOGRACE)	2.842	10.673	.012	.266	.790	.613	1.630
	Zscore: AGE GROUP	11.822	9.334	.050	1.267	.206	.777	1.287
	Zscore(LOGQ28)	5.392	8.200	.025	.658	.511	.827	1.209

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

The unstandardized coefficients are the coefficients of the estimated regression model. The standardized coefficients or betas are an attempt to make the regression coefficients more comparable. If one transformed the data to z scores prior to the regression analysis, you would get the beta coefficients as the unstandardized coefficients.

In order to predict the Credit Utilisation % (CUP), the coefficients and formula reflected in figure 5.52 will be used - the calculated estimated score is saved as a variable in the SPSS data sheet.

Figure 5.52: Regression Coefficients and formula

	Unstandardised Coefficient
Variables	**B**
Constant	166.396
+ Credit Limit (1996)	-151.967
+ Competitiveness component - Sales House X	-0.557
+ Competitiveness component - Woolworths X	5.191
+ Competitiveness component - Truworths X	12.966
+ Competitiveness component - Edgars X	3.711
+ Competitiveness component - Jet X	-5.472
+ Competitiveness component - Markhams X	16.149
+ Competitiveness component - Mr.Price X	6.728
+ Competitiveness component - Queens Park X	0.302
+ Referral component X	10.024
+ Gender X	-4.535
+ Credit Appeal component X	5.392
+ Period on books (months) X	10.971
+ Customer Age Group X	11.822
+ Race X	2.842
+ Brand Experience - Termination Costs X	-4.252
+ Brand Experience - Relationship Benefits X	3.949
+ Brand Experience - Shared Values X	4.206
+ Brand Experience - Communications X	-1.661
+ Brand Experience - Acquiescence X	-24.951
+ Brand Experience - Propensity to Stay X	21.703
+ Brand Experience - Co-operation X	9.786
+ Brand Experience - Functional Conflict X	-3.256
+ Brand Experience - Uncertainty X	-3.708
+ Brand Experience - Opportunistic Behaviour X	-24.092

T-tests, the 6th column in figure 5.51, is a Statistic used to test the null hypothesis that there is no linear relationship between a dependent variable and an independent variable or, in other words, that a regression coefficient is equal to 0. The T statistics can help determine the relative importance of each variable in the model. As a guide regarding useful predictors, one should look for T values well below -2 or above +2 (Shim and Siegel, 1998: 85). When

the significance level (Sig.) is small (less than 0.10) the coefficient is considered significant. The Sig. reflects the conditional probability that a relationship as strong as the one observed in the data would be present, if the null hypothesis were true. It is often called the p-value. Figure 5.53 shows the results (extracted from figure 5.51) of the T-Test and highlights the most useful predictors.

Figure 5.53: Useful Predictors as per T-Test

T Statistic	Sig.	Variable
-16.581	0.000	Credit Limit in 1996 (at time of research)
-2.380	0.018	Brand Experience - Opportunistic Behaviour
1.962	0.050	Brand Experience - Propensity to Stay (reflected as Propensity to Leave)
-2.674	0.008	Brand Experience - Acquiescence

Collinearity (or multicollinearity), whose statistics are reflected in the last two columns in figure 5.49, is the undesirable situation when one independent variable is a linear function of other independent variables, that is when using more than one independent in a regression analysis, there is sometimes a high correlation between the independent variables themselves (Shim and Siegel, 1998: 76-77). Multicollinearity occurs when these variables interfere with each other. If two variables move up and down together, the least squares method can assign one variable an arbitrarily high coefficient and the other an arbitrarily low coefficient, the two largely off-setting each other. As it damages the reliability of the obtained regression coefficients, it also damages the ability to draw conclusions about the significance of individual variables from t-tests.

The Collinearity statistic "Tolerance" is a statistic used to determine how much the independent variables are linearly related to one another (multicollinear). The proportion of a variable's variance not accounted for by other independent variables in the equation. A variable with very low tolerance contributes little information to a model, and can cause computational problems. The variance inflation factor (VIF) is the reciprocal of the tolerance. As the variance inflation factor increases, so does the variance of the regression

coefficient, making it an unstable estimate. Large VIF values are an indicator of multicollinearity.

Furthermore, the Collinearity diagnostics, refer to figure 5.54, displays statistics that help determine if there are any problems with collinearity. Eigenvalues provide an indication of how many distinct dimensions there are among the independent variables. When several eigenvalues are close to zero, the variables are highly intercorrelated and small changes in the data values may lead to large changes in the estimates of the coefficients. The Condition index row indicates condition indices. These are the square roots of the ratios of the largest eigenvalue to each successive eigenvalue. Collinearity is a problem when a component associated with a high condition index contributes substantially to the variance of two or more variables. A condition index of 15 indicates a possible problem and an index greater than 30 suggests a serious problem with collinearity (SPSS Base 8.0 Applications Guide, 1998: 230). The diagnostics in figure 5.54 reflects that the highest value is 4.637, thus collinearity is not a problem with this model.

Figure 5.54: Collinearity Diagnostics

Collinearity Diagnostics[a,b]

Model	Dimension	Eigenvalue	Condition Index
1	1	5.551	1.000
	2	2.556	1.474
	3	1.951	1.687
	4	1.329	2.044
	5	1.212	2.140
	6	1.128	2.218
	7	1.027	2.324
	8	.989	2.370
	9	.924	2.450
	10	.894	2.491
	11	.870	2.525
	12	.805	2.625
	13	.790	2.651
	14	.698	2.821
	15	.666	2.887
	16	.635	2.956
	17	.556	3.160
	18	.531	3.234
	19	.505	3.315
	20	.443	3.541
	21	.388	3.783
	22	.370	3.871
	23	.328	4.114
	24	.315	4.198
	25	.279	4.462
	26	.258	4.637

a. Dependent Variable: Purchase difference as % of Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

5.8.2 Regression models that discriminate on the basis of Race Group

Throughout the research analysis, it appears that Race Group is a differentiating variable in consumer economic behaviour in the credit fashion market. This section of the analysis proves that by creating predictive models for each race group, the predictive power of the

general model is improved on considerably (at least in the short term and until the inequalities of income are addressed).

Markhams current status from a credit policy point of view is that models that predict credit behaviour will not discriminate on the basis of race group. A strategic decision (verbal discussion, not documented) was made in 1999 by the management committee to move away from models that use race group as a main discriminator for the granting of credit. The reasoning behind this decision is related to the current socio-political climate where government, with the support of the people of South Africa, constantly emphasises, through the media, the need for a new paradigm; one that focuses on nation building initiatives.

The implications for Markhams are far-reaching. *Firstly*, it ensure that its policy is politically correct and therefore eliminates the threat of any potential strike against its business by its customers (this would be a possibility if, for example, Markhams had a policy that discriminated on the basis of race and word of such practice was to get out). The fact is that any such event would bring Markhams' business to a stand still and millions of Rands in profit would be at risk. *Secondly*, it also means that Markhams is prepared to accept a greater credit risk because the models that predict and monitor customer credit performance are less accurate (predictive) than they could be.

Markhams' decision is, in all probability, correct as it eliminates a worse evil, namely the possibility of loss of earnings and equity value for its shareholders. However, Markhams does take comfort from the fact that, in the South Africa of tomorrow, all South Africans will be rewarded (salaries/earning potential) on the basis of their capabilities and competencies as opposed to race. Therefore, as time goes by, income and risk parity amongst all races will be the order of the day.

However, it is important and an interesting exercise to be able to quantify the effect that Race Group has on the predictability of the model from a statistical point of view.

What the statistical model suggests is that that although apartheid has been eradicated, the

remains of its impact will be with prevalent for some time to come. Supporting this statement is the fact that the research was initiated in 1996 and finalised in 1998 (2 years worth of consumer purchase data was collected); effectively 4 years after the first democratic elections of the country. Yet it seems that it will take time for the effects of the new South Africa, one that does not discriminate on the basis of race with regards to education, jobs and ultimately on income, to fully emerge. The change process will be gradual and might take one or two generations before the imbalance is significant.

The regression analysis results, when one creates predictive models for the various race groups, is reflected in figure 5.55.

Figure 5.55: Regression Statistics for three different models

Model	Race Group	R	R Squared	Adjusted R Squared	Stad. Error of the estimate	Durbin-Watson
1	White	0.915	0.837	0.752	63.600	2.511
2	Black	0.753	0.567	0.518	199.8110	1.973
3	Coloured	0.816	0.666	0.561	186.9121	1.750

Predictors: (Constant), Zscore: PERIOD, Zscore: CREDITLIMIT 96, Reg Factor logs - Comms 1 , REGR factor score for Queens Park, REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score Sales House 2 , Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Mr.Price 2, Reg Factor logs - Acq, Zscore(LOGSEX), Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor logs - Co-op, Reg Factor Logs - TC, Reg Factor logs - RB, OB - Converted to Z score, REGR factor score for Woolworths 2, Reg Factor logs - SV, Reg Factor logs-Prop.Leave, Reg Factor logs - Funct.conflict

Dependent Variable: Purchase difference as a % of credit limit 96 - R4000 Max.purchase.

Weighted Least Squares Regression - Weighted by Life to Date purchases (0) as a % of 96 Credit Limit.

According to the results in figure 5.55, Model 1 (White Group) reflects an improvement in R Squared and Adjusted R Squared against the same figures for the General Model, described in figure 5.48, of 0.312 (0.837-0.525) and 0.257 (0.752-0.495) respectively. This is a considerable improvement in the predictability of the model.

The improvement in Model 2 (Coloured Group), when compared with the General Model (figure 5.48), is 0.042 (0.567-0.525) and 0.023 (0.518-0.495) for R Squared and Adjusted R Squared respectively. A possible further "segmentation" would be to take this Group and segment it according to the number of months that the customer has been on the books (ie.

The number of months as a Markhams Credit Customer). Figure 5.56 illustrates the excellent results (further improvement in predictability) that one would obtain by adopting such an approach (detailed analysis included in Annexure D). In this case (figure 5.56 versus figure 5.48), R squared improves by 0.320 (0.845-0.525) and 0.396 (0.921-0.525) and Adjusted R Squared improves by 0.218 (0.713-0.495) and 0.356 (0.851-0.495) respectively.

Figure 5.56: Regression Model
Based on Coloured race group and number of months Respondent has been a Customer

Model	No.of months as customer	R	R Squared	Adjusted R Squared	Stad. Error of the estimate	Durbin-Watson	Sample Size
1	1 to 23	0.919	0.845	0.713	146.1039	1.853	51
2	> 24	0.960	0.921	0.851	113.5192	2.071	50

The improvement in Group 3 (Black Group) is 0.042 and 0.023 for R Squared and Adjusted R Squared respectively, a relatively small improvement. However, as in Group 2, a further "segmentation", as per figure 5.56, of the Black customer portfolio would result in a substantial improvement on the General Model, figure 5.48. Figure 5.57 shows that the R squared improves by (0.751-0.525), (0.663-0.525) and (0.885-0.525) and Adjusted R Squared improves by 0.131 (0.626-0.495) and 0.221 (0.716-0.495). The Adjusted R squared in model 2 in figure 5.57 actually does not improve as the change is a -0.021(0.474-0.495). However, this is a small price to pay for the improvement in the predictability in model 1 and 2 as reflected in figure 5.57.

Figure 5.57: Regression Model
Based on Black race group and number of months respondent has been a customer

Model	No. of months as customer	R	R Squared	Adjusted R Squared	Std. Error of the estimate	Durbin-Watson	Sample Size
1	1 to 12	0.866	0.751	0.626	136.8608	1.887	70
2	13 to 24	0.814	0.663	0.474	225.6030	1.789	65
3	> 24	0.908	0.825	0.716	190.5968	2.092	61

It is important to emphasise three points with regards to the issues raised under 5.8.2, namely that:

- There is a caveat built into the analysis reflected under this point (5.8.2), namely that as

the sample population is segmented, the size of the subsequent segments decrease and, with it, model reliability also decreases (ideally one would want to have a large enough sample that is representative of the retailer's account base). In fact, in all cases care was taken to ensure that the sample size would not be lower than 50 respondents in each segment.

- The decision taken by Markhams not to use Race Groups as a statistical model discriminating approach is, in all probability, a good long term strategic decision as it eliminates a worse evil, namely the possibility of loss of earnings and equity value for its shareholders (refer to discussion under 5.8.2). Markhams decision is a business decision first and foremost.
- The race group segmentation issues raised are intended to suggest the fact that there is an increased risk when one ignores the explanatory strength of the "Race Group" variable, ie.ignoring it makes the model lose some predictability power - this is a small price to pay when one considers the risk mentioned in the previous point.

Therefore, the rest of this thesis will continue to use the General Model, as reflected in Figure 5.48, as the basis for the segmentation analysis. Using the General Model instead of the Race Group based one, does not detract from or invalidate the purpose of this study. The objective of this study is to be as practical as is possible in the segmentation, that is Markhams' credit policy must be adhered to. Furthermore, the realities of the business issues at hand (the impact of the external environment on Markhams policies) must be taken into account in a study of this nature. Reality dictates that one must often make decisions which result in a trade-off, which in this case, the benefit of increased predictability in the statistical model could have come at a potentially very high cost; the profitability and survival of the business.

5.9 SEGMENTATION

The next stage in the process comprises the segmentation analysis of the sample. The segmentation model and theory was discussed in chapter 3, point 3.4. The segmentation is based on two main variables namely *Value* of customer, as reflected in the customer's purchases between 1996 and 1998, and on *Relative Risk* (coefficient of variation) also referred to as "Credit Utilisation Risk per unit of value".

The segmentation analysis, depicted in figure 5.58, is performed according to the following steps:

Step 1 Identify the predicted Credit Utilisation Percentage (CUP) (refer to point 5.3.7) as per the Regression Analysis - General Model (SPSS can save this variable value for each customer in the sample). The predicted CUP can not be lower than zero and can be as high as reflected in the results.

Step 2 Establish the difference between the predicted CUP and the actual CUP. Actual CUP is calculated by dividing a customer's actual purchases made between 1996 and 1998 by the Credit Limit in 1996. The resulting figure shall be known as the Risk Gap.

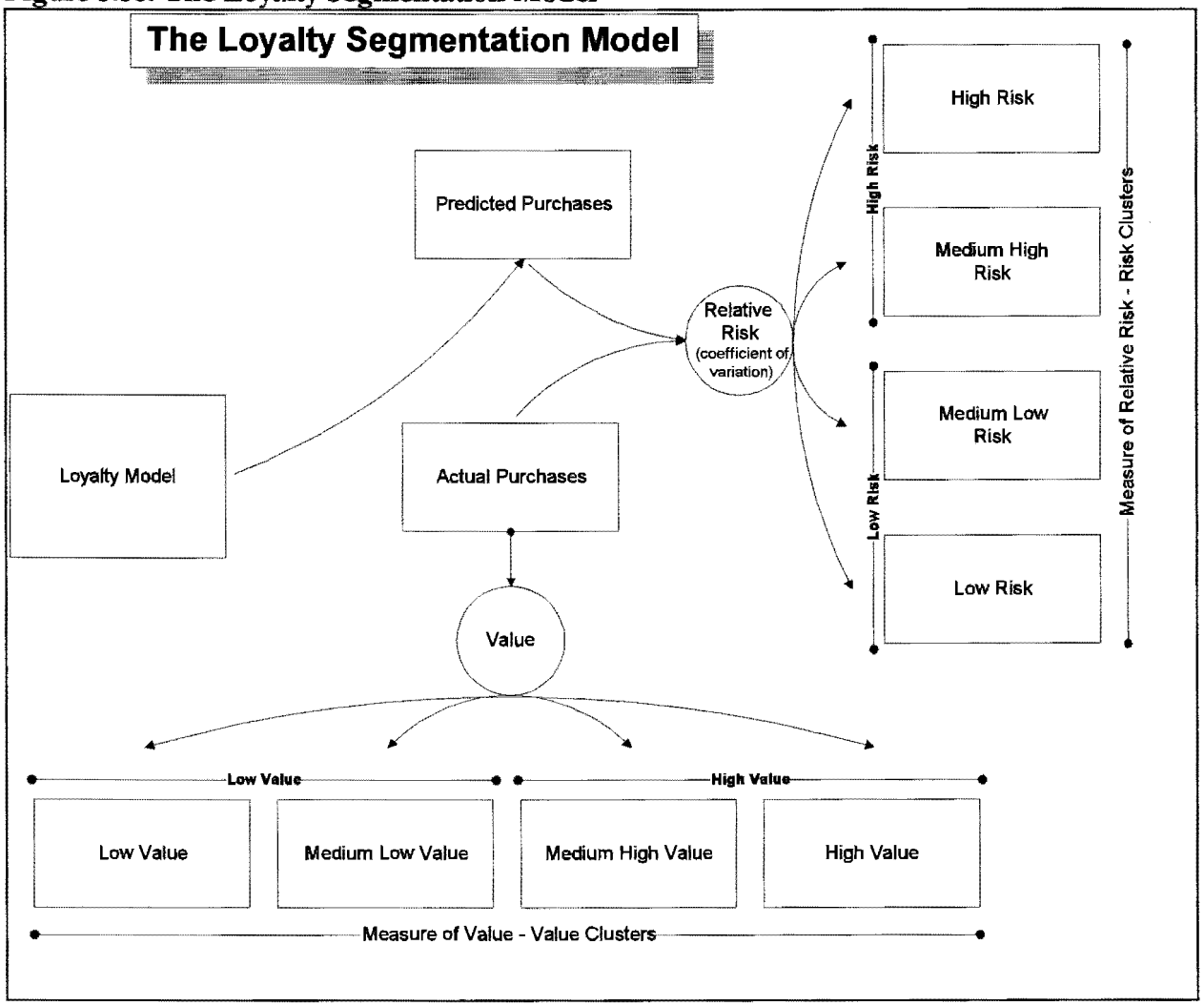
Step 3 Calculate the Relative Risk by dividing the Risk Gap by the predicted CUP.

Step 4 The relative risk for the various customers in the sample is then converted into a score value (the Risk Score). This score value is a percentage rank as calculated by the statistical package (SPSS).

Step 5 A cluster analysis is conducted on the actual CUP (Rand value). In terms of this analysis, four Macro Value segments (for the Macro segmentation) and sixteen Micro Value Segments (for the Micro segmentation) are created.

Step 6 A cluster analysis is conducted on the Risk Scores. In terms of this analysis, four Macro Risk Segments (for the Macro Segmentation) and sixteen Micro Risk Segments (for the Micro segmentation) are created.

Figure 5.58: The Loyalty Segmentation Model



Source: Own Composition

The clustering process will be considered in point 5.9.1.

5.9.1 Cluster analysis

The K-means clustering procedure was used to identify the Value and Risk clusters. This procedure attempts to identify relatively homogeneous groups of cases (SPSS Base Application Guide, 1998: 293-315). The SPSS software algorithm requires that the number

of clusters be specified up-front. Although initial cluster centers can be specified (assuming one knows what these are), the approach adopted allowed the statistical procedure to identify these centers (the procedure tries to form groups that do differ). Cluster analysis is also discussed in chapter 4, point 4.9.3.

Figure 5.59 shows the result of the risk cluster identification. The statistical package (SPSS) allows the user to save the cluster membership as a variable.

Figure 5.59: K-means Cluster: Credit Utilisation Risk per unit of value

The following are the four risk cluster centers:

Final Cluster Centers

	Cluster			
	1	2	3	4
Risk rank percentage:				
>57.3% = customer better than expected	34.71	58.89	11.37	83.07

The number of customers falling into each cluster is the following:

Number of Cases in each Cluster

Cluster	1	99.000
	2	102.000
	3	96.000
	4	119.000

Figure 5.59 shows that the four clusters have the centers on 34.71, 58.89, 11.37 and 83.09, and that the number of respondents falling into each cluster are 99, 102, 96 and 119 respectively. The clusters represent High, Medium High, Medium Low and Low levels of Risk (Credit Utilisation Risk per unit of value). These clusters are then used to establish the Micro Segments.

Figure 5.60 shows the results of the value cluster identification. The statistical package (SPSS) allows the user to save the cluster membership as a variable.

Figure 5.60: K-means Cluster: Purchases value (1998-1996)

The following are the four value cluster centers:

Final Cluster Centers

	Cluster 1	2	3	4
Purchases: LTD98-LTD96 (Max R4000)	R537	R2316	R1436	R3749

In other words, the statistical procedure identified the four cluster centers as R537, R1436, R2316 and R3749. The process to compare one period's "snap-shot" to another, must ensure that the centers (both for value clusters and for risk clusters) remain the same. After all, one is trying to measure the shift that takes place over time and it is therefore essential that the points of reference (the centers) do not change.

The number of respondents falling into each cluster is the following:

Number of Cases in each Cluster

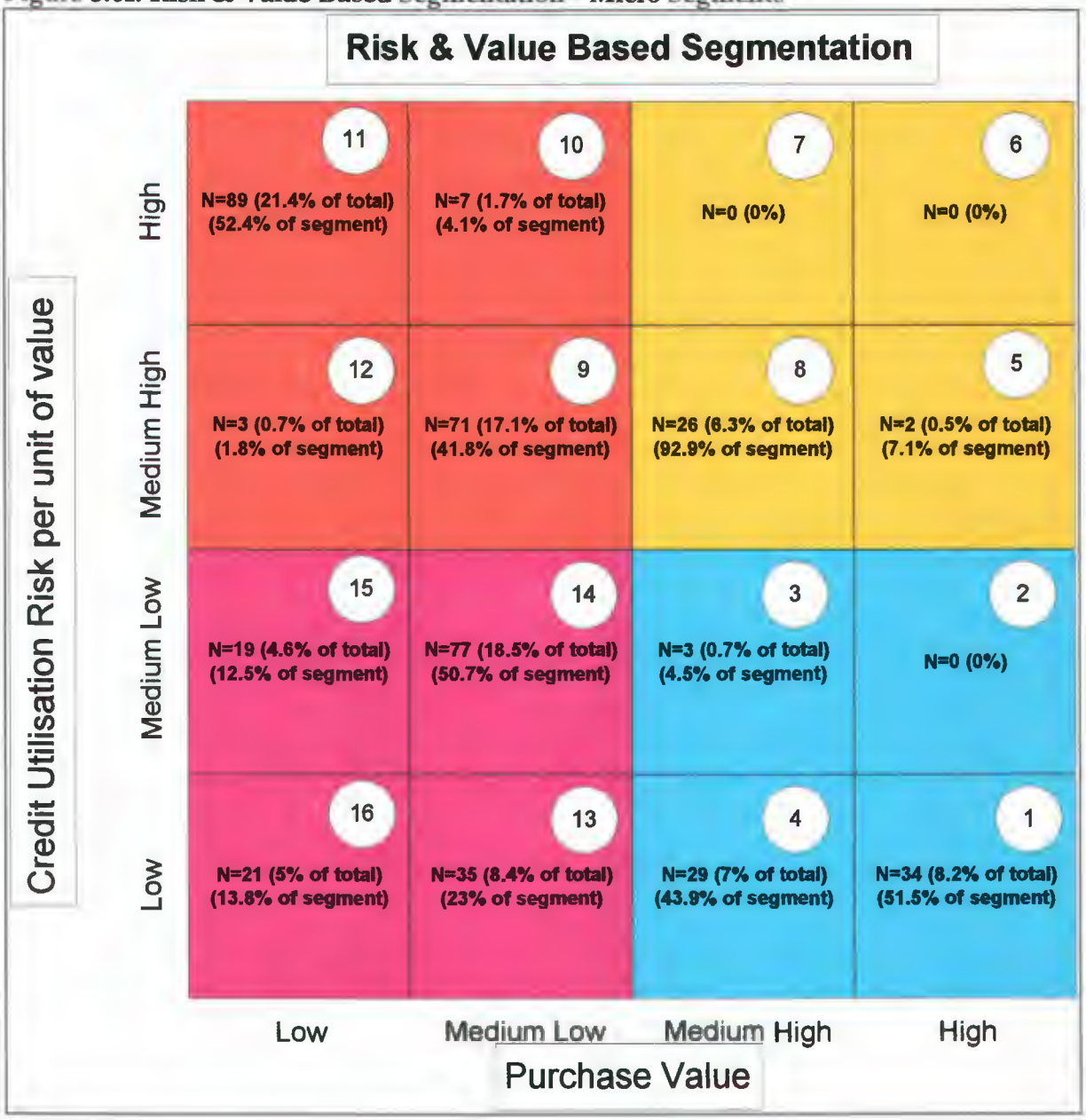
Cluster	1	132.000
	2	58.000
	3	190.000
	4	36.000

The clusters represent High, Medium High, Medium Low and Low levels of Value. These clusters are then used to establish the Micro Segments.

5.9.2 Micro segments identification

Figure 5.61 depicts the micro segments and respective numbers. For example, Micro segment 1 represents the High Value / Low Risk cluster and so on. By applying this principle across all the micro segments, the customer sample is positioned within the sixteen Micro segments. These Micro segments roll-up (sum up) into Macro segments as per figure 5.62.

Figure 5.61: Risk & Value Based Segmentation - Micro Segments



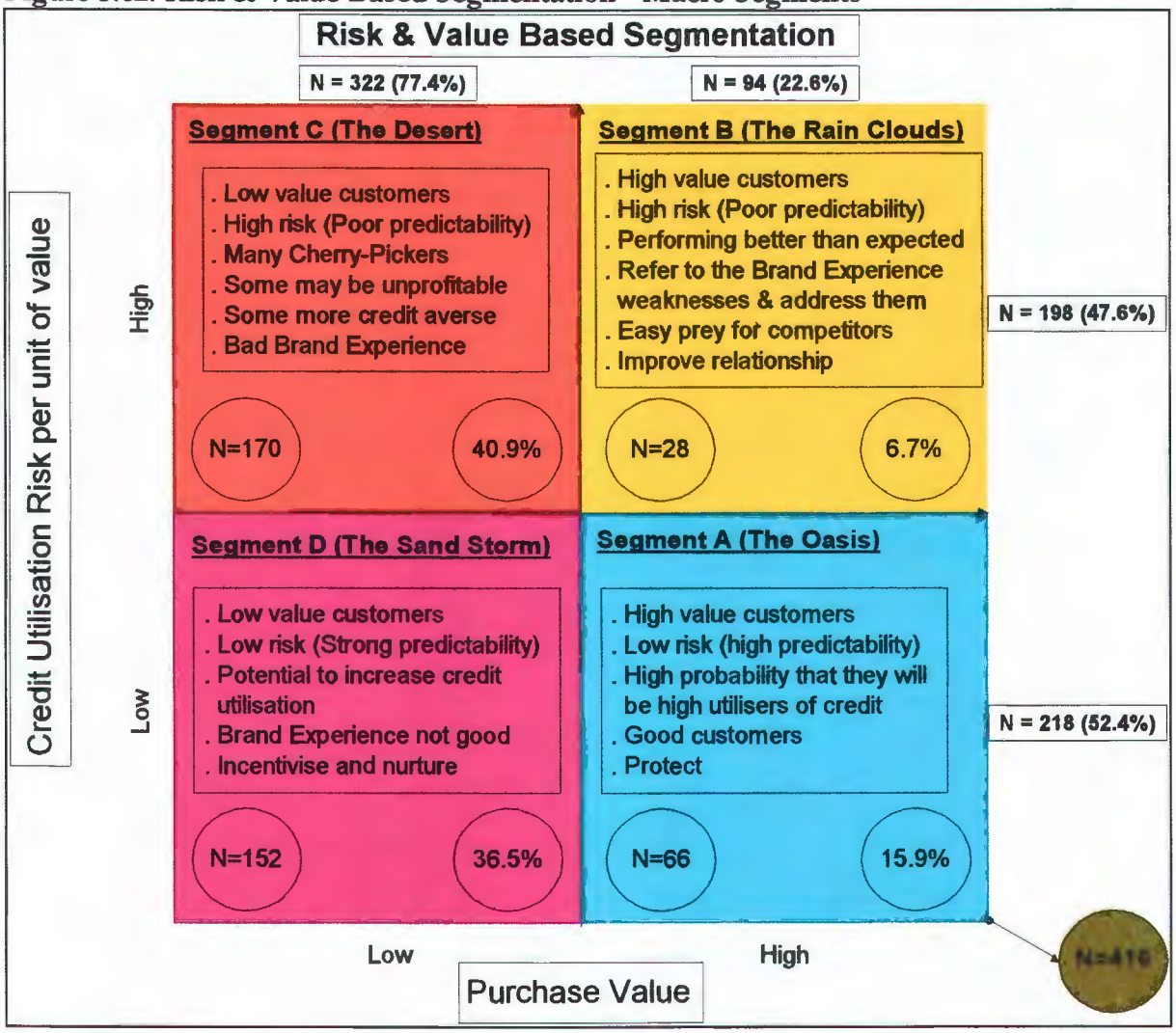
Source: Own composition

5.9.3 Macro Segments identification

The Macro segmentation process is really quite simple, in that it represents the aggregate of the various micro segments. For example, Micro segments 1,2,3 and 4 represent the Oasis Macro segment, Micro segments 5,6,7 and 8 represent the Rain Clouds Macro segment and so on.

The following is then the final picture of the Macro segmentation exercise:

Figure 5.62: Risk & Value Based Segmentation - Macro Segments



Source: Own composition

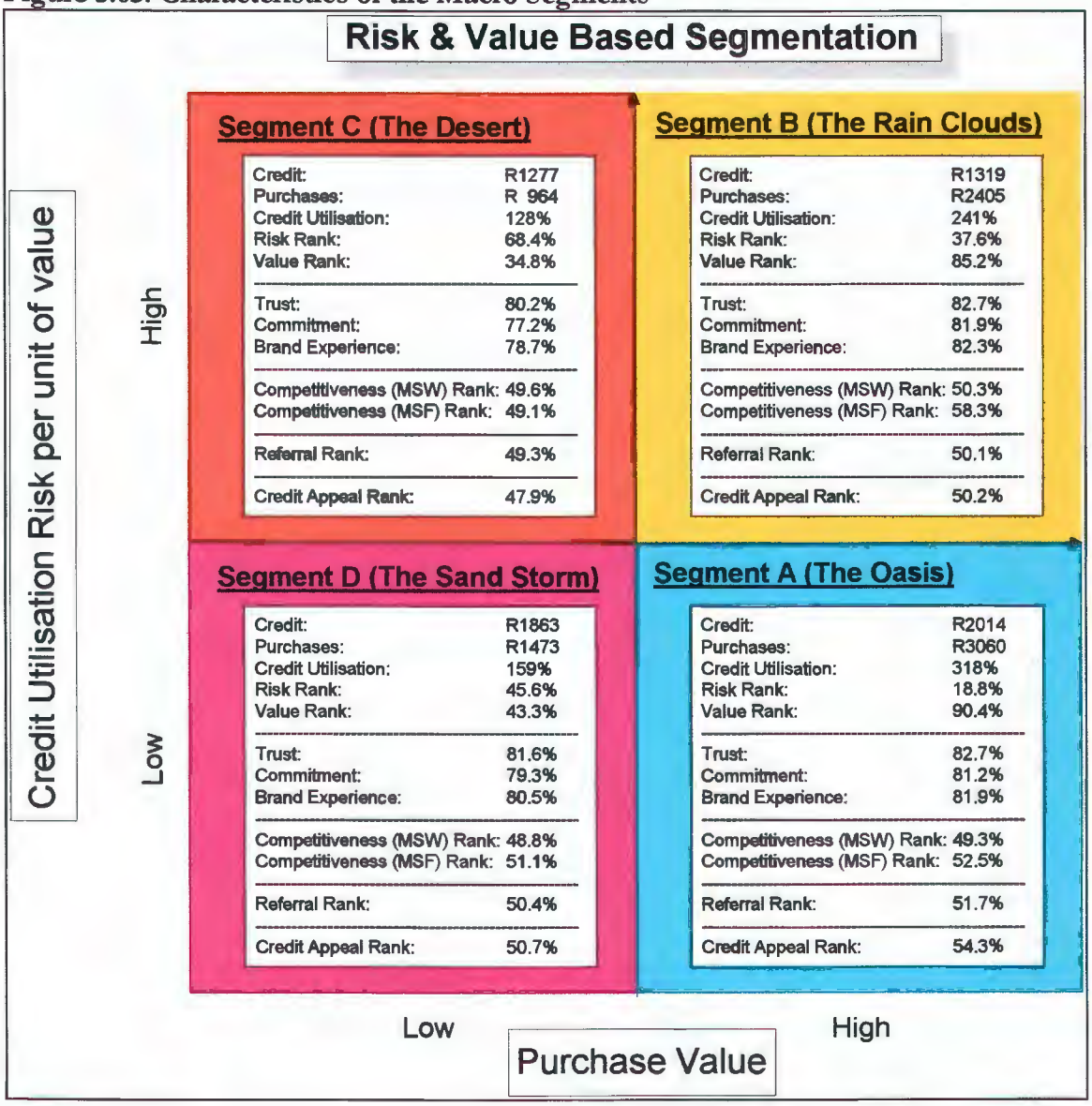
As can be seen in figure 5.62, the picture is not that rosy. Most customers (77.4%) fall into the "Sand Storm" (36.5%) or the "Desert (40.9%) segments from a value point of view. In other words, as much as 77.4% of the respondents are categorised as Low value respondents. The Oasis and the Rain Clouds segments, the high value segments, account for 22.6% of the respondents. This information should trigger warning lights in the retailer's planning sessions. Ideally one would like to see a more balanced picture, with the "Oasis" and "Rain Clouds" segments taking a greater share of the customer base from a value point of view.

As far as risk is concerned, the book seems to be balanced with a ratio of 52% (36.5%+15.9%) to 48% (40.9%+6.7%) for the Low and High risk segments respectively.

The ideal situation would be one where most of your customers would fall into the Low Risk/High Value segments, in other words customers who are of high value to Markhams and whose economic behaviour is predictable (ie.high certainty that the customer will continue to be High Value customers).

Figure 5.63 reflects the some characteristics for the different Macro Segments.

Figure 5.63: Characteristics of the Macro Segments



An overview of the characteristics of the macro segments is now presented.

- **Segment A (The Oasis)**

  Figure 5.62 indicates that the size of the "Oasis" segment is 15.9% of the total sample. This is the most valuable segment in that the actual average value of the purchases made by the respondents is the highest (R3,060) in comparison to the other segments. This segment also enjoys the highest average level of credit (R2,014). Credit Utilisation is the highest in this segment. The value rank for this segment is 90.4%, the highest for all segments and it is in line with the average purchase value of the segment.

  The Risk rank for the segment is the lowest (18.8%) when compared to the ranking of the other segments, which means that these respondents are likely to continue spending as much as they have in the past (that is, their purchase behaviour is more predictable than that of other segments).

  The Trust, Commitment and overall Brand Experience scores for this segment are on a par level with the scores for the Segment B (Rain Clouds). This is expected to be the case as both the respondents in the Rain Clouds and the Oasis segments are "heavy spenders" in relation to their respective credit limits. As in all other segments, the Trust rate is higher than the Commitment rate. The objective for the retailer is to bring the Commitment rate as close as possible to the Trust rate. It is important to watch this "Gap" in future snap-shots. The major contributor to this "Gap" could be the perception of little or no Termination Costs (this variable impacts on Commitment but not on Trust factors. The analysis did reflect a low score for Termination Costs, something Markhams needs to work on, possibly through actions like entrenching the customer in the relationship through value added services (free quarterly fashion magazine, gold cards, to name a few) or through the cross selling of lifestyle related services (eg.Insurance that covers prostate cancer, sport injuries, etc.).

  The competitiveness rank covers two angles, namely that of share-of-wallet and that of share-of-visits. The score of 49.3% and 52.5% reflects the risk that the retailer carries, that is these customers do not only shop at or visit the retailer's stores. What this means

though is that these respondents are exposed to the offer of other retailers (competitors), in fact they seem to also support the retailer's competitors - this is in effect a threat to the retailer. The retailer must strive to acquire a greater share of wallet from this segment and to protect the segment by enhancing the level of relationship with these respondents/customers. The Competitiveness rank scores also highlight that the "Oasis" segment, the most valued segment per capita, is not necessarily the one where the highest loyalty exists. In fact, the "Rain Clouds" segment sounds promising in this respect. The trick is to convert "Rain Clouds" customers into "Oasis" customers.

The referral rank score (51.7%) tells that this is the segment, in relation to the others, where the retailer can expect the highest level of referral.

As far as usage of credit is concerned, this is the segment where the respondents are more likely to use credit (score = 54.3%) when purchasing men's apparel. This is also supported by the credit utilisation score (318%).

- **Segment B (The Rain Clouds)**

  An area of concern in this segment is that of the credit limit. The Credit Limit that the average respondent has available seems to be quite low when compared to the credit limits of the Oasis and the Sand Storm segments - this is an area that needs attention - as much as 18% (11% Strongly Disagree +7% Disagree) of customers in this segment are unhappy with the credit limit, see graph 5.15. In fact this is the area where one finds the highest percentage of respondents stating that they "Strongly Disagree" (11%). A low credit limit may in fact prove to be a stumbling block to these individuals, the converse (the right credit limit) will allow these individuals to migrate to the Oasis segment. The model discussed in chapter 2, figure 2.6, "DETERMINANTS OF CREDIT PURCHASE BEHAVIOUR - APPAREL RETAILERS", also supports this view when it confirms that credit is an essential component in purchase behaviour. It is important that the retailer optimises the level of credit (and credit granting risk) allowed to these individuals.

Graph 5.19, illustrates that this segment attracts the largest percentage of young people, that is those in the 20 to 29 age group (29% + 39% = 68%). This is probably one of the reasons why the credit limit is lower than desired by the customer. These young people, particularly in the 20-24 age group, are probably individuals who have lower salaries, no credit records and some other characteristics that impact negatively on the perceived level of credit risk, hence the lower credit limits.

Despite the relatively lower credit limits, these individuals continue to be a source of value to the retailer, with a average purchase value of R2,405 out of an average credit limit of R1,319. Credit utilisation is recorded at an healthy 241%, second only to the Oasis segment.

The other characteristic that is particularly interesting for this segment is that of Brand Experience. These individuals have the highest rank in terms of Brand Experience (82.3%) in relation to the other segments. This shows that these individuals are relatively positive about the Brand Experience and can only respond well to invitation to do business, that is the right credit limit, the right incentives to purchase (a discount offer valid for a specific time period) and a lot of communication about the latest merchandise, to name a few.

It is also interesting to note that this is where the retailer has the highest share-of-wallet and store visits. The bottom line is quite simple, customers in this segment are practically shouting....."I'M ALL YOURS - JUST TAKE ME!".

- **Segment C (The Desert)**

  This is the lowest value, highest risk segment and accounts for as much as 40.9% of the respondents in the sample. This segment has a very important role to play in the business cycle of the retailer. These are the individuals who love sales and probably only buy on sales. These are the individuals whose role is to "clean up" after each season, when the major sales take place.

It also true that some of these individuals are probably contributing marginal or no profit to the retailer. It is possible that some of these individuals may be showing a trading loss after all attributable expenses (cost of holding their records on the computer, cost of mailings, brochures and other customer related expenses) are accounted for.

The biggest risk that exists with this segment, is that the demand for goods that it generates is artificial, that is the customer buys the garment because it is heavily discounted ("saving") and not necessarily because the customer loves the fashion/style of the garment. The Buying and Planning department of the retailer must take cognisance of this fact, otherwise it will continue to order the same "fashion/style", due to the demand caused by the segment, and which only this segment's customers are prepared to buy (but only at a huge discount).

The objective for the retailer with respect to this segment is to minimise its costs and investment. For example, this cost saving could take the form of fewer less expensive brochures to these customers, perhaps a cheap leaflet announcing the end of season sale will do as a form of communication.

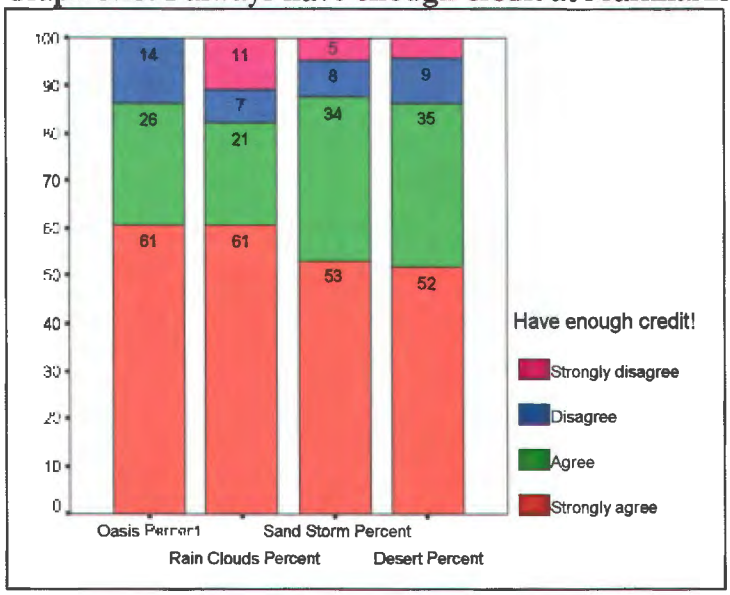
- **Segment D (The Sand Storm)**

  This segment account for 36.5% of the respondents in the sample, see figure 5.62. This is a low value, low risk segment, that is they spend relatively less than the Rain Clouds and Oasis segment and are likely to continue to do so in the future. It is in both this segment and the Desert that one finds the highest percentage of respondents that feel that they have enough credit, see graph 5.15. Interestingly enough, it is in these two segments that one finds the most females, see graph 5.16.

  There is no doubt that individuals in this group have considerable potential to become heavier users of credit. Only 13% (8%+5%), see graph 5.15, are unhappy with the credit that they have. The retailer will have to innovate in order to bring these individuals into the store more often, perhaps the way is to make them feel special by sending them a pre-season fashion magazine that introduces the new fashions. Note that as much as

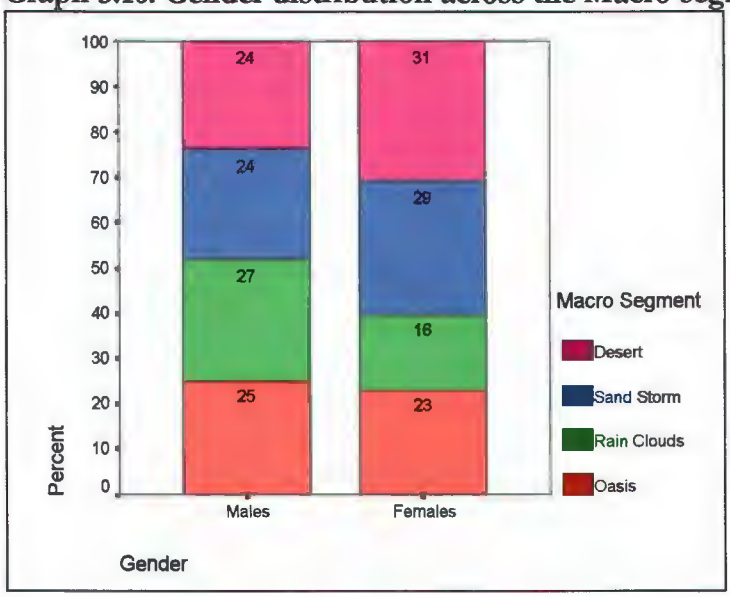
29% of the female respondents (graph 5.16) fall into this group, perhaps the fashion message to these account holders should focus more on the needs of woman to be seen with well dressed partners.

Graph 5.15: I always have enough credit at Markhams (Question 21)



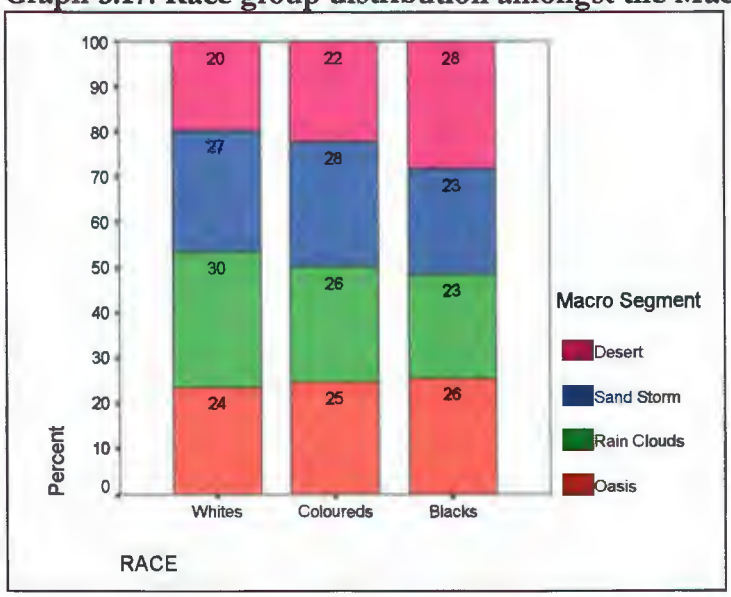
Graph 5.15 shows the Oasis and Rain Clouds segments are the segments with the most "strongly agree" response to the question of whether the respondent always has enough credit at Markhams. It is interesting that there is no respondent in the Oasis segment who "strongly disagrees" with the question. Another important point is that the highest percentage of "strongly disagree" comes from the Rain Clouds segment, denoting the fact that these individuals are hungry for credit. The 14% of respondents in the Oasis segment who "disagree" with the statement represent individuals who could migrate to the competition if their credit needs are not addressed, these are the most vulnerable individuals in the Oasis segment to offers from the competition.

Graph 5.16: Gender distribution across the Macro segments



Graph 5.16 shows that a relatively larger proportion of females falls into the "Desert" segment (31%) versus only 24% of the males. The converse applies within the "Rain Clouds" segment where 27% of males and only 16% of females fall in this segment. This is relatively positive picture.

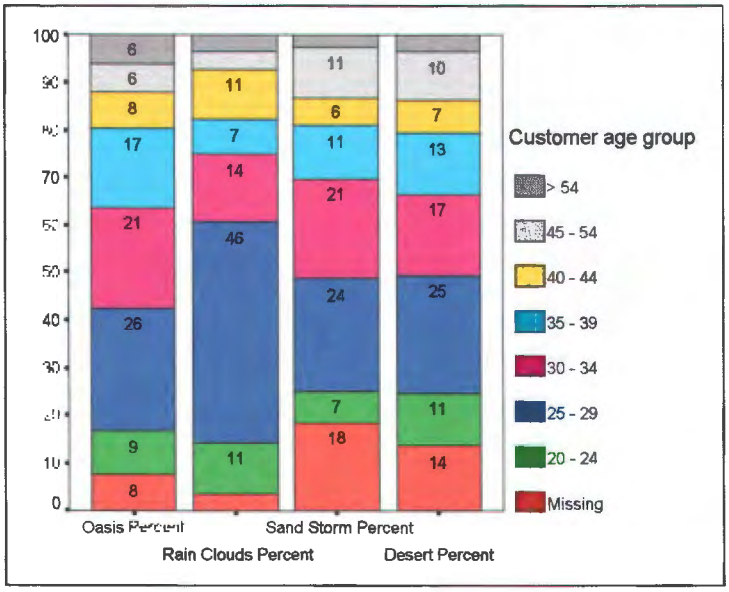
Graph 5.17: Race group distribution amongst the Macro segments



Graph 5.17, shows that a larger proportion of the White race group falls within the "Rain Clouds" segment than that of the Black race group. The White race group is strongest within the "Rain Clouds" segment, closely followed by the "Sand Storm". The Black race

group is particularly high within the "Desert" segment, this could possibly indicate a lack of parity between disposable income and aspirations of this group.

Graph 5.18: Age group make-up by Segment



Graph 5.18 shows that the Oasis segment comprises mainly (64%) customers between 25 to 39, with the largest group representing those respondents between the ages of 25 to 29 years of age. The Rain Clouds segment is dominated (46%) by individuals within the 25 to 29 years of age group.

It is interesting to note in graph 5.19 that those individuals on whom the age is missing, fall mainly (74%) into the Sand Storm and Desert segments, segments characteristically reflecting "poor" Brand Experience. Although the > 54 age group is small, it seems that the "remaining" customers in this age group are quite loyal.

Graph 5.19: Macro segments by age group

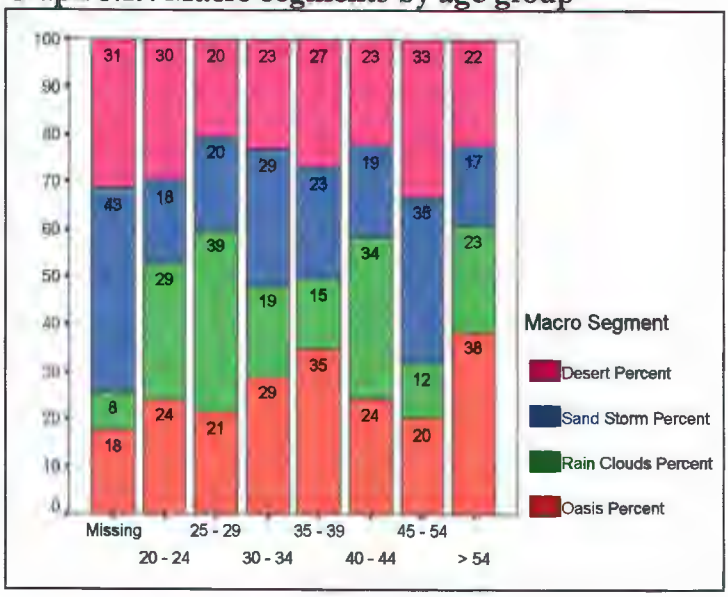


Figure 5.64, reflects the respondents' Brand Experience (Questions 1 to 21) mean scores for the single issues/items reported by the various Macro Segments.

Figure 5.64: Mean scores for Questions 1 to 21 by Macro segment

Case Summaries

Mean

	Macro Segment				
	Oasis	Rain Clouds	Sand Storm	Desert	Total
Markhams my kind of store (value/quality/fashion) - SV	1.41	1.39	1.43	1.47	1.44
Markhams in "Class of its own" - value/quality/fashion - TC	1.39	1.43	1.53	1.58	1.52
Markhams account important to me when I buy clothes - RB	1.35	1.32	1.39	1.50	1.43
Treated as important customer - SV	1.45	1.57	1.58	1.52	1.54
If not Markhams account, big problem/hassle to open account elsewhere - TC	2.44	1.86	2.24	2.34	2.29
Costly to open account - card fees and rates - TC	2.27	2.04	2.23	2.28	2.25
Advertises, promotes new fashions, sales, specials well - Com	1.53	1.50	1.51	1.52	1.52
Statement easy to understand - Com	1.29	1.36	1.37	1.33	1.34
Offers more benefits than competitors - RB	1.82	1.86	1.74	1.89	1.82
Attractive store layout - Com	1.59	1.43	1.53	1.64	1.58
Markhams handles account fairly & just manner - OB	1.44	1.32	1.54	1.56	1.52
I always pay full instalment - Acq	1.32	1.36	1.61	1.65	1.56
I always pay Account on time - Acq	1.45	1.36	1.59	1.72	1.61
See myself buying from Markhams in future - PL	1.39	1.50	1.49	1.51	1.48
Will use Account within 6 months - PL	1.35	1.43	1.44	1.51	1.45
Store would take returned goods without problems - CO	1.41	1.50	1.43	1.59	1.50
Problems with account - Markhams understands/helps me - CO	1.62	1.64	1.65	1.65	1.65
Problem with account would be sorted out - FC	1.53	1.54	1.57	1.61	1.58
Markhams would listen to my advice - FC	2.02	2.07	1.93	2.01	1.99
Markhams offers me kind of clothes I want - Unc	1.48	1.36	1.45	1.55	1.49
I always have enough Credit at Markhams - Unc	1.53	1.68	1.64	1.66	1.63

Figure 5.64, paints an interesting picture, the yellow highlights denote a positive feature (More "Agreeable") and the purple highlights denote areas of concern (Less "Agreeable"). As expected, most of the positives fall within the "Oasis" or "Rain Clouds" segments, whilst most of the negatives fall within the "Desert" and "Sand Storm" segments.

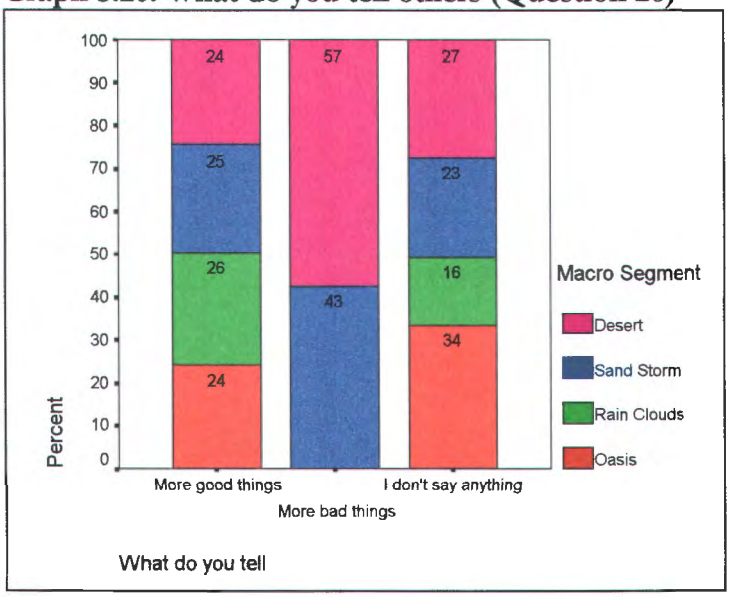
A word of warning with regards to customers in the Oasis segment is that they generally disagree with the following statement "If not Markhams account, big problem/hassle to open account elsewhere (Termination Costs)". Fortunately, this is also the segment that most agrees with "seeing myself buying from Markhams in the future".

As far as the "Rain Clouds" segment is concerned, there is a relatively negative perception with regard to "I always have enough credit at Markhams". Also, the relative mean score for

the perception regarding "See myself buying from Markhams in the future" is disconcerting and requires further analysis on the part of Markhams.

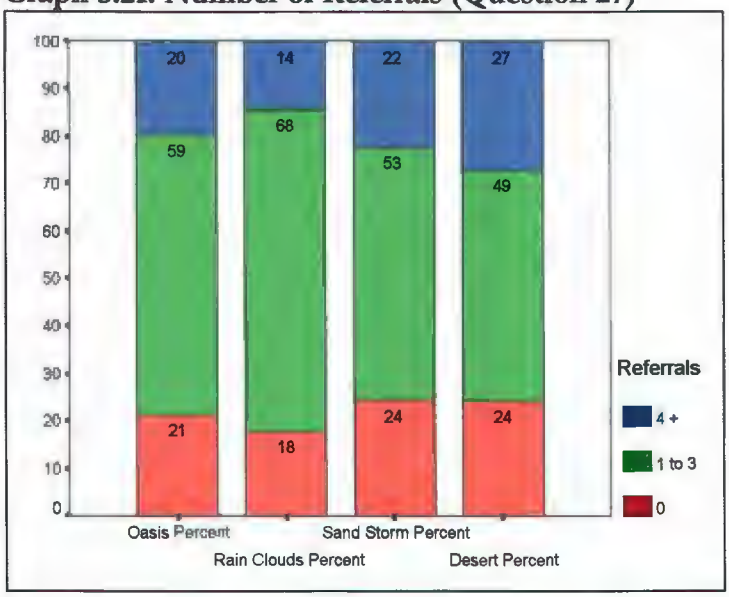
As far as the Referral model is concerned, customers in the Desert segment are likely to "Say more bad things than good" about Markhams than customers in any other segment, see graph 5.20. In fact, negative word-of-mouth marketing is likely to only come from the Sand Storm and Desert segments.

Graph 5.20: What do you tell others (Question 26)



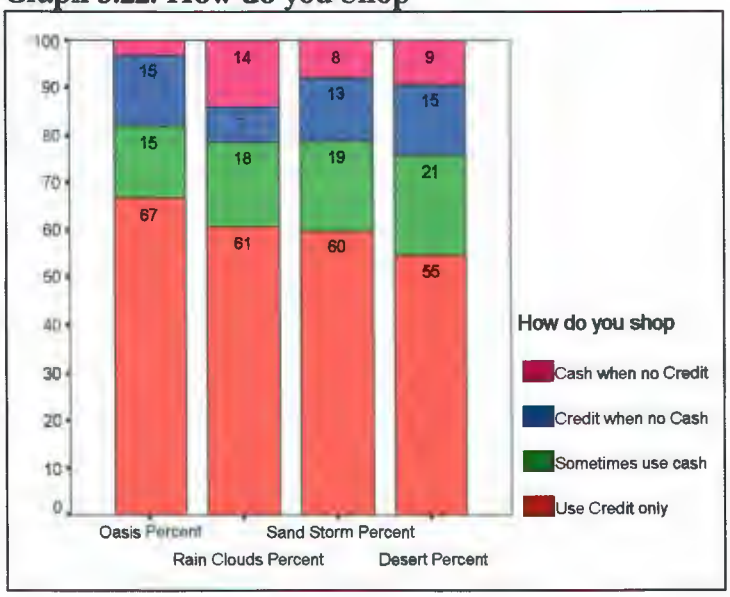
Graph 5.21 illustrates that the Rain Clouds segment is most likely to refer the Markhams Brand to 1 - 3 other persons.

Graph 5.21: Number of Referrals (Question 27)



Graph 5.22 illustrates that the Oasis segment is the one where customers are more inclined to use Credit. The Rain Cloud segment is likely to revert to cash when credit limits are fully utilised, however they sometimes use cash for their purchases. The Rain Cloud segment primary means of purchase is credit. Customers in the Desert segment are, relatively speaking, most prone to use cash, this is likely to be the result of not having adequate credit limits.

Graph 5.22: How do you Shop



Note that some of the strategies/tactics that can be applied to the management of the various segments are discussed in chapter 3. Furthermore, all of the above analysis can be conducted on a Micro Segment basis in the same way as reported for the Macro segments.

However, the real purpose of the Micro segments is twofold. *Firstly*, it allows the retailer a better understanding of the Macro Segments and *secondly*, it gives the retailer more insight in order that he may make the right customer investment decisions (for example marketing spend), that is where to invest so that returns are optimised.

Figure 5.61, for example, shows that within the Oasis Segment, as much as 51.5% of the segment rests in Micro segment 1, the one with the highest value and lower risk (more predictable, that is these customers are as solid as rocks, it will take a lot of resources for the competition to get hold of them). Micro segment 3, figure 5.61, also shows that 4.5 % of the segment is on the fence, that is they are the less valuable customers of the Oasis segment and more risky. It is interesting to note that The Rain Clouds macro segment, comprises mainly micro segments 8 and 5, that is customers who are on the verge of falling into the Oasis macro segment - it should not take much to bring them across to the Oasis segment (that is increase their value of spending at the retailer). The worst situation is that of the Desert Macro segment, where 52.4% of the Desert Segment customers fall into micro segment 11, figure 5.61, the lowest value, highest risk micro segment. These individuals are probably too costly to maintain in the retailers' books. Micro segment 9, in the Desert Macro segment, are individuals who are on the verge of coming through into the Sand Storm segment and the retailer ensure that the effort, economic and otherwise, is worth the end result.

Micro Segments were explained in chapter 3, point 3.6.

5.10 TARGETING THE VARIOUS SEGMENTS

Segmentation of the research sample into Macro and Micro segments does indeed provide a Loyalty snap-shot of the customer database, and when the snap-shot is compared with similar analysis from prior periods, then one begins to see a Loyalty (or converse) pattern evolving over time. The snap-shot also allows the retailer understand the characteristics of

the various segments. Where necessary the picture may be more focused/better understood by going deeper into the Micro level. Markhams is, through this analysis, able to change generic strategy.

However, where it comes to implementing actions on a one-to-one basis, that is through the application of specific strategies or tactics to the individual customers or segment of customers, one is stumped by the fact that not all customers (in fact only a few exist in a sample research), are invited to participate in the research. Furthermore, the cost and timing of research of this nature proves to be a constraint when it comes to large databases such as that of the retailer. Companies simply cannot interview every one of its thousands of customers. These constraints make it almost impossible to say which customers in the total database fall into each segment.

The solution to the problem lies in the identification and classification of specific segment characteristics/attributes (variables) in the research sample, allowing for differentiation between the various Macro Segments. The sample variables used in this part of the analysis must correspond to variables which can be found in the retailer's database (the target population), for example, if gender is a variable that is found in both the sample data and in the retailers' database/population, then this variable is suitable for the analysis. The objective is to try and define the various Macro Segments in terms of common variables so that they may be used to segment the retailer's population (the database).

This procedure will allow Markhams to segment its database and therefore differentiate between the various customers in terms of the macro segments discussed previously. However, an element of risk through possible misclassification which is quantifiable, is inherent in this approach and this will be discussed later.

The statistical procedure adopted by this study to identify characteristics in the Macro Segments, as per the sample data, is either Chi-squared Automatic Interaction Detection (Chaid) or Classification and Regression Trees (C&RT), refer to chapter 4, point 4.9.3. The final methodology to be applied will be the one which provides the highest reliability in

characteristic identification (that is higher probability that results can be duplicated in a similar procedure applied across the population).

Figure 5.65 lists the variables which are common (or calculated from existing variables) in both the Markhams research sample and the Markhams database population.

Figure 5.65: Variables common to the Database and Research Sample

Item	Variable Description	Variable Name in Statistical Package
1	Gender	Gender
2	Race	Race
3	Age Group	Agegrpb
4	Credit Limit in Oct.1996 (Date when Research was initiated)	Crlmt96
5	Life-to-date (Oct.96) Purchases	Ltdpur0
6	Life-to-date (Oct.96) Purchases as % of Credit Limit in Oct.96	Ltd0pct
7	Purchases between Oct.96 and Oct.98 (Period of research)	Purdif
8	Purchases between Oct.96 and Oct.98 as % of Credit Limit in Oct.96	Pctcrlmt
9	Months customer has been on the books	Period

5.10.1 Classification and Regression Tree Analysis (C&RT)

The analysis uses the variables in figure 5.65 as inputs into the classification procedure. The method, a procedure in the SPSS's Answer Tree software package, will automatically select/identify those variables that discriminate between segment groups (the Target Variable), all other variables are automatically discarded.

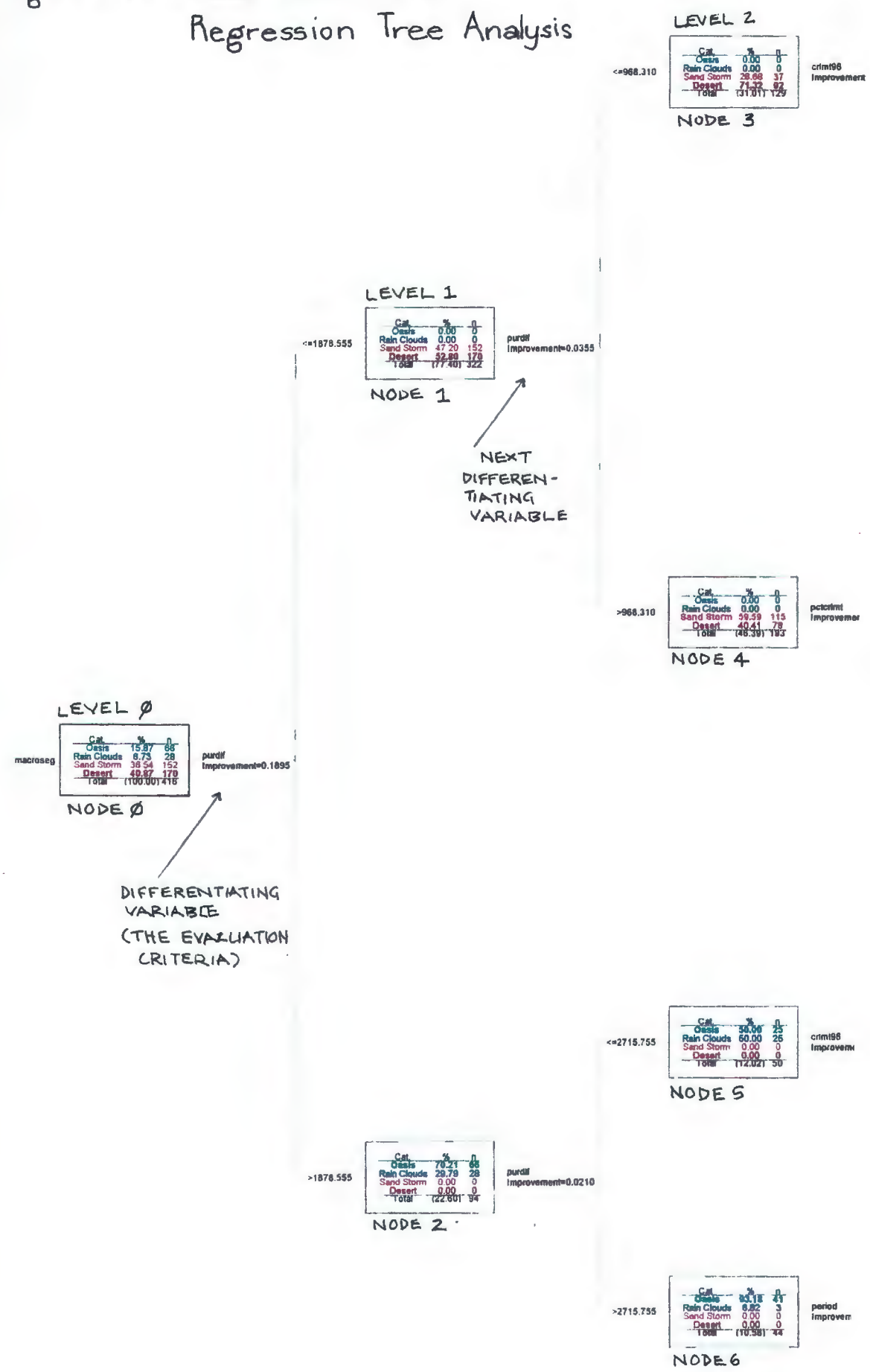
Figure 5.66, reflects the graphic display of the result of the analysis (C&RT). The depth of the tree is 5 levels. Level 0 corresponds to the "target" variable, that is the variable that is

being investigated, in this case node Zero, comprises the four Macro Segments, Oasis with 66 respondents (15.87%), Rain Clouds with 28 respondents (6.73%), Sand Storm with 152 respondents (36.54%) and Desert with 170 respondents (40.87%), all the respondents add up to 416 (100%). Note insert on figure 5.66, at the bottom right hand side, each block is a node and it has a number for ease of reference.

Figure 5.66 indicates that in "Level 1" the tree splits into two significant branches. The variable that differentiates between these two branches is the "Purchase difference between 1996 and 1998" (Purdif) variable. The C&RT algorithm reports the relative importance of a node split by using decrease in impurity, or improvement as an evaluation criterion. In the first split of the Macro Segments, the improvement is reported as 0.1895 (or 18.95%). Node 1 is defined by those cases with a Purdif <=R1,878.55, whilst Node 2 relates to those cases with a Purchase Difference >R1,878.55.

According to figure 5.66, Node 1 is composed entirely of the low value segments (Sand Storm and Desert) and contains all of the cases of those segments. Node 2 contains the high value segments (Oasis and Rain Clouds), once again all the cases (respondents) in these two segments are accounted for in node 2. Node 2 is split using the "Purchase Difference between 1996 and 1998" (Purdif) variable once again, and the improvement is reported as 0.0210, or 2.10%. The two child nodes of node 2 , node 5 and node 6, are split between those cases with Purdif greater than R2,715.75 (node 6), and those cases with Purdif equal to and lower than R2,715.75 (node 5). Node 6 is split into 2 nodes (13 and 14) and the variable used for the split is "Months customer has been in the books" (Period). Those who have been in the books (ie. the period customers have had accounts with the retailer) for longer than 69.5 months (3 respondents) go through to node 14 and those whose Period is lower or equal to 69.5 months (41 respondents) go through to node 13. Node 14 has been defined as a terminal node, that is, it is not possible to split this node and improve the performance of the tree. The same process, as described above is applied to the rest of the tree.

Figure 5.66: Classification and Regression Tree Analysis



A major issue that the retailer has to keep in mind in this type of modeling, is the risk of misclassification. Figure 5.67 depicts the Misclassification Matrix. This matrix allows the retailer to see how well the model does at predicting the various segments when extrapolated to the database. The risk estimate gives the proportion of cases classified incorrectly. The matrix indicates that the model produced will result in a 0.170673 or 17.06% misclassification, that is the procedure managed to get 82.94% (100%-17.06%) of the cases segmented the into the right macro segments. For example, four of those falling into the Oasis segment will be classified as Rain Clouds, twenty four cases of the Sand Storm segment will be classified as cases in the Desert segment, and so on. In all, the risk of misclassification is the sum of 4+4+24+39=71 or 17.06% of cases, which represents a 17.06% misclassification (71/416X100). However, it is important to mention that the model does a very good job at differentiating between the "positives" (Oasis and Rain Clouds) on the one hand, and the "less positive" (Desert and Sand Storm) on the other.

Figure 5.67: Misclassification Matrix

		Actual Category				
		Oasis	**Rain Clouds**	**Sand Storm**	**Desert**	**total**
	Oasis	62	4	0	0	66
	Rain Clouds	4	24	0	0	28
Predicted Category	**Sand Storm**	0	0	128	39	167
	Desert	0	0	24	131	155
	Total	66	28	152	170	**416**
		Re-substitution				
	Risk Estimate	0.170673				
	Standard Error of Risk Estimate	0.01834459				

The number of levels analysed, in this case the procedure analysed the tree down five levels, has an impact on the Risk Estimate. For example if the tree had grown down to eight levels, instead of the five, the Risk Estimate would have been 12.74%. The trade-off is that sixty six nodes would have resulted, instead of the thirty four nodes that exist with five levels (interpretation complexity increases with sixty six nodes). The retailer will have to take into account the strategic or tactical objectives that are about to be implemented, before deciding on the degree of accuracy in predicting segment membership for the retailer's population.

The gain summary (figures 5.68 to 5.71) can also provide useful insight into the tree analysis.

The gain summary shows which nodes have the highest and lowest proportions of a target category within the node. In this case, figure 5.68, the retailer wants to know which subsets of applicants (nodes) are most likely to be Sand Storm segment cases.

In figure 5.68 the first column gives the node number, which corresponds to the numbers found in the tree map. For example, node 27 (on the right hand side of the tree) corresponds to customers who belong to Age Group 6 or lower, that is they are younger than 55 years of age, AND LTD0PCT (Life to Date (to Oct.1996) Purchases as a % Credit Limit in Oct.96) > 0.714 AND whose CRLMT96 (Credit Limit in 1996) is >R2,440 AND whose PURDIF (Purchase Difference between 1996 and 1998) is <= R968.31. The next two columns (node: n and node: %) show the number of cases and the percentage of all cases that are in the node. The next two columns (Resp: n and Resp: %) present the number of cases with the target response and the percentage of all of the target responses that are in this node. For example, this represents the number of people in the node within the Sand Storm segment and the percentage of all the people within the Sand Storm segment who fall in this node. The Gain column (Gain (%)) indicates the proportion of cases in the node that have the target response (Segment Sand Storm), and the Index column (Index %) gives a measure of how the number of target responses in this node compares to that for the entire sample. For the Sand Storm segment, node 27 has a few cases belonging to the Desert segment, thus showing a gain value of 85.71429%. Since 85.71% is just over twice the percentage of Sand Storm segment cases in the entire sample (36.54% - see node 0), the gain index is 234.58647%. Clearly, these are the cases that the retailer would want to seek out when implementing a tactic or strategy aimed at the Sand Storm segment.

The same kind of analytical approach must be used for gains tables for the various macro segments. The macro segments and specific nodes one targets is dependent on the strategic or tactical objectives in mind.

Figure 5.68: Gain Summary for the Sand Storm Macro Segment

Gain Summary						
Target Variable: Macro Segments			**Target Category: Sand Storm**			
Node	Node: n	Node: %	Resp: n	Resp: %	Gain (%)	Index (%)
27	21	5.05	18	11.84	85.71429	234.58647
16	10	2.40	8	5.26	80.00000	218.94737
31	14	3.37	11	7.24	78.57143	215.03759
30	116	27.88	87	57.24	75.00000	205.26316
26	6	1.44	4	2.63	66.66667	182.45614
28	9	2.16	4	2.63	44.44444	121.63743
29	8	1.92	3	1.97	37.50000	102.63158
32	41	9.86	14	9.21	34.14634	93.45315
25	79	18.99	3	1.97	3.79747	10.39307
13	41	9.86	0	0.00	0.00000	0.00000
33	22	5.29	0	0.00	0.00000	0.00000
23	16	3.85	0	0.00	0.00000	0.00000
10	14	3.37	0	0.00	0.00000	0.00000
34	5	1.20	0	0.00	0.00000	0.00000
17	4	0.96	0	0.00	0.00000	0.00000
22	4	0.96	0	0.00	0.00000	0.00000
14	3	0.72	0	0.00	0.00000	0.00000
24	3	0.72	0	0.00	0.00000	0.00000

Node = Number of node. **Node: n** = Number of customers falling within node. **Node (%)** = Node: n as % of total sample (416). **Resp.(n)** = Number of target specific customers in node. **Resp.(%)** = Resp.(n) as % total customers within target category. **Gain (%)** = % of cases in mode that have target category. **Index(%)** =Target customers make-up of mode compared to make-up of entire sample. Index(%) below 100 reflect lower than average number within node.

Figure 5.69: Gain Summary for the Desert Macro Segment

Gain Summary						
Target Variable: Macro Segment Target Category: Desert						
Node	Node: n	Node: %	Resp: n	Resp: %	Gain (%)	Index (%)
10	14	3.37	14	8.24	100.00000	244.70588
17	4	0.96	4	2.35	100.00000	244.70588
25	79	18.99	76	44.71	96.20253	235.41325
32	41	9.86	27	15.88	65.85366	161.14778
29	8	1.92	5	2.94	62.50000	152.94118
28	9	2.16	5	2.94	55.55556	135.94771
26	6	1.44	2	1.18	33.33333	81.56863
30	116	27.88	29	17.06	25.00000	61.17647
31	14	3.37	3	1.76	21.42857	52.43697
16	10	2.40	2	1.18	20.00000	48.94118
27	21	5.05	3	1.76	14.28571	34.95798
13	41	9.86	0	0.00	0.00000	0.00000
33	22	5.29	0	0.00	0.00000	0.00000
23	16	3.85	0	0.00	0.00000	0.00000
34	5	1.20	0	0.00	0.00000	0.00000
22	4	0.96	0	0.00	0.00000	0.00000
14	3	0.72	0	0.00	0.00000	0.00000
24	3	0.72	0	0.00	0.00000	0.00000

Node = Number of node (see figure . **Node: n** = Number of customers falling within node. **Node (%)** = Node: n as % of total sample (416). **Resp.(n)** = Number of target specific customers in node. **Resp.(%)** = Resp.(n) as % total customers within target category. **Gain (%)** = % of cases in mode that have target category. **Index(%)** =Target customers make-up of mode compared to make-up of entire sample. Index(%) below 100 reflect lower than average number within node.

Figure 5.70: Gain Summary for the Rain Clouds Macro Segment

Gain Summary						
Target Variable: Macro Segments				**Target Category: Rain Clouds**		
Node	Node: n	Node: %	Resp: n	Resp: %	Gain (%)	Index (%)
33	22	5.29	20	71.43	90.90909	1350.64935
24	3	0.72	2	7.14	66.66667	990.47619
14	3	0.72	2	7.14	66.66667	990.47619
34	5	1.20	2	7.14	40.00000	594.28571
23	16	3.85	1	3.57	6.25000	92.85714
13	41	9.86	1	3.57	2.43902	36.23693
30	116	27.88	0	0.00	0.00000	0.00000
25	79	18.99	0	0.00	0.00000	0.00000
32	41	9.86	0	0.00	0.00000	0.00000
27	21	5.05	0	0.00	0.00000	0.00000
10	14	3.37	0	0.00	0.00000	0.00000
31	14	3.37	0	0.00	0.00000	0.00000
16	10	2.40	0	0.00	0.00000	0.00000
28	9	2.16	0	0.00	0.00000	0.00000
29	8	1.92	0	0.00	0.00000	0.00000
26	6	1.44	0	0.00	0.00000	0.00000
17	4	0.96	0	0.00	0.00000	0.00000
22	4	0.96	0	0.00	0.00000	0.00000

Node = Number of node. **Node: n** = Number of customers falling within node. **Node (%)** = Node: n as % of total sample (416). **Resp.(n)** = Number of target specific customers in node. **Resp.(%)** = Resp.(n) as % total customers within target category. **Gain (%)** = % of cases in mode that have target category. **Index(%)** =Target customers make-up of mode compared to make-up of entire sample. Index(%) below 100 reflect lower than average number within node.

Figure 5.71: Gain Summary for the Oasis Macro Segment

Gain Summary						
Target Variable: Macro Segments Target Category: Oasis						
Node	Node: n	Node: %	Resp: n	Resp: %	Gain (%)	Index (%)
22	4	0.96	4	6.06	100.00000	630.30303
13	41	9.86	40	60.61	97.56098	614.92979
23	16	3.85	15	22.73	93.75000	590.90909
34	5	1.20	3	4.55	60.00000	378.18182
14	3	0.72	1	1.52	33.33333	210.10101
24	3	0.72	1	1.52	33.33333	210.10101
33	22	5.29	2	3.03	9.09091	57.30028
30	116	27.88	0	0.00	0.00000	0.00000
25	79	18.99	0	0.00	0.00000	0.00000
32	41	9.86	0	0.00	0.00000	0.00000
27	21	5.05	0	0.00	0.00000	0.00000
31	14	3.37	0	0.00	0.00000	0.00000
10	14	3.37	0	0.00	0.00000	0.00000
16	10	2.40	0	0.00	0.00000	0.00000
28	9	2.16	0	0.00	0.00000	0.00000
29	8	1.92	0	0.00	0.00000	0.00000
26	6	1.44	0	0.00	0.00000	0.00000
17	4	0.96	0	0.00	0.00000	0.00000

Node = Number of node. **Node: n** = Number of customers falling within node. **Node (%)** = Node: n as % of total sample (416) **Resp.(n)** = Number of target specific customers in node. **Resp.(%)** = Resp.(n) as % total customers within target category. **Gain (%)** = % of cases in mode that have target category. **Index(%)** =Target customers make-up of mode compared to make-up of entire sample. Eg. (62.21/15.87) X 100. Index(%) below 100 reflect lower than average number within node.

Assuming as an example, that the retailer has decided to apply a specific tactic to customers falling within the Sand Storm segment and that part of this tactic implies targeting customers falling within node 27. Why 27? One of the reasons could be due to limited financial resources and the fact that the budget can reach all the customers fitting the description of node 27. In this way the highest possible number of Sand Storm segment customers are effectively reached (remember, as discussed before, that node 27 has a Index of 234.58% - see figure 5.68). In order to select these customers from the retailer's database, one needs only to run the Structured Query Language (SQL) program code depicted in figure 5.72. The estimated probability that the predicted outcome is correct, that is the customer selected is in fact a member of the Sand Storm Macro Segment is 85.7%.

Figure 5.72: Rules for the Retailer' Database query (SQL)
Objective - target Node 27 - Customers belonging to the Sand Storm Macro Segment

#	Rule (Probability =0.857)	Variable description
	select * from <table> where	
1	**PURDIF <= R968.31 AND**	Purdif = Value of purchases made between Oct.96 and Oct.98
2	**CRLMT96 > R2,440 AND**	CRLMT96 = Credit Limit in October 1996
3	**LTD0PCT > 0.71431 AND**	Ltd0pct = Life-to-date (Oct.96) Purchases as a % of Credit Limit in Oct.96
4	**AGEGRPB<= 6**	AGEGRPB = Age Group (6 = Younger than 55 years of age)

5.11 SUMMARY

This chapter considered the analysis of the research and the modeling results.

The research data was collected by means of a mailed structured survey, posted to 2500 credit customers of the retailer (Markhams account holders). The response rate, which was considered to be successful by the retailer, was 16.6%. The sample was found to be representative of the retailer's credit customer base.

The data was captured and analysed by means of the statistical software programs SPSS, STATISTICA and Answer Tree. Various statistical analysis were conducted on the data and various statistical methods were used to facilitate the discussion of the research results.

Tests were conducted on the reliability of the measuring instrument and the findings indicated that the measuring instrument was reliable. The response to each of the questions in the research questionnaire was analysed and interpreted in detail.

The Brand Experience model was quantified and each of the summary variables, as defined, were interpreted. Factor analysis was used as a means to generate the new summary variables. The areas of concern for the retailer, in terms of the Brand Experience model, are the issues dealing with "Termination Costs", "Functional Conflict" and "Relationship Benefits". The issues relating to these weak areas were discussed in detail.

The Competitiveness component of the model was quantified. It was interesting to note that Edgars Stores pose the biggest threat to the retailer. The analysis indicates that the retailer's customers are also likely to shop elsewhere, yet their loyalty to the retailer is relatively high. It is estimated that the retailer holds as much as 65% of the respondent's share-of-wallet for the category.

The Power of Referral component of the model was also quantified. Customers in general have "more positive statements than negative ones" to say about the retailer. As much as three quarters of the sample have referred the retailer to somebody else.

The Credit Appeal component of the model was also quantified. The results indicate that as much as 59% of respondents "use credit only" when buying men's fashion. This finding, inter alia, emphasizes the importance of credit in the industry.

A general predictive model of credit utilization was derived. The study also considered the impact of Race Group on predictability of the model from a statistical point of view. The analysis' objective was to see whether one should in fact have statistical models for each race group. The findings of this analysis and the retailer's decision from a credit policy point of view are reported (under point 5.8.2) and make for some interesting reading.

The segmentation analysis, using the desert analogy mentioned previously in this study, reflected that 15.9% of the respondents fall into the Oasis segment (the most valuable customers). The Rain Clouds segment comprises 6.7% of the sample. This is where the Oasis segment draws its future customers from. The Sand Storm segment comprises 36.5% of the sample; these are the customers who are uncommitted to the retailer and could either migrate to the Rain Clouds segment or migrate to the lowest value segment namely, the Desert segment. The lowest value segment is the Desert segment. This segment comprises as much as 40.9% of the sample. This segment's customers are the cherry pickers (likely to buy only on sales) and many may in fact be unprofitable. Ideally the retailer wants as many customers falling into the Rain Clouds and Oasis segments as is possible.

The strategies to be applied to the different segments are discussed in detail in this chapter and are, broadly speaking, the following:

Segment	**Strategy**
Oasis	Defend/Consolidation
Rain Clouds	Penetration
Sand Storm	Expansion
Desert	Productivity

The next chapter, chapter 6, provides conclusions and recommendations.

CHAPTER 6

SUMMARY AND RECOMMENDATIONS

Chapter 6

SUMMARY AND RECOMMENDATIONS

The thesis is now summarized and recommendations are made with regard to further research.

6.1 SUMMARY

The retailer operates in a highly competitive market where all competitors, including providers of related services, strive for share-of-wallet of the same customer. The likely victor in this battle is the retailer who best understands customer needs/wants, purchase behaviour and utilizes this information to influence customer's spending patterns. The point to note is that not all customers have the same requirements and a marketing strategy which does not recognise this fact will result in a diluted marketing effort which will fall short of the set objectives. In order to succeed, it is essential that the retailer be able to identify its customers, differentiate between them, interact and customise the interaction, in whatever format, with the customer.

It is equally important that the retailer finds a customer-centric way of delivering on customer needs/wants. Essentially this implies being able to, first and foremost, address the basics determined by the marketing mix (six Ps of Marketing), which provide for value proposition, image and customer service. The basics are the absolute minimum requirement (the equaliser) without which the retailer simply cannot begin to compete. However, for the retailer who wants to create loyal customers and with it enduring profitability, much more than just the basics is required. In this instance, the retailer has to participate, with the customer, in a customer bonding or relationship building process. The wider and deeper the extent of the relationship with the customer, that is the more needs it meets, the more important that relationship is to the customer, particularly where the service/product provided constitutes a good value proposition, deals with the image and amounts to good customer service. After all, loyalty is the outcome of a relationship where both parties trust one another and are committed to each other. A loyalty programme is the strategy of the business; it is an holistic approach to customer relationship management.

The retailer's credit card becomes the vehicle through which the retailer obtains the information (demographic and purchase behaviour) necessary to better understand the customer and to manage the relationship. The importance of the credit facility can not be overemphasized, in that as much as approximately 72% of all sales at the retailer are conducted through it. Research findings presented in this study do confirm the relevance of the credit facility and its role as a means to an end; the "end" purpose being that of the customer wanting to acquire a particular merchandise/fashion item at the retailer.

This study also presented the findings of quantitative research which allows the retailer to identify and rank the various triggers to consumer spending. These findings result in a structural framework which weights the impact of both Credit Facilities on the one hand, and Branding/Store Image on the other. The framework then goes on to quantify the relative impact factors for each of the attributes comprising both the Credit Facilities and the Brand/Store Image aspects. It is recommended that the retailer take cognisance of the needs/wants and priorities identified in this model.

The most desirable form of loyalty is one which is based both on trust and commitment. The level of trust and commitment are reflected in a customer's value, as depicted by his purchasing behaviour, or in the retailer' case the extent to which the customer utilises the given credit facility. In this regard, this study models customer spending and provides a statistical equation which explains the factors impacting on Credit Utilisation Percentage (CUP); the dependent variable. This model takes input from four "input" models, the independent variables, and a number of customer characteristics or demographics. The input models are the Competitiveness model, the Brand Experience model, the Referral model, the Credit Appeal model. Each one of these input models can be used as diagnostic tools for the retailer to measure different aspects of competitiveness.

The most complex of these models is the Brand Experience model. It allows the retailer to measure customer perceptions and attitudes. This model is an adaptation of the KMV model which was first introduced and validated by Morgan and Hunt (1994). The Brand Experience model is particularly useful for the retailer in the verification/validation of its positioning strategy and measurement of customer satisfaction. The Brand Experience

model quantifies the various model attributes/components in terms of percentage scores. What the retailer should be asking is "what is a good score?". The ideal way of addressing this question is by bench-marking the score against the competition. This way, one gains competitive perspective and as long as the performance of the retailer and its brand is better than the opposition, the score may be considered good. This obviously entails more generic research and higher research costs. The alternative is perhaps to consider a trend over a period of time by continuously and periodically researching the retailer's customer base. Any improvement on prior performance may be considered good progress, however, cognisance must be made of the fact that the improved status is not necessarily "good enough" simply because the rating is better than that of competitors; ultimately it is the customer that one is trying to "WOW"!

The approach used in modeling customer behaviour was to initially conduct research amongst a representative sample of the retailer's database. The response rate was considered to be good and gives an indication of what the retailer may expect in future research of a similar nature. It is important to emphasise that customers were incentivised to respond by entering them into a lucky draw with gift vouchers as prizes. This could have biased the response, however a reliability analysis conducted on the response sample assured that the nature of the response was reliable. Although the research approach was to analyse customer spending over a two year period, the retailer must perfect the model by experimenting with various period scenarios. Furthermore, instead of measuring perceptions up-front and relating them to purchase behaviour over the following two years, as this study did, the principles of the model should apply equally to a situation where current perceptions of customers is measured and purchase behaviour over the past two years analysed (or whatever period is deemed appropriate from a future prediction point of view). Thus a "backward" approach instead of the "forward" approach may be tested and used. In essence, customer perceptions/attitudes are reflected in the customer purchase behaviour, irrespective of whether the attitude/perception was measured before or after the event (the purchase period under analysis). This "backward" based analysis is likely to be more flexible from a practicality point of view, far easier to implement and there is no need to wait two years (or whatever period is deemed appropriate) for the results; this approach

is certainly applicable where the retailer has been in operation for a number of years and a database, with variable content similar to that used in this study, is available.

The Loyalty predictive model, as determined by CUP, does include a larger number of independent variables than one would like to have. A point to note is that this study did not attempt to minimise the number of these variables within the regression equation. The reason for this was that one wanted to highlight all the variables that could be considered as potential predictors, particularly because this is the first time a study of this nature is conducted for the retailer. It is proposed that with future research of a similar nature, one begins to fine tune the model and adopt only those variables which are likely to contribute meaningfully to the prediction of behaviour.

The segmentation model uses two variables in segmenting the sample namely, Relative Risk and Value. The resulting segmentation is four macro segments and sixteen micro segments. The analogy used was that of the desert where extreme conditions exist and various tactics, dealing with each one of the macro segments, were proposed. The tactics mentioned do not comprise an exhaustive list but do indicate the kind of approach to be used with each of the segments. The retailer must add existing ideas/tactics to this list, as well as ideas that will arise as a result of the learning curve inherent in this process.

The segmentation analysis reflected that 15.9% of the respondents fall into the Oasis segment (the most valuable customers). The Rain Clouds segment comprises 6.7% of the sample; this is where the Oasis segment draws its future customers from. The Sand Storm segment comprises 36.5% of the sample; these are the customers who are uncommitted to the retailer and could either migrate to the Rain Clouds segment or migrate to the lowest value segment namely, the Desert segment. The lowest value segment is the Desert segment. This segment comprises as much as 40.9% of the sample. This segment's customers are the cherry pickers (likely to buy only on sales) and many may in fact be unprofitable. Ideally the retailer wants as many customers falling into the Rain Clouds and Oasis segments as is possible.

The strategies to be applied to the different segments were discussed in detail and are, broadly speaking, the following:

Segment	Strategy
Oasis	Defend/Consolidation
Rain Clouds	Penetration
Sand Storm	Expansion
Desert	Productivity

Market segmentation is defined by McDonald and Dunbar (1995:10) as the process of splitting customers into different groups, or segments, within which customers with similar characteristics have similar needs. By doing this, each segment and the customers therein, can be targeted and reached with a distinct marketing mix.

The proposed segmentation approach allows the retailer greater insight into the behaviour and needs of its customer base. The result is facilitation in meeting these customer needs more closely and it allows for the allocation of scarce resources to the most promising uses and most productive users. The outcome of a sound segmentation process is the creation of a competitive advantage for the retailer. According to McDonald and Dunbar (1995:9), segmentation is the basic building block for effective marketing planning, and should reflect a market/customer-orientation rather than a product-orientation.

The sample size used in this analysis was in fact a limiting factor with regard to the micro segmentation. The retailer may in future want to increase the size of the sample in order to be able to interpret the micro segments with greater degree of reliability. After all there are sixteen micro segments which means that the number of customers falling into some of the micro segments might in fact be too small to arrive at a statistically significant interpretation for that micro segment. Ideally a minimum of 800 respondents should be used (the equivalent of an average of fifty respondents per micro segment). This is not to say that every micro segment will have fifty respondents, but that the probability of trends within smaller micro segments are easier to identify when there is a reasonable chance of customers falling into these segments. Furthermore, segments, macro or micro, must be of

a significant size in order to warrant specific application of resources, in other words the return on effort and investment must be of an acceptable level.

Relative risk, one of the basis of the segmentation, is calculated by comparing the predicted purchases (as determined by CUP) with the actual purchases made by the customer. In essence the model calculates a coefficient of variation or volatility in the behaviour. The other variable is that of Value. Value is determined by the customer's purchase spent. It can be argued that a more significant way of approaching the problem is to use profitability as a true measure of customer value. Profitability is indeed the true measure of value. However, it can also be argued that there is a strong correlation between purchases value and profitability, after all the selling price of a fashion item/merchandise item does comprise a large portion of the profit margin in this industry (the fashion item is the core business). Furthermore, the dominant credit plan, that is the payment plan of choice, within the retailer is the 6 months interest free (no interest) option. Value as defined in this study is appropriate for the purpose of segmentation analysis as all cases are subject to the same measurement criteria.

An area that needs further research and is possibly the next logical step after this study, is that of the optimisation of customer equity (value). This next area of study should find a more accurate definition of value. In this regard, the retailer should consider not only the impact of interest charged on accounts in arrears but also the optimal level of the marketing investment that the retailer should make into the relationship with the customer. Other sources of revenue might include revenue generated through cross-selling opportunities, such as the new product that is about to be implemented, namely personal loan facilities, and ancillary products like MoneySaver Club fees, insurance product revenues, to name a few. Customer profitability is also impacted by variable and fixed costs incurred in operations like that of information systems maintenance and investment, new account opening costs, debt collecting and customer service expenses, amongst others. There is no doubt that once all the above issues are considered, the model will, due to its complexity, adopt a probabilistic angle and a degree of subjectivity might creep into the equation. However, sight must not be lost of the objective, which is to use data better, not necessarily perfectly (if at all possible), to understand customers.

6.2 CONCLUSION

The issue of customer relationship is best described by Levitt (1986: 111) when he says that "The relationship between a seller and a buyer seldom ends when the sale is made". Levitt goes on to explain that "The sale merely consummates the courtship. Then the marriage begins. How good the marriage is depends on how well the relationship is managed by the seller. That determines whether there will be continued or expanded business or troubles and divorce, and whether costs or profits increase". The findings of this research concur with Levitt's statement. A Loyalty segmentation programme comprises a holistic approach to managing the relationship with the customer. It does not end with the acquisition of the consumer as a customer; that process is, in fact, merely the beginning of the partnership between the retailer and the customer.

It is important to take cognizance of the fact that Segmentation analysis is not without risks (see point 3.1). However, the case for market segmentation, is defended by Peter and Olson (1993, 550) when they state that;

> "Market segmentation analysis can seldom (if ever) be ignored. Even if the final decision is to mass market and not to segment at all, this decision should be reached only *after* a market segmentation analysis has been conducted. Thus, market segmentation analysis is critical for sound marketing strategy development."

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ANNEXURE A

QUESTIONNAIRE

Markhams
(PTY) LTD

A MEMBER OF THE FOSCHINI GROUP

POSTAL ADDRESS:
P.O. BOX 6020, PAROW EAST, 7501 RSA

STREET ADDRESS:
5TH FLOOR STANLEY LEWIS CENTRE
340 VOORTREKKER RD, PAROW EAST 7500

TELEPHONE NAT (021) 938-7911
INTERNAT 2721 938-7911
TELEGRAMS 'DISFASH'
FAX (021) 938-7129

Dear Markhams Customer

1 August 1996

WE NEED YOUR HELP TO IMPROVE OUR SERVICE !

We are conducting a study amongst Markhams account holders and you have been selected to fill in the following questionnaire on pages 1 & 2. The questionnaire should take you less than 5 minutes to complete. All we'd like you to do is:

- Follow the instructions for each question
- Place the questionnaire in the envelope provided and post it! (The postage has already been paid)

NO STAMPS REQUIRED

PLUS! If you return the questionnaire before the **28 August 1996** you stand in line to **win** one of two Markhams gift vouchers to the value of **R500.00**. A small sample of people have been invited to participate in this study and so your chances of winning are very high. The winner will be phoned on the 2 September 1996.

The information that you give will be kept totally confidential and will help to improve the service that you receive from Markhams.

Yours sincerely

S Green

SANDY GREEN
CLIENT SERVICES MANAGER

Please ensure that this questionnaire is f d in by the person who actually goes t Markhams and buys clothing.
(For questions 1 - 21 simply tick one box next to each question which shows how you feel about the questions.)

		Strongly agree	Agree	Disagree	Strongly disagree
1.	Markhams is my kind of store (offering value for money/quality/fashion)				
2.	Markhams is in a "class of its own" as a men's clothing store (offering value for money/quality/fashion)				
3.	My Markhams account (ie credit) is very important to me when I buy clothes				
4.	Markhams treats me as an important customer				
5.	If I did not have a Markhams account it would be a big problem / hassle to open an account at another similar store				
6.	It would be costly to open an account at another clothing store because of card fees and interest rates				
7.	Markhams advertises / promotes its new fashions, sales and specials well				
8.	My Markhams statement is easy to understand and gives me enough detail				
9.	I see my Markhams account offering me more benefits than other stores offering men's clothing on account				
10.	Markhams has an attractive store layout				
11.	Markhams handles my account fairly and in a just manner				
12.	I always pay my full instalment on my Markhams account				
13.	I always pay my Markhams account on time				
14.	I see myself buying more clothing from Markhams in the future				
15.	I will still be using my Markhams account in the next six months				
16.	If I returned goods to a Markhams store, the store will take the goods back without any problem				
17.	If I had any problems paying my account, Markhams would understand and help me with an appropriate / easier payment plan				
18.	If I had any problem with my Markhams account, the problem would be sorted out				
19.	If I told Markhams how to improve their store or their goods, they would listen to my advice				
20.	Markhams offers me the kind of clothes I want				
21.	I always have enough credit at Markhams				

22. What is the total amount you spend on men's clothing annually (per year) ? R .....

23. Of the above amount, how much do you spend on account (credit only) ? R .....

24. Thinking of the last five times you purchased men's clothing, how many times did you buy at each of the following stores ? (FILL IN THE NUMBER OF TIMES IN THE APPROPRIATE SPACES - TOTAL 5)

Mark hams	Sales House	Tru-worths	Wool-worths	Jet	Edgars	Queens Park	Mr Price	Any Other

25. If you had R700.00 to spend on men's clothing how much would you spend at the following stores ? (FILL IN THE AMOUNT IN THE APPROPRIATE SPACE)

Mark hams	Sales House	Tru-worths	Wool-worths	Jet	Edgars	Queens Park	Mr Price	Any Other

26. What do you tell people about Markhams ?
(Tick the correct box)

	More good things than bad
	More bad things than good
	I don't say anything

27. How many of your friends have opened accounts at Markhams in the last year because you advised them to do so ? (Tick the correct box)

	0
	1 - 3
	4 +

28. Tick the box next to the statement that applies to you.

	I use my Markhams card for all my clothing purchases at Markhams
	I sometimes use cash to buy clothes at Markhams
	I only use my Markhams card to buy clothes when I have no cash to pay for the clothes
	I pay cash when I've run out of credit at Markhams

TO QUALIFY FOR THE PRIZE DRAW PLEASE COMPLETE THE FOLLOWING:

NAME: _____ **MARKHAMS ACCOUNT NUMBER:** _____

ADDRESS: _____

_____

Thank you for your time and effort !

ANNEXURE B

MEASURES OF CENTRAL TENDENCY AND DISPERSION

Frequencies

Statistics

		Markhams my kind of store (value/quality/fashion) - SV	Markhams in "Class of its own" - value/quality/fashion - TC	Markhams account important to me when I buy clothes - RB
N	Valid	416	416	416
	Missing	0	0	0
Mean		1.44	1.52	1.43
Mode		1	1	1
Skewness		1.010	1.010	1.199
Std. Error of Skewness		.120	.120	.120
Kurtosis		.427	.689	1.141
Std. Error of Kurtosis		.239	.239	.239
Minimum		1	1	1
Maximum		4	4	4
Skewness ratio		8.4	8.4	10,0
Kurtosis ratio		1.8	2.9	4,8

Statistics

		Treated as important customer - SV	If not Markhams account, big problem/hassle to open account elsewhere - TC	Costly to open account - card fees and rates - TC	Advertises, promotes new fashions, sales, specials well - Com
N	Valid	416	416	416	416
	Missing	0	0	0	0
Mean		1.54	2.29	2.25	1.52
Mode		1	3	2	1
Skewness		1.152	.134	.186	.859
Std. Error of Skewness		.120	.120	.120	.120
Kurtosis		1.336	-1.049	-1.000	.403
Std. Error of Kurtosis		.239	.239	.239	.239
Minimum		1	1	1	1
Maximum		4	4	4	4
Skewness ratio		9,6	1.1	1.6	7.2
Kurtosis ratio		5,6	-4.4	-4.2	1.7

Statistics

		Markhams offers me kind of clothes I want - Unc	I always have enough Credit at Markhams - Unc	Spent on Clothing p.a.	Spent on Credit p.a.
N	Valid	416	416	416	416
	Missing	0	0	0	0
Mean		1.49	1.63	2429.16	1561.94
Mode		1	1	1000	1000
Skewness		1.172	1.223	2.297	2.632
Std. Error of Skewness		.120	.120	.120	.120
Kurtosis		1.231	.879	7.629	11.008
Std. Error of Kurtosis		.239	.239	.239	.239
Minimum		1	1	250	0
Maximum		4	4	15000	13000
Skewness ratio		9.8	10.2	19.1	21.9
Kurtosis ratio		5.2	3.1	31.9	46.1

Statistics

		What do you tell	Referrals	How do you shop
N	Valid	416	416	416
	Missing	0	0	0
Mean		1.25	2.00	1.71
Mode		1	2	1
Skewness		2.257	-.038	1.110
Std. Error of Skewness		.120	.120	.120
Kurtosis		3.295	-.768	-.036
Std. Error of Kurtosis		.239	.239	.239
Minimum		0	0	0
Maximum		3	3	4
Skewness ratio		18.8	-0.3	9.3
Kurtosis ratio		13.8	-3.2	-0.2

a. Multiple modes exist. The smallest value is shown

Frequency Table

Markhams my kind of store (value/quality/fashion) - SV

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	251	60.3	60.3	60.3
	Agree	148	35.6	35.6	95.9
	Disagree	16	3.8	3.8	99.8
	Strongly disagree	1	.2	.2	100.0
	Total	416	100.0	100.0	

Statistics

		Statement easy to understand - Com	Offers more benefits than competitors - RB	Attractive store layout - Com	Markhams .handles account fairly & just manner - OB
N	Valid	416	416	416	416
	Missing	0	0	0	0
Mean		1.34	1.82	1.58	1.52
Mode		1	1	1	1
Skewness		1.552	.706	.862	1.306
Std. Error of Skewness		.120	.120	.120	.120
Kurtosis		3.095	-.226	.761	2.078
Std. Error of Kurtosis		.239	.239	.239	.239
Minimum		1	1	1	1
Maximum		4	4	4	4
Skewness ratio		12.9	5.9	7.2	10.9
Kurtosis ratio		12.9	-0.9	3.2	8.7

Statistics

		I always pay full instalment - Acq	I always pay Account on time - Acq	See myself buying from Markhams in future - PL	Will use Account within 6 months - PL
N	Valid	416	416	416	416
	Missing	0	0	0	0
Mean		1.56	1.61	1.48	1.45
Mode		1	1	1	1
Skewness		.854	.875	.885	1.330
Std. Error of Skewness		.120	.120	.120	.120
Kurtosis		-.261	-.182	.155	2.197
Std. Error of Kurtosis		.239	.239	.239	.239
Minimum		1	1	1	1
Maximum		4	4	4	4
Skewness ratio		7.1	7.3	7.4	11.1
Kurtosis ratio		-1,1	-0.8	0.6	9.2

Statistics

		Store would take returned goods without problems - CO	Problems with account - Markhams understands/helps me - CO	Problem with account would be sorted out - FC	Markhams would listen to my advice - FC
N	Valid	416	416	416	416
	Missing	0	0	0	0
Mean		1.50	1.65	1.58	1.99
Mode		1	2	1[a]	2
Skewness		1.241	1.037	.885	.536
Std. Error of Skewness		.120	.120	.120	.120
Kurtosis		1.901	1.739	1.289	.310
Std. Error of Kurtosis		.239	.239	.239	.239
Minimum		1	1	1	1
Maximum		4	4	4	4
Skewness ratio		10.3	8.6	7.4	4.5
Kurtosis ratio		8.0	7.3	5.4	1.3

ANNEXURE C

FACTOR ANALYSIS RESULTS

Factor Analysis - Shared Values

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ1	.126895287	.160704831	416
LOGQ4	.150420329	.172579149	416

Correlation Matrix[a]

		LOGQ1	LOGQ4
Correlation	LOGQ1	1.000	.431
	LOGQ4	.431	1.000
Sig. (1-tailed)	LOGQ1		.000
	LOGQ4	.000	

a. Determinant = .814

Inverse of Correlation Matrix

	LOGQ1	LOGQ4
LOGQ1	1.228	-.529
LOGQ4	-.529	1.228

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	84.932
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ1	LOGQ4
Anti-image Covariance	LOGQ1	.814	-.351
	LOGQ4	-.351	.814
Anti-image Correlation	LOGQ1	.500[a]	-.431
	LOGQ4	-.431	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ1	1.000	.715
LOGQ4	1.000	.715

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.431	71.545	71.545	1.431	71.545	71.545
2	.569	28.455	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ1	.846
LOGQ4	.846

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ1	LOGQ4
Reproduced Correlation	LOGQ1	.715[b]	.715
	LOGQ4	.715	.715[b]
Residual[a]	LOGQ1		-.285
	LOGQ4	-.285	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ1	.591
LOGQ4	.591

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Termination Costs

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ2	.146925143	.169898202	416
LOGQ5	.313186985	.209932818	416
LOGQ6	.305281466	.208306283	416

Correlation Matrix[a]

		LOGQ2	LOGQ5	LOGQ6
Correlation	LOGQ2	1.000	.340	.366
	LOGQ5	.340	1.000	.535
	LOGQ6	.366	.535	1.000
Sig. (1-tailed)	LOGQ2		.000	.000
	LOGQ5	.000		.000
	LOGQ6	.000	.000	

a. Determinant = .597

Inverse of Correlation Matrix

	LOGQ2	LOGQ5	LOGQ6
LOGQ2	1.195	-.241	-.308
LOGQ5	-.241	1.450	-.687
LOGQ6	-.308	-.687	1.480

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.635
Bartlett's Test of Sphericity	Approx. Chi-Square	212.795
	df	3
	Sig.	.000

Anti-image Matrices

		LOGQ2	LOGQ5	LOGQ6
Anti-image Covariance	LOGQ2	.837	-.139	-.174
	LOGQ5	-.139	.690	-.320
	LOGQ6	-.174	-.320	.676
Anti-image Correlation	LOGQ2	.741[a]	-.183	-.232
	LOGQ5	-.183	.613[a]	-.469
	LOGQ6	-.232	-.469	.605[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ2	1.000	.484
LOGQ5	1.000	.664
LOGQ6	1.000	.686

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.834	61.126	61.126	1.834	61.126	61.126
2	.702	23.409	84.535			
3	.464	15.465	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ2	.696
LOGQ5	.815
LOGQ6	.828

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ2	LOGQ5	LOGQ6
Reproduced Correlation	LOGQ2	.484[b]	.567	.576
	LOGQ5	.567	.664[b]	.675
	LOGQ6	.576	.675	.686[b]
Residual[a]	LOGQ2		-.227	-.210
	LOGQ5	-.227		-.140
	LOGQ6	-.210	-.140	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 3 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ2	.379
LOGQ5	.444
LOGQ6	.452

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Relationship Benefits

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ3	.121829878	.161236402	416
LOGQ9	.216927895	.195368196	416

Correlation Matrix[a]

		LOGQ3	LOGQ9
Correlation	LOGQ3	1.000	.350
	LOGQ9	.350	1.000
Sig. (1-tailed)	LOGQ3		.000
	LOGQ9	.000	

a. Determinant = .877

Inverse of Correlation Matrix

	LOGQ3	LOGQ9
LOGQ3	1.140	-.399
LOGQ9	-.399	1.140

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	54.145
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ3	LOGQ9
Anti-image Covariance	LOGQ3	.877	-.307
	LOGQ9	-.307	.877
Anti-image Correlation	LOGQ3	.500[a]	-.350
	LOGQ9	-.350	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ3	1.000	.675
LOGQ9	1.000	.675

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.350	67.517	67.517	1.350	67.517	67.517
2	.650	32.483	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ3	.822
LOGQ9	.822

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ3	LOGQ9
Reproduced Correlation	LOGQ3	.675[b]	.675
	LOGQ9	.675	.675[b]
Residual[a]	LOGQ3		-.325
	LOGQ9	-.325	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ3	.609
LOGQ9	.609

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Communication

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ7	.149150440	.165612441	416
LOGQ8	9.938E-02	.149025336	416
LOGQ10	.165193258	.168794887	416

Correlation Matrix[a]

		LOGQ7	LOGQ8	LOGQ10
Correlation	LOGQ7	1.000	.388	.452
	LOGQ8	.388	1.000	.326
	LOGQ10	.452	.326	1.000
Sig. (1-tailed)	LOGQ7		.000	.000
	LOGQ8	.000		.000
	LOGQ10	.000	.000	

a. Determinant = .653

Inverse of Correlation Matrix

	LOGQ7	LOGQ8	LOGQ10
LOGQ7	1.369	-.369	-.498
LOGQ8	-.369	1.219	-.231
LOGQ10	-.498	-.231	1.301

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.644
Bartlett's Test of Sphericity	Approx. Chi-Square	176.144
	df	3
	Sig.	.000

Anti-image Matrices

		LOGQ7	LOGQ8	LOGQ10
Anti-image Covariance	LOGQ7	.731	-.221	-.280
	LOGQ8	-.221	.821	-.146
	LOGQ10	-.280	-.146	.769
Anti-image Correlation	LOGQ7	.616[a]	-.286	-.374
	LOGQ8	-.286	.691[a]	-.183
	LOGQ10	-.374	-.183	.642[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ7	1.000	.655
LOGQ8	1.000	.527
LOGQ10	1.000	.597

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.780	59.336	59.336	1.780	59.336	59.336
2	.683	22.752	82.088			
3	.537	17.912	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ7	.810
LOGQ8	.726
LOGQ10	.773

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ7	LOGQ8	LOGQ10
Reproduced Correlation	LOGQ7	.655[b]	.588	.626
	LOGQ8	.588	.527[b]	.561
	LOGQ10	.626	.561	.597[b]
Residual[a]	LOGQ7		-.200	-.174
	LOGQ8	-.200		-.235
	LOGQ10	-.174	-.235	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 3 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ7	.455
LOGQ8	.408
LOGQ10	.434

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Acquiescence

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ12	.155991736	.177817095	416
LOGQ13	.164866811	.184764728	416

Correlation Matrix[a]

		LOGQ12	LOGQ13
Correlation	LOGQ12	1.000	.687
	LOGQ13	.687	1.000
Sig. (1-tailed)	LOGQ12		.000
	LOGQ13	.000	

a. Determinant = .528

Inverse of Correlation Matrix

	LOGQ12	LOGQ13
LOGQ12	1.893	-1.300
LOGQ13	-1.300	1.893

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	263.880
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ12	LOGQ13
Anti-image Covariance	LOGQ12	.528	-.363
	LOGQ13	-.363	.528
Anti-image Correlation	LOGQ12	.500[a]	-.687
	LOGQ13	-.687	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ12	1.000	.843
LOGQ13	1.000	.843

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.687	84.342	84.342	1.687	84.342	84.342
2	.313	15.658	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ12	.918
LOGQ13	.918

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ12	LOGQ13
Reproduced Correlation	LOGQ12	.843[b]	.843
	LOGQ13	.843	.843[b]
Residual[a]	LOGQ12		-.157
	LOGQ13	-.157	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ12	.544
LOGQ13	.544

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Propensity to Leave

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ14	.139019623	.163890716	416
LOGQ15	.129120584	.163282197	416

Correlation Matrix[a]

		LOGQ14	LOGQ15
Correlation	LOGQ14	1.000	.606
	LOGQ15	.606	1.000
Sig. (1-tailed)	LOGQ14		.000
	LOGQ15	.000	

a. Determinant = .633

Inverse of Correlation Matrix

	LOGQ14	LOGQ15
LOGQ14	1.581	-.958
LOGQ15	-.958	1.581

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	189.286
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ14	LOGQ15
Anti-image Covariance	LOGQ14	.633	-.383
	LOGQ15	-.383	.633
Anti-image Correlation	LOGQ14	.500[a]	-.606
	LOGQ15	-.606	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ14	1.000	.803
LOGQ15	1.000	.803

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.606	80.303	80.303	1.606	80.303	80.303
2	.394	19.697	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ14	.896
LOGQ15	.896

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ14	LOGQ15
Reproduced Correlation	LOGQ14	.803[b]	.803
	LOGQ15	.803	.803[b]
Residual[a]	LOGQ14		-.197
	LOGQ15	-.197	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ14	.558
LOGQ15	.558

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Co-Operation

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ16	.141968550	.167602957	416
LOGQ17	.182614781	.171122366	416

Correlation Matrix[a]

		LOGQ16	LOGQ17
Correlation	LOGQ16	1.000	.514
	LOGQ17	.514	1.000
Sig. (1-tailed)	LOGQ16		.000
	LOGQ17	.000	

a. Determinant = .736

Inverse of Correlation Matrix

	LOGQ16	LOGQ17
LOGQ16	1.359	-.698
LOGQ17	-.698	1.359

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	126.761
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ16	LOGQ17
Anti-image Covariance	LOGQ16	.736	-.378
	LOGQ17	-.378	.736
Anti-image Correlation	LOGQ16	.500[a]	-.514
	LOGQ17	-.514	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ16	1.000	.757
LOGQ17	1.000	.757

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.514	75.692	75.692	1.514	75.692	75.692
2	.486	24.308	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ16	.870
LOGQ17	.870

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ16	LOGQ17
Reproduced Correlation	LOGQ16	.757[b]	.757
	LOGQ17	.757	.757[b]
Residual[a]	LOGQ16		-.243
	LOGQ17	-.243	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ16	.575
LOGQ17	.575

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Functional Conflict

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ18	.166148667	.165165976	416
LOGQ19	.266435055	.170052179	416

Correlation Matrix[a]

		LOGQ18	LOGQ19
Correlation	LOGQ18	1.000	.485
	LOGQ19	.485	1.000
Sig. (1-tailed)	LOGQ18		.000
	LOGQ19	.000	

a. Determinant = .764

Inverse of Correlation Matrix

	LOGQ18	LOGQ19
LOGQ18	1.308	-.635
LOGQ19	-.635	1.308

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	111.120
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ18	LOGQ19
Anti-image Covariance	LOGQ18	.764	-.371
	LOGQ19	-.371	.764
Anti-image Correlation	LOGQ18	.500[a]	-.485
	LOGQ19	-.485	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ18	1.000	.743
LOGQ19	1.000	.743

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.485	74.272	74.272	1.485	74.272	74.272
2	.515	25.728	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ18	.862
LOGQ19	.862

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ18	LOGQ19
Reproduced Correlation	LOGQ18	.743[b]	.743
	LOGQ19	.743	.743[b]
Residual[a]	LOGQ18		-.257
	LOGQ19	-.257	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ18	.580
LOGQ19	.580

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

Factor Analysis - Uncertainty

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
LOGQ20	.138418956	.169000052	416
LOGQ21	.166299924	.194369145	416

Correlation Matrix[a]

		LOGQ20	LOGQ21
Correlation	LOGQ20	1.000	.290
	LOGQ21	.290	1.000
Sig. (1-tailed)	LOGQ20		.000
	LOGQ21	.000	

a. Determinant = .916

Inverse of Correlation Matrix

	LOGQ20	LOGQ21
LOGQ20	1.092	-.316
LOGQ21	-.316	1.092

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	36.255
	df	1
	Sig.	.000

Anti-image Matrices

		LOGQ20	LOGQ21
Anti-image Covariance	LOGQ20	.916	-.265
	LOGQ21	-.265	.916
Anti-image Correlation	LOGQ20	.500[a]	-.290
	LOGQ21	-.290	.500[a]

a. Measures of Sampling Adequacy(MSA)

Communalities

	Initial	Extraction
LOGQ20	1.000	.645
LOGQ21	1.000	.645

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.290	64.487	64.487	1.290	64.487	64.487
2	.710	35.513	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
LOGQ20	.803
LOGQ21	.803

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Reproduced Correlations

		LOGQ20	LOGQ21
Reproduced Correlation	LOGQ20	.645[b]	.645
	LOGQ21	.645	.645[b]
Residual[a]	LOGQ20		-.355
	LOGQ21	-.355	

Extraction Method: Principal Component Analysis.

a. Residuals are computed between observed and reproduced correlations. There are 1 (100.0%) nonredundant residuals with absolute values > 0.05.

b. Reproduced communalities

Component Score Coefficient Matrix

	Component
	1
LOGQ20	.623
LOGQ21	.623

Extraction Method: Principal Component Analysis.

Component Score Covariance Matrix

Component	1
1	1.000

Extraction Method: Principal Component Analysis.

ANNEXURE D

REGRESSION ANALYSYS RESULTS

Description of Variables' Names used in the Regression Analysis

#	Variable	Variable Description
1	OB -Converted to Z score	Brand Experience - Opportunistic Behaviour
2	Zscore: CreditLimit 96	Credit Limit - 1996
3	Regr factor score for Edgars 2	Competitiveness component for Edgars
4	Regr factor score for Queens Park 2	Competitiveness component for Queens Park
5	Regr factor score for Power of Referral	Power of Referral component
6	Regr factor score for Truworths 2	Competitiveness component for Truworths
7	Zscore(logsex)	Gender
8	Zscore (LogQ28)	Credit Appeal component
9	Zscore: Age group	Age Group
10	Regr factor score for Jet 2	Competitiveness component for Jet
11	Regr factor score Sales House 2	Competitiveness component for Sales House
12	Regr factor score for Markhams 2	Competitiveness component for Markhams
13	Regr factor score for Mr.Price 2	Competitiveness component for Mr.Price
14	Zscore(Lograce)	Race Group
15	Reg factor logs - Uncertainty	Brand Experience - Uncertainty
16	Regr factor score for Woolworths 2	Competitiveness component for Woolworths
17	Reg factor logs - Acq	Brand Experience - Acquiescence
18	Reg factor logs -TC	Brand Experience - Termination Costs
19	Reg factor logs - Funct.conflict	Brand Experience - Functional Conflict
20	Reg factor logs - Prop.Leave	Brand Experience - Propensity to Stay (Leave)
21	Reg factor logs - Comms 1	Brand Experience - Communication
22	Reg factor logs - SV	Brand Experience - Shared Values
23	Reg factor logs - RB	Brand Experience - Relationship Benefits
24	Reg factor logs - Co-op	Brand Experience - Co-operation
25	Zscore: Period	Period (Number of months on book)

Regression - General model

Variables Entered/Removed[b,c]

Model	Variables Entered	Variables Removed	Method
1	OB - Converted to Z score, REGR factor score for Queens Park 2 , Zscore(LOGSEX), REGR factor score Sales House 2 , REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score for Markhams 2 , Zscore(LOGQ28), REGR factor score for Truworths 2, REGR factor score for Woolworths 2, Zscore: PERIOD, Reg Factor logs - Acq, REGR factor score for Mr.Price 2, Zscore: AGE GROUP, Zscore: CREDITLIMIT 96, Zscore(LOGRACE), Reg Factor logs - Co-op, Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor Logs - TC, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Funct.conflict, Reg Factor logs - RB, Reg Factor logs - SV[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Model Summary[b,c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.725[a]	.525	.495	188.4098	1.972

a. Predictors: (Constant), OB - Converted to Z score, REGR factor score for Queens Park 2 , Zscore(LOGSEX), REGR factor score Sales House 2 , REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score for Markhams 2 , Zscore(LOGQ28), REGR factor score for Truworths 2, REGR factor score for Woolworths 2, Zscore: PERIOD, Reg Factor logs - Acq, REGR factor score for Mr.Price 2, Zscore: AGE GROUP, Zscore: CREDITLIMIT 96, Zscore(LOGRACE), Reg Factor logs - Co-op, Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor Logs - TC, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Funct.conflict, Reg Factor logs - RB, Reg Factor logs - SV

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15307890.6	25	612315.624	17.249	.000[a]
	Residual	13844317.4	390	35498.250		
	Total	29152208.0	415			

a. Predictors: (Constant), OB - Converted to Z score, REGR factor score for Queens Park 2 , Zscore(LOGSEX), REGR factor score Sales House 2 , REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score for Markhams 2 , Zscore(LOGQ28), REGR factor score for Truworths 2, REGR factor score for Woolworths 2, Zscore: PERIOD, Reg Factor logs - Acq, REGR factor score for Mr.Price 2, Zscore: AGE GROUP, Zscore: CREDITLIMIT 96, Zscore(LOGRACE), Reg Factor logs - Co-op, Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor Logs - TC, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Funct.conflict, Reg Factor logs - RB, Reg Factor logs - SV

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	166.396	8.509		19.555	.000		
	REGR factor score Sales House 2	-.557	8.530	-.002	-.065	.948	.844	1.185
	REGR factor score for Woolworths 2	5.191	8.430	.025	.616	.538	.735	1.360
	REGR factor score for Truworths 2	12.966	8.653	.056	1.498	.135	.868	1.152
	REGR factor score for Edgars 2	3.711	8.046	.017	.461	.645	.890	1.124
	REGR factor score for Jet 2	-5.472	8.831	-.022	-.620	.536	.938	1.066
	REGR factor score for Markhams 2	16.149	11.874	.057	1.360	.175	.699	1.432
	REGR factor score for Mr.Price 2	6.728	8.609	.032	.782	.435	.728	1.373
	REGR factor score for Queens Park 2	.302	8.613	.001	.035	.972	.965	1.037
	REGR factor score for Power of Referral	10.024	11.430	.041	.877	.381	.549	1.821
	Zscore(LOGSEX)	-4.535	8.442	-.022	-.537	.591	.744	1.344
	Zscore(LOGRACE)	2.842	10.673	.012	.266	.790	.613	1.630
	Zscore: AGE GROUP	11.822	9.334	.050	1.267	.206	.777	1.287
	Zscore: CREDITLIMIT 96	-151.967	9.165	-.716	-16.581	.000	.654	1.529
	Zscore: PERIOD	10.971	9.298	.050	1.180	.239	.681	1.468
	Zscore(LOGQ28)	5.392	8.200	.025	.658	.511	.827	1.209
	Reg Factor Logs - TC	-4.252	12.044	-.019	-.353	.724	.439	2.277
	Reg Factor logs - RB	3.949	12.581	.017	.314	.754	.406	2.464
	Reg Factor logs - SV	4.206	12.729	.018	.330	.741	.403	2.479
	Reg Factor logs - Comms 1	-1.661	11.596	-.007	-.143	.886	.478	2.093
	Reg Factor logs - Acq	-24.951	9.331	-.116	-2.674	.008	.644	1.552
	Reg Factor logs - Prop.Leave	21.703	11.063	.100	1.962	.050	.468	2.135
	Reg Factor logs - Co-op	9.786	11.653	.043	.840	.402	.465	2.149
	Reg Factor logs - Funct.conflict	-3.256	11.474	-.015	-.284	.777	.453	2.210
	Reg Factor logs - Uncertainty	-3.708	10.501	-.017	-.353	.724	.515	1.943
	OB - Converted to Z score	-24.092	10.123	-.116	-2.380	.018	.515	1.942

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Regression - White Race Group - General Model

Variables Entered/Removed[b,c]

Model	Variables Entered	Variables Removed	Method
1	Zscore: PERIOD, Zscore(LOGQ28), REGR factor score for Woolworths 2, Reg Factor logs - Comms 1 , REGR factor score for Mr.Price 2, Zscore(LOGSEX), REGR factor score for Jet 2 , REGR factor score for Queens Park 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Edgars 2, Zscore: CREDITLIMIT 96, Zscore: AGE GROUP, Reg Factor logs - Funct.conflict, Reg Factor logs - Acq, Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Co-op, Reg Factor logs - Prop.Leave, Reg Factor Logs - TC, OB - Converted to Z score, REGR factor score for Power of Referral , Reg Factor logs - Uncertainty[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Model Summary[b,c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.915[a]	.837	.752	63.6000	2.511

a. Predictors: (Constant), Zscore: PERIOD, Zscore(LOGQ28), REGR factor score for Woolworths 2, Reg Factor logs - Comms 1 , REGR factor score for Mr.Price 2, Zscore(LOGSEX), REGR factor score for Jet 2 , REGR factor score for Queens Park 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Edgars 2, Zscore: CREDITLIMIT 96, Zscore: AGE GROUP, Reg Factor logs - Funct.conflict, Reg Factor logs - Acq, Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Co-op, Reg Factor logs - Prop.Leave, Reg Factor Logs - TC, OB - Converted to Z score, REGR factor score for Power of Referral , Reg Factor logs - Uncertainty

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	956301.946	24	39845.914	9.851	.000[a]
	Residual	186067.993	46	4044.956		
	Total	1142369.94	70			

a. Predictors: (Constant), Zscore: PERIOD, Zscore(LOGQ28), REGR factor score for Woolworths 2, Reg Factor logs - Comms 1 , REGR factor score for Mr.Price 2, Zscore(LOGSEX), REGR factor score for Jet 2 , REGR factor score for Queens Park 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Edgars 2, Zscore: CREDITLIMIT 96, Zscore: AGE GROUP, Reg Factor logs - Funct.conflict, Reg Factor logs - Acq, Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Co-op, Reg Factor logs - Prop.Leave, Reg Factor Logs - TC, OB - Converted to Z score, REGR factor score for Power of Referral , Reg Factor logs - Uncertainty

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	126.631	31.001		4.085	.000		
	Zscore(LOGSEX)	11.868	9.048	.113	1.312	.196	.481	2.081
	Zscore: AGE GROUP	17.212	10.857	.138	1.585	.120	.470	2.128
	Zscore: CREDITLIMIT 96	-84.525	12.486	-.572	-6.770	.000	.496	2.015
	REGR factor score Sales House 2	-20.306	43.484	-.037	-.467	.643	.568	1.761
	REGR factor score for Woolworths 2	-8.883	11.328	-.063	-.784	.437	.552	1.811
	REGR factor score for Truworths 2	7.936	13.563	.056	.585	.561	.387	2.585
	REGR factor score for Edgars 2	48.252	10.135	.411	4.761	.000	.475	2.104
	REGR factor score for Jet 2	-23.700	16.263	-.105	-1.457	.152	.685	1.461
	REGR factor score for Markhams 2	-8.525	11.287	-.088	-.755	.454	.263	3.797
	REGR factor score for Mr.Price 2	-5.531	9.569	-.046	-.578	.566	.555	1.801
	REGR factor score for Queens Park 2	-10.517	12.277	-.062	-.857	.396	.684	1.462
	REGR factor score for Power of Referral	-35.370	14.376	-.328	-2.460	.018	.199	5.021
	Zscore(LOGQ28)	-25.936	11.113	-.191	-2.334	.024	.528	1.892
	Reg Factor Logs - TC	23.968	18.463	.152	1.298	.201	.258	3.875
	Reg Factor logs - RB	-39.816	14.153	-.299	-2.813	.007	.313	3.197
	Reg Factor logs - SV	56.347	14.615	.451	3.855	.000	.259	3.860
	Reg Factor logs - Comms 1	10.188	18.343	.078	.555	.581	.181	5.534
	Reg Factor logs - Acq	10.178	14.654	.069	.695	.491	.359	2.783
	Reg Factor logs - Prop.Leave	4.579	15.563	.037	.294	.770	.224	4.462
	Reg Factor logs - Co-op	-37.748	16.193	-.249	-2.331	.024	.311	3.212
	Reg Factor logs - Funct.conflict	24.050	15.132	.160	1.589	.119	.350	2.856
	Reg Factor logs - Uncertainty	-8.913	16.724	-.075	-.533	.597	.179	5.593
	OB - Converted to Z score	-4.135	16.320	-.031	-.253	.801	.240	4.162
	Zscore: PERIOD	-20.076	13.733	-.129	-1.462	.151	.458	2.185

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Regression - Coloured Race Group - General Model

Variables Entered/Removed[b,c]

Model	Variables Entered	Variables Removed	Method
1	Zscore: PERIOD, Zscore: CREDITLIMIT 96, Reg Factor logs - Comms 1 , REGR factor score for Queens Park 2 , REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score Sales House 2 , Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Mr.Price 2, Reg Factor logs - Acq, Zscore(LOGSEX), Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor logs - Co-op, Reg Factor Logs - TC, Reg Factor logs - RB, OB - Converted to Z score, REGR factor score for Woolworths 2, Reg Factor logs - SV, Reg Factor logs - Prop.Leave, Reg Factor logs - Funct.conflict[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Model Summary[b,c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.816[a]	.666	.561	186.9121	1.750

a. Predictors: (Constant), Zscore: PERIOD, Zscore: CREDITLIMIT 96, Reg Factor logs - Comms 1 , REGR factor score for Queens Park 2 , REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score Sales House 2 , Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Mr.Price 2, Reg Factor logs - Acq, Zscore(LOGSEX), Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor logs - Co-op, Reg Factor Logs - TC, Reg Factor logs - RB, OB - Converted to Z score, REGR factor score for Woolworths 2, Reg Factor logs - SV, Reg Factor logs - Prop.Leave, Reg Factor logs - Funct.conflict

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5303112.70	24	220963.029	6.325	.000[a]
	Residual	2655145.46	76	34936.124		
	Total	7958258.16	100			

a. Predictors: (Constant), Zscore: PERIOD, Zscore: CREDITLIMIT 96, Reg Factor logs - Comms 1 , REGR factor score for Queens Park 2 , REGR factor score for Jet 2 , REGR factor score for Edgars 2, REGR factor score Sales House 2 , Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Markhams 2 , REGR factor score for Truworths 2, REGR factor score for Mr.Price 2, Reg Factor logs - Acq, Zscore(LOGSEX), Reg Factor logs - Uncertainty, REGR factor score for Power of Referral , Reg Factor logs - Co-op, Reg Factor Logs - TC, Reg Factor logs - RB, OB - Converted to Z score, REGR factor score for Woolworths 2, Reg Factor logs - SV, Reg Factor logs - Prop.Leave, Reg Factor logs - Funct.conflict

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	167.946	21.494		7.814	.000		
	REGR factor score Sales House 2	77.675	32.100	.193	2.420	.018	.690	1.450
	REGR factor score for Woolworths 2	21.456	21.206	.123	1.012	.315	.297	3.368
	REGR factor score for Truworths 2	5.759	21.665	.022	.266	.791	.613	1.631
	REGR factor score for Edgars 2	.362	19.977	.002	.018	.986	.565	1.770
	REGR factor score for Jet 2	-20.537	22.116	-.073	-.929	.356	.702	1.425
	REGR factor score for Markhams 2	-12.876	30.672	-.039	-.420	.676	.498	2.008
	REGR factor score for Mr.Price 2	55.156	16.980	.332	3.248	.002	.421	2.375
	REGR factor score for Queens Park 2	-65.928	48.561	-.110	-1.358	.179	.672	1.488
	REGR factor score for Power of Referral	12.102	22.386	.057	.541	.590	.397	2.516
	Zscore(LOGSEX)	22.524	15.577	.130	1.446	.152	.542	1.846
	Zscore: AGE GROUP	-35.227	22.437	-.157	-1.570	.121	.439	2.276
	Zscore: CREDITLIMIT 96	-84.240	22.734	-.375	-3.705	.000	.429	2.333
	Zscore(LOGQ28)	11.659	19.018	.049	.613	.542	.696	1.436
	Reg Factor Logs - TC	-9.996	26.597	-.044	-.376	.708	.321	3.119
	Reg Factor logs - RB	55.479	26.814	.255	2.069	.042	.290	3.453
	Reg Factor logs - SV	-40.828	26.974	-.191	-1.514	.134	.275	3.632
	Reg Factor logs - Comms 1	-27.007	22.830	-.118	-1.183	.241	.440	2.273
	Reg Factor logs - Acq	-19.199	20.747	-.096	-.925	.358	.411	2.435
	Reg Factor logs - Prop.Leave	-6.018	25.995	-.030	-.232	.818	.262	3.817
	Reg Factor logs - Co-op	10.881	25.943	.050	.419	.676	.308	3.243
	Reg Factor logs - Funct.conflict	-18.293	31.022	-.082	-.590	.557	.229	4.374
	Reg Factor logs - Uncertainty	-13.913	23.053	-.066	-.604	.548	.364	2.751
	OB - Converted to Z score	21.984	25.868	.102	.850	.398	.306	3.272
	Zscore: PERIOD	19.707	19.943	.105	.988	.326	.387	2.583

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

Regression - MS2 - Group 1 (1 to 23 months on books)

COLOURED RACE GROUP

Variables Entered/Removed[b,c,d]

Model	Variables Entered	Variables Removed	Method
1	OB - Converted to Z score, REGR factor score for Jet 2 , REGR factor score for Mr.Price 2, REGR factor score for Woolworths 2, Reg Factor logs - Uncertainty, Zscore(LOGQ28), REGR factor score for Truworths 2, Zscore(LOGSEX), REGR factor score for Power of Referral , Reg Factor logs - Acq, Zscore: CREDITLIMIT 96, REGR factor score for Edgars 2, REGR factor score for Queens Park 2 , Zscore: AGE GROUP, REGR factor score Sales House 2 , Reg Factor logs - RB, Reg Factor logs - Prop.Leave, REGR factor score for Markhams 2 , Reg Factor Logs - TC, Reg Factor logs - Funct.conflict, Reg Factor logs - Co-op, Reg Factor logs - SV, Reg Factor logs - Comms 1[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Models are based only on cases for which Months on books - July 96 = 1

Model Summary[b,c,d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic
	Months on books - July 96 = 1 (Selected)				Months on books - July 96 = 1 (Selected)
1	.919[a]	.845	.713	146.1039	1.853

a. Predictors: (Constant), OB - Converted to Z score, REGR factor score for Jet 2 , REGR factor score for Mr.Price 2, REGR factor score for Woolworths 2, Reg Factor logs - Uncertainty, Zscore(LOGQ28), REGR factor score for Truworths 2, Zscore(LOGSEX), REGR factor score for Power of Referral , Reg Factor logs - Acq, Zscore: CREDITLIMIT 96, REGR factor score for Edgars 2, REGR factor score for Queens Park 2 , Zscore: AGE GROUP, REGR factor score Sales House 2 , Reg Factor logs - RB, Reg Factor logs - Prop.Leave, REGR factor score for Markhams 2 , Reg Factor Logs - TC, Reg Factor logs - Funct.conflict, Reg Factor logs - Co-op, Reg Factor logs - SV, Reg Factor logs - Comms 1

b. Unless noted otherwise, statistics are based only on cases for which Months on books - July 96 = 1.

c. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

d. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c,d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3147413.90	23	136844.083	6.411	.000[a]
	Residual	576351.801	27	21346.363		
	Total	3723765.70	50			

a. Predictors: (Constant), OB - Converted to Z score, REGR factor score for Jet 2 , REGR factor score for Mr.Price 2, REGR factor score for Woolworths 2, Reg Factor logs - Uncertainty, Zscore(LOGQ28), REGR factor score for Truworths 2, Zscore(LOGSEX), REGR factor score for Power of Referral , Reg Factor logs - Acq, Zscore: CREDITLIMIT 96, REGR factor score for Edgars 2, REGR factor score for Queens Park 2 , Zscore: AGE GROUP, REGR factor score Sales House 2 , Reg Factor logs - RB, Reg Factor logs - Prop.Leave, REGR factor score for Markhams 2 , Reg Factor Logs - TC, Reg Factor logs - Funct.conflict, Reg Factor logs - Co-op, Reg Factor logs - SV, Reg Factor logs - Comms 1

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Selecting only cases for which Months on books - July 96 = 1

Coefficients[a,b,c]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	210.469	38.184		5.512	.000	132.122	288.816		
	REGR factor score Sales House 2	275.480	45.769	.751	6.019	.000	181.571	369.390	.368	2.718
	REGR factor score for Woolworths 2	19.258	38.873	.087	.495	.624	-60.502	99.018	.184	5.433
	REGR factor score for Truworths 2	-23.751	29.325	-.089	-.810	.425	-83.922	36.419	.472	2.117
	REGR factor score for Edgars 2	51.515	26.460	.217	1.947	.062	-2.777	105.807	.463	2.158
	REGR factor score for Jet 2	-134.896	58.854	-.238	-2.292	.030	-255.656	-14.137	.530	1.886
	REGR factor score for Markhams 2	-101.861	74.279	-.210	-1.371	.182	-254.268	50.546	.245	4.085
	REGR factor score for Mr.Price 2	52.777	29.560	.240	1.785	.085	-7.875	113.429	.317	3.159
	REGR factor score for Queens Park 2	-278.168	101.183	-.416	-2.749	.011	-485.778	-70.558	.250	4.001
	REGR factor score for Power of Referral	35.405	50.893	.099	.696	.493	-69.019	139.829	.281	3.560
	Zscore(LOGSEX)	-13.877	18.740	-.070	-.741	.465	-52.328	24.574	.650	1.539
	Zscore: AGE GROUP	-18.035	28.176	-.083	-.640	.528	-75.848	39.779	.340	2.942
	Zscore: CREDITLIMIT 96	-51.840	30.506	-.202	-1.699	.101	-114.433	10.754	.407	2.454
	Zscore(LOGQ28)	9.468	23.794	.038	.398	.694	-39.354	58.290	.617	1.621
	Reg Factor Logs - TC	-88.771	36.964	-.358	-2.402	.023	-164.615	-12.927	.258	3.874
	Reg Factor logs - RB	129.865	45.506	.469	2.854	.008	36.494	223.236	.212	4.718
	Reg Factor logs - SV	-8.623	48.676	-.037	-.177	.861	-108.498	91.252	.132	7.564
	Reg Factor logs - Comms 1	-37.088	49.266	-.167	-.753	.458	-138.174	63.999	.116	8.631
	Reg Factor logs - Acq	17.000	24.964	.076	.681	.502	-34.222	68.222	.460	2.174
	Reg Factor logs - Prop.Leave	-54.909	34.304	-.230	-1.601	.121	-125.295	15.476	.278	3.603
	Reg Factor logs - Co-op	2.042	35.563	.009	.057	.955	-70.927	75.011	.244	4.091
	Reg Factor logs - Funct.conflict	-56.147	39.605	-.239	-1.418	.168	-137.409	25.116	.202	4.943
	Reg Factor logs - Uncertainty	-57.425	35.991	-.259	-1.596	.122	-131.272	16.422	.218	4.595
	OB - Converted to Z score	87.100	38.149	.353	2.283	.031	8.824	165.376	.239	4.178

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

c. Selecting only cases for which Months on books - July 96 = 1

Regression - MS2 - Group 2 (Longer than 23 months on books)

COLOURED RACE GROUP

Variables Entered/Removed[b,c,d]

Model	Variables Entered	Variables Removed	Method
1	OB - Converted to Z score, REGR factor score Sales House 2 , REGR factor score for Queens Park 2 , Zscore: AGE GROUP, Reg Factor logs - Acq, REGR factor score for Jet 2 , Reg Factor logs - Uncertainty, REGR factor score for Truworths 2, REGR factor score for Edgars 2, REGR factor score for Power of Referral , Reg Factor logs - Comms 1 , REGR factor score for Markhams 2 , Zscore(LOGQ28), Reg Factor Logs - TC, REGR factor score for Mr.Price 2, Zscore(LOGSEX), Reg Factor logs - Co-op, REGR factor score for Woolworths 2, Reg Factor logs - Prop.Leave, Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Funct.conflict, Zscore: CREDITLIMIT 96[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Models are based only on cases for which Months on books - July 96 = 2

Model Summary[b,c,d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic
	Months on books - July 96 = 2 (Selected)				Months on books - July 96 = 2 (Selected)
1	.960[a]	.921	.851	113.5192	2.071

a. Predictors: (Constant), OB - Converted to Z score, REGR factor score Sales House 2 , REGR factor score for Queens Park 2 , Zscore: AGE GROUP, Reg Factor logs - Acq, REGR factor score for Jet 2 , Reg Factor logs - Uncertainty, REGR factor score for Truworths 2, REGR factor score for Edgars 2, REGR factor score for Power of Referral , Reg Factor logs - Comms 1 , REGR factor score for Markhams 2 , Zscore(LOGQ28), Reg Factor Logs - TC, REGR factor score for Mr.Price 2, Zscore(LOGSEX), Reg Factor logs - Co-op, REGR factor score for Woolworths 2, Reg Factor logs - Prop.Leave, Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Funct.conflict, Zscore: CREDITLIMIT 96

b. Unless noted otherwise, statistics are based only on cases for which Months on books - July 96 = 2.

c. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

d. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c,d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3898698.84	23	169508.645	13.154	.000[a]
	Residual	335051.651	26	12886.602		
	Total	4233750.49	49			

a. Predictors: (Constant), OB - Converted to Z score, REGR factor score Sales House 2 , REGR factor score for Queens Park 2 , Zscore: AGE GROUP, Reg Factor logs - Acq, REGR factor score for Jet 2 , Reg Factor logs - Uncertainty, REGR factor score for Truworths 2, REGR factor score for Edgars 2, REGR factor score for Power of Referral , Reg Factor logs - Comms 1 , REGR factor score for Markhams 2 , Zscore(LOGQ28), Reg Factor Logs - TC, REGR factor score for Mr.Price 2, Zscore(LOGSEX), Reg Factor logs - Co-op, REGR factor score for Woolworths 2, Reg Factor logs - Prop.Leave, Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Funct.conflict, Zscore: CREDITLIMIT 96

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Selecting only cases for which Months on books - July 96 = 2

Coefficients[a,b,c]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	124.539	24.285		5.128	.000	74.620	174.457		
	REGR factor score Sales House 2	24.451	32.792	.054	.746	.463	-42.954	91.856	.571	1.751
	REGR factor score for Woolworths 2	15.865	22.176	.097	.715	.481	-29.718	61.447	.164	6.095
	REGR factor score for Truworths 2	-61.256	22.359	-.247	-2.740	.011	-107.215	-15.297	.376	2.663
	REGR factor score for Edgars 2	-37.710	24.414	-.169	-1.545	.135	-87.893	12.473	.254	3.935
	REGR factor score for Jet 2	11.106	19.436	.051	.571	.573	-28.845	51.056	.384	2.604
	REGR factor score for Markhams 2	15.585	26.404	.058	.590	.560	-38.688	69.858	.317	3.158
	REGR factor score for Mr.Price 2	32.569	17.176	.226	1.896	.069	-2.738	67.875	.215	4.656
	REGR factor score for Queens Park 2	7.145	39.172	.013	.182	.857	-73.375	87.665	.613	1.631
	REGR factor score for Power of Referral	-12.041	20.908	-.068	-.576	.570	-55.018	30.935	.219	4.559
	Zscore(LOGSEX)	22.032	18.385	.139	1.198	.242	-15.759	59.823	.228	4.393
	Zscore: AGE GROUP	-18.636	28.447	-.072	-.655	.518	-77.109	39.837	.252	3.972
	Zscore: CREDITLIMIT 96	-33.814	31.366	-.165	-1.078	.291	-98.287	30.659	.129	7.724
	Zscore(LOGQ28)	12.102	22.923	.051	.528	.602	-35.016	59.220	.321	3.112
	Reg Factor Logs - TC	-23.224	32.242	-.108	-.720	.478	-89.500	43.051	.134	7.438
	Reg Factor logs - RB	24.595	27.742	.124	.887	.383	-32.430	81.621	.156	6.410
	Reg Factor logs - SV	-4.345	27.348	-.021	-.159	.875	-60.560	51.869	.180	5.557
	Reg Factor logs - Comms 1	-41.845	20.098	-.177	-2.082	.047	-83.157	-.533	.421	2.375
	Reg Factor logs - Acq	-40.820	22.517	-.201	-1.813	.081	-87.104	5.464	.248	4.035
	Reg Factor logs - Prop.Leave	54.936	27.543	.280	1.995	.057	-1.679	111.552	.154	6.495
	Reg Factor logs - Co-op	-19.906	26.523	-.096	-.751	.460	-74.424	34.613	.186	5.370
	Reg Factor logs - Funct.conflict	.090	31.513	.000	.003	.998	-64.687	64.867	.142	7.033
	Reg Factor logs - Uncertainty	29.233	33.840	.142	.864	.396	-40.326	98.791	.113	8.888
	OB - Converted to Z score	.721	22.880	.004	.032	.975	-46.308	47.751	.225	4.438

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

c. Selecting only cases for which Months on books - July 96 = 2

Regression - MS4 - Group 1 (1 to 12 months on books)

BLACK RACE GROUP

Variables Entered/Removed[b,c,d]

Model	Variables Entered	Variables Removed	Method
1	OB - Converted to Z score, Zscore: CREDITLIMIT 96, REGR factor score for Edgars 2, REGR factor score for Queens Park 2 , REGR factor score for Power of Referral , REGR factor score for Truworths 2, Zscore(LOGSEX), Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Jet 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Mr.Price 2, Reg Factor logs - Uncertainty, REGR factor score for Woolworths 2, Reg Factor logs - Acq, Reg Factor Logs - TC, Reg Factor logs - Funct.conflict, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Co-op[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Models are based only on cases for which Months on books - July 96 = 1

Model Summary[b,c,d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic
	Months on books - July 96 = 1 (Selected)				Months on books - July 96 = 1 (Selected)
1	.866[a]	.751	.626	136.8608	1.887

a. Predictors: (Constant), OB - Converted to Z score, Zscore: CREDITLIMIT 96, REGR factor score for Edgars 2, REGR factor score for Queens Park 2 , REGR factor score for Power of Referral , REGR factor score for Truworths 2, Zscore(LOGSEX), Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Jet 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Mr.Price 2, Reg Factor logs - Uncertainty, REGR factor score for Woolworths 2, Reg Factor logs - Acq, Reg Factor Logs - TC, Reg Factor logs - Funct.conflict, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Co-op

b. Unless noted otherwise, statistics are based only on cases for which Months on books - July 96 = 1.

c. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

d. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c,d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2591926.33	23	112692.449	6.016	.000[a]
	Residual	861620.491	46	18730.880		
	Total	3453546.82	69			

a. Predictors: (Constant), OB - Converted to Z score, Zscore: CREDITLIMIT 96, REGR factor score for Edgars 2, REGR factor score for Queens Park 2 , REGR factor score for Power of Referral , REGR factor score for Truworths 2, Zscore(LOGSEX), Zscore(LOGQ28), Zscore: AGE GROUP, REGR factor score for Jet 2 , REGR factor score Sales House 2 , REGR factor score for Markhams 2 , REGR factor score for Mr.Price 2, Reg Factor logs - Uncertainty, REGR factor score for Woolworths 2, Reg Factor logs - Acq, Reg Factor Logs - TC, Reg Factor logs - Funct.conflict, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - SV, Reg Factor logs - RB, Reg Factor logs - Co-op

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Selecting only cases for which Months on books - July 96 = 1

Coefficients[a,b,c]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	144.966	34.030		4.260	.000	76.466	213.465		
	REGR factor score Sales House 2	10.317	16.407	.065	.629	.533	-22.708	43.342	.509	1.964
	REGR factor score for Woolworths 2	-34.489	32.913	-.118	-1.048	.300	-100.741	31.762	.427	2.345
	REGR factor score for Truworths 2	6.676	22.705	.030	.294	.770	-39.028	52.380	.529	1.889
	REGR factor score for Edgars 2	18.079	17.088	.092	1.058	.296	-16.318	52.477	.720	1.388
	REGR factor score for Jet 2	-36.599	21.398	-.161	-1.710	.094	-79.671	6.473	.613	1.631
	REGR factor score for Markhams 2	37.434	23.008	.178	1.627	.111	-8.880	83.747	.455	2.195
	REGR factor score for Mr.Price 2	14.219	26.353	.054	.540	.592	-38.826	67.263	.544	1.838
	REGR factor score for Queens Park 2	-23.541	31.359	-.068	-.751	.457	-86.663	39.582	.651	1.535
	REGR factor score for Power of Referral	68.409	41.053	.208	1.666	.102	-14.227	151.045	.349	2.866
	Zscore: CREDITLIMIT 96	-202.108	28.026	-.686	-7.211	.000	-258.522	-145.693	.599	1.670
	Zscore: AGE GROUP	81.134	23.795	.338	3.410	.001	33.236	129.031	.552	1.812
	Zscore(LOGSEX)	16.424	35.806	.043	.459	.649	-55.649	88.497	.607	1.649
	Zscore(LOGQ28)	13.268	17.532	.072	.757	.453	-22.022	48.557	.602	1.661
	Reg Factor Logs - TC	-9.075	26.257	-.038	-.346	.731	-61.929	43.778	.453	2.207
	Reg Factor logs - RB	-2.862	31.940	-.012	-.090	.929	-67.153	61.430	.307	3.262
	Reg Factor logs - SV	55.223	29.867	.221	1.849	.071	-4.896	115.342	.381	2.627
	Reg Factor logs - Comms 1	28.117	29.270	.116	.961	.342	-30.802	87.035	.371	2.692
	Reg Factor logs - Acq	-37.086	24.869	-.157	-1.491	.143	-87.144	12.972	.490	2.042
	Reg Factor logs - Prop.Leave	-32.105	34.502	-.120	-.931	.357	-101.553	37.343	.326	3.063
	Reg Factor logs - Co-op	-1.344	33.731	-.006	-.040	.968	-69.241	66.554	.205	4.878
	Reg Factor logs - Funct.conflict	32.695	30.452	.154	1.074	.289	-28.601	93.991	.265	3.769
	Reg Factor logs - Uncertainty	-21.276	25.778	-.103	-.825	.413	-73.164	30.612	.348	2.873
	OB - Converted to Z score	-44.967	23.918	-.200	-1.880	.066	-93.112	3.178	.479	2.086

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

c. Selecting only cases for which Months on books - July 96 = 1

Regression - MS4 - Group 2 (13 to 24 months on books)

BLACK RACE GROUP

Variables Entered/Removed[b,c,d]

Model	Variables Entered	Variables Removed	Method
1	OB - Converted to Z score, Zscore(LOGSEX), Zscore: AGE GROUP, REGR factor score for Queens Park 2 , REGR factor score for Power of Referral , REGR factor score for Mr.Price 2, REGR factor score Sales House 2 , Zscore(LOGQ28), REGR factor score for Markhams 2 , REGR factor score for Edgars 2, REGR factor score for Truworths 2, Zscore: CREDITLIMIT 96, Reg Factor Logs - TC, Reg Factor logs - Acq, REGR factor score for Woolworths 2, Reg Factor logs - Prop.Leave, Reg Factor logs - Uncertainty, REGR factor score for Jet 2 , Reg Factor logs - Co-op, Reg Factor logs - Comms 1 , Reg Factor logs - RB, Reg Factor logs - Funct.conflict, Reg Factor logs - SV[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Models are based only on cases for which Months on books - July 96 = 2

Model Summary[b,c,d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic
	Months on books - July 96 = 2 (Selected)				Months on books - July 96 = 2 (Selected)
1	.814[a]	.663	.474	225.6030	1.789

a. Predictors: (Constant), OB - Converted to Z score, Zscore(LOGSEX), Zscore: AGE GROUP, REGR factor score for Queens Park 2 , REGR factor score for Power of Referral , REGR factor score for Mr.Price 2, REGR factor score Sales House 2 , Zscore(LOGQ28), REGR factor score for Markhams 2 , REGR factor score for Edgars 2, REGR factor score for Truworths 2, Zscore: CREDITLIMIT 96, Reg Factor Logs - TC, Reg Factor logs - Acq, REGR factor score for Woolworths 2, Reg Factor logs - Prop.Leave, Reg Factor logs - Uncertainty, REGR factor score for Jet 2 , Reg Factor logs - Co-op, Reg Factor logs - Comms 1 , Reg Factor logs - RB, Reg Factor logs - Funct.conflict, Reg Factor logs - SV

b. Unless noted otherwise, statistics are based only on cases for which Months on books - July 96 = 2.

c. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

d. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c,d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4106933.52	23	178562.327	3.508	.000[a]
	Residual	2086765.74	41	50896.725		
	Total	6193699.26	64			

a. Predictors: (Constant), OB - Converted to Z score, Zscore(LOGSEX), Zscore: AGE GROUP, REGR factor score for Queens Park 2 , REGR factor score for Power of Referral , REGR factor score for Mr.Price 2, REGR factor score Sales House 2 , Zscore(LOGQ28), REGR factor score for Markhams 2 , REGR factor score for Edgars 2, REGR factor score for Truworths 2, Zscore: CREDITLIMIT 96, Reg Factor Logs - TC, Reg Factor logs - Acq, REGR factor score for Woolworths 2, Reg Factor logs - Prop.Leave, Reg Factor logs - Uncertainty, REGR factor score for Jet 2 , Reg Factor logs - Co-op, Reg Factor logs - Comms 1 , Reg Factor logs - RB, Reg Factor logs - Funct.conflict, Reg Factor logs - SV

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Selecting only cases for which Months on books - July 96 = 2

Coefficients[a,b,c]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	158.560	48.273		3.285	.002	61.070	256.049		
	REGR factor score Sales House 2	21.814	28.816	.087	.757	.453	-36.382	80.010	.620	1.614
	REGR factor score for Woolworths 2	99.325	39.527	.402	2.513	.016	19.498	179.152	.321	3.114
	REGR factor score for Truworths 2	46.569	27.206	.215	1.712	.095	-8.375	101.514	.519	1.925
	REGR factor score for Edgars 2	-11.618	29.731	-.046	-.391	.698	-71.662	48.426	.589	1.698
	REGR factor score for Jet 2	-26.286	34.989	-.106	-.751	.457	-96.948	44.376	.411	2.435
	REGR factor score for Markhams 2	-38.072	70.111	-.060	-.543	.590	-179.664	103.520	.675	1.481
	REGR factor score for Mr.Price 2	-16.601	63.603	-.037	-.261	.795	-145.050	111.847	.413	2.420
	REGR factor score for Queens Park 2	-3.740	20.129	-.020	-.186	.854	-44.391	36.912	.696	1.438
	REGR factor score for Power of Referral	-13.540	48.928	-.035	-.277	.783	-112.352	85.272	.517	1.935
	Zscore(LOGSEX)	-43.055	32.940	-.145	-1.307	.198	-109.578	23.469	.665	1.504
	Zscore: AGE GROUP	-1.567	25.478	-.007	-.061	.951	-53.020	49.887	.702	1.424
	Zscore: CREDITLIMIT 96	-114.142	30.782	-.482	-3.708	.001	-176.308	-51.976	.486	2.060
	Zscore(LOGQ28)	-5.037	27.349	-.020	-.184	.855	-60.268	50.195	.671	1.491
	Reg Factor Logs - TC	-51.408	51.396	-.182	-1.000	.323	-155.203	52.388	.247	4.050
	Reg Factor logs - RB	-56.172	56.166	-.180	-1.000	.323	-169.601	57.257	.253	3.952
	Reg Factor logs - SV	-8.614	74.593	-.026	-.115	.909	-159.258	142.030	.163	6.152
	Reg Factor logs - Comms 1	-31.497	50.072	-.107	-.629	.533	-132.620	69.627	.286	3.501
	Reg Factor logs - Acq	-21.103	34.480	-.089	-.612	.544	-90.736	48.531	.388	2.577
	Reg Factor logs - Prop.Leave	78.406	51.738	.271	1.515	.137	-26.082	182.893	.257	3.893
	Reg Factor logs - Co-op	37.542	41.084	.140	.914	.366	-45.428	120.513	.351	2.851
	Reg Factor logs - Funct.conflict	-71.392	46.950	-.313	-1.521	.136	-166.210	23.426	.194	5.147
	Reg Factor logs - Uncertainty	72.413	45.067	.254	1.607	.116	-18.601	163.427	.330	3.031
	OB - Converted to Z score	34.690	41.553	.157	.835	.409	-49.228	118.608	.232	4.309

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

c. Selecting only cases for which Months on books - July 96 = 2

Regression - MS4 - Group 3 (More than 24 months on books

BLACK RACE GROUP

Variables Entered/Removed[b,c,d]

Model	Variables Entered	Variables Removed	Method
1	OB - Converted to Z score, Reg Factor logs - Acq, REGR factor score for Markhams 2 , Zscore(LOGSEX), REGR factor score for Queens Park 2 , REGR factor score for Woolworths 2, REGR factor score for Truworths 2, REGR factor score for Edgars 2, REGR factor score Sales House 2 , REGR factor score for Jet 2 , REGR factor score for Mr.Price 2, Reg Factor logs - Funct.conflict, Zscore: AGE GROUP, REGR factor score for Power of Referral , Reg Factor logs - Uncertainty, Reg Factor logs - RB, Zscore: CREDITLIMIT 96, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Co-op, Zscore(LOGQ28), Reg Factor logs - SV, Reg Factor Logs - TC[a]		Enter

a. All requested variables entered.

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Models are based only on cases for which Months on books - July 96 = 3

Model Summary[b,c,d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson Statistic
	Months on books - July 96 = 3 (Selected)				Months on books - July 96 = 3 (Selected)
1	.908[a]	.825	.716	190.5968	2.092

a. Predictors: (Constant), OB - Converted to Z score, Reg Factor logs - Acq, REGR factor score for Markhams 2 , Zscore(LOGSEX), REGR factor score for Queens Park 2 , REGR factor score for Woolworths 2, REGR factor score for Truworths 2, REGR factor score for Edgars 2, REGR factor score Sales House 2 , REGR factor score for Jet 2 , REGR factor score for Mr.Price 2, Reg Factor logs - Funct.conflict, Zscore: AGE GROUP, REGR factor score for Power of Referral , Reg Factor logs - Uncertainty, Reg Factor logs - RB, Zscore: CREDITLIMIT 96, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Co-op, Zscore(LOGQ28), Reg Factor logs - SV, Reg Factor Logs - TC

b. Unless noted otherwise, statistics are based only on cases for which Months on books - July 96 = 3.

c. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

d. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

ANOVA[b,c,d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6317781.05	23	274686.133	7.561	.000[a]
	Residual	1344103.62	37	36327.125		
	Total	7661884.68	60			

a. Predictors: (Constant), OB - Converted to Z score, Reg Factor logs - Acq, REGR factor score for Markhams 2 , Zscore(LOGSEX), REGR factor score for Queens Park 2 , REGR factor score for Woolworths 2, REGR factor score for Truworths 2, REGR factor score for Edgars 2, REGR factor score Sales House 2 , REGR factor score for Jet 2 , REGR factor score for Mr.Price 2, Reg Factor logs - Funct.conflict, Zscore: AGE GROUP, REGR factor score for Power of Referral , Reg Factor logs - Uncertainty, Reg Factor logs - RB, Zscore: CREDITLIMIT 96, Reg Factor logs - Prop.Leave, Reg Factor logs - Comms 1 , Reg Factor logs - Co-op, Zscore(LOGQ28), Reg Factor logs - SV, Reg Factor Logs - TC

b. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

c. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

d. Selecting only cases for which Months on books - July 96 = 3

Coefficients[a,b,c]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	137.158	32.470		4.224	.000	71.367	202.948		
	REGR factor score Sales House 2	27.662	18.338	.130	1.508	.140	-9.495	64.818	.635	1.574
	REGR factor score for Woolworths 2	-18.947	21.747	-.079	-.871	.389	-63.010	25.116	.573	1.745
	REGR factor score for Truworths 2	-40.382	28.128	-.147	-1.436	.160	-97.374	16.611	.455	2.197
	REGR factor score for Edgars 2	-52.113	23.246	-.201	-2.242	.031	-99.214	-5.012	.588	1.699
	REGR factor score for Jet 2	23.038	26.687	.078	.863	.394	-31.034	77.111	.574	1.742
	REGR factor score for Markhams 2	44.429	54.101	.064	.821	.417	-65.191	154.049	.783	1.277
	REGR factor score for Mr.Price 2	-62.513	22.350	-.251	-2.797	.008	-107.799	-17.228	.588	1.699
	REGR factor score for Queens Park 2	1.211	17.090	.006	.071	.944	-33.418	35.840	.658	1.520
	REGR factor score for Power of Referral	66.050	37.576	.179	1.758	.087	-10.086	142.186	.455	2.198
	Zscore: CREDITLIMIT 96	-190.868	26.447	-.922	-7.217	.000	-244.454	-137.282	.290	3.444
	Zscore: AGE GROUP	-24.669	29.698	-.080	-.831	.412	-84.843	35.506	.513	1.948
	Zscore(LOGSEX)	-18.030	29.709	-.062	-.607	.548	-78.226	42.166	.455	2.197
	Zscore(LOGQ28)	2.686	28.122	.013	.095	.924	-54.295	59.666	.277	3.616
	Reg Factor Logs - TC	62.881	35.635	.249	1.765	.086	-9.324	135.085	.238	4.196
	Reg Factor logs - RB	-94.113	35.633	-.347	-2.641	.012	-166.314	-21.913	.275	3.632
	Reg Factor logs - SV	-70.047	40.985	-.231	-1.709	.096	-153.090	12.996	.260	3.852
	Reg Factor logs - Comms 1	48.161	33.014	.180	1.459	.153	-18.731	115.054	.311	3.219
	Reg Factor logs - Acq	-21.789	23.703	-.091	-.919	.364	-69.815	26.237	.483	2.069
	Reg Factor logs - Prop.Leave	60.866	32.084	.246	1.897	.066	-4.142	125.874	.282	3.544
	Reg Factor logs - Co-op	12.277	35.762	.046	.343	.733	-60.183	84.737	.268	3.729
	Reg Factor logs - Funct.conflict	42.582	34.306	.178	1.241	.222	-26.928	112.091	.231	4.333
	Reg Factor logs - Uncertainty	-33.763	27.883	-.121	-1.211	.234	-90.259	22.732	.478	2.091
	OB - Converted to Z score	-63.712	33.190	-.300	-1.920	.063	-130.962	3.539	.194	5.156

a. Dependent Variable: Purchase difference as % of credit Limit 96 - R4000 Max purchase

b. Weighted Least Squares Regression - Weighted by Life to date purchases (0) as % of 96 cr limit

c. Selecting only cases for which Months on books - July 96 = 3